



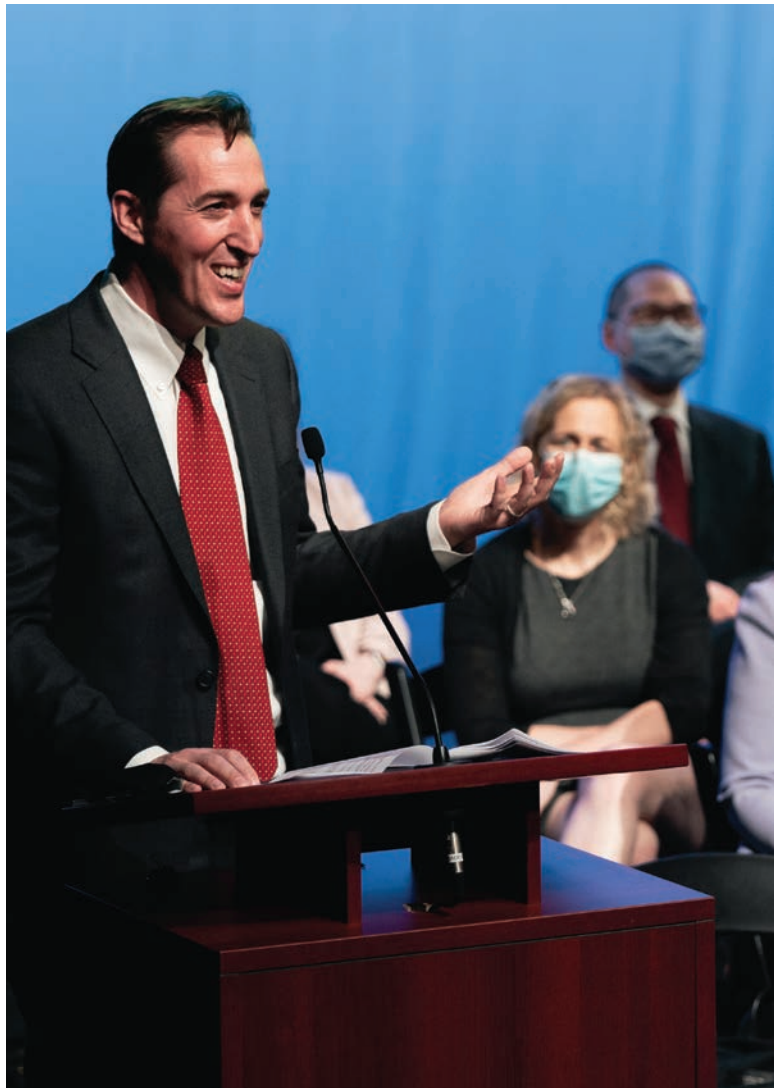
Medicine
UNIVERSITY OF TORONTO

SELF-STUDY REPORT

External Review 2018–2023
Volume 2: Division Reports

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GLOSSARY OF ABBREVIATIONS

AACU	Acute Ambulatory Care Unit	CSTP	Clinician Scientist Training Program	MERS	Medical Education Research & Scholarship	SCOPE	Seamless Care Optimizing the Patient Experience
AFP	Alternate Funding Plan	CTU	Clinical Teaching Unit	MOHLTC	Ministry of Health and Long-Term Care (in Ontario)	SHS	Sinai Health System
APD	academic position description	CWC	Choosing Wisely Canada	MOTP	Medical Oncology Training Program	SMH	St. Michael's Hospital
BBDC	Banting and Best Diabetes Centre	DDD	Departmental Division Director	MSc	Master of Science	SMPA	St. Michael's Hospital Physicians Association
BMJ	BMJ (formerly British Medical Journal)	DFCM	Department of Family and Community Medicine	MScCH	Master of Science in Community Health	SPOR	Strategy for Patient-Oriented Research
CaRMS	Canadian Resident Matching Service	DoM	Department of Medicine	MSB	Medical Sciences Building (at U of T)	TAAAC	Toronto Addis Ababa Academic Collaboration
CBD	Competence by Design	EM	Emergency Medicine	MSH	Mount Sinai Hospital	TAHSN	Toronto Academic Health Science Network
CBME	competency-based medical education	EPA	entrustable professional activities	NIH	National Institutes of Health	TARRN	Toronto Antibiotic Resistance Research Network
CCO	Cancer Care Ontario	FoM	Faculty of Medicine	OSCE	objective structured clinical examination	TES	teaching effectiveness scores
CDA	Diabetes Canada (formerly Canadian Diabetes Association)	GEMINI	General Medicine Inpatient Initiative	OTN	Ontario Telemedicine Network	TGH	Toronto General Hospital
CFAR	Continuing Faculty Appointment Review	GI	Gastroenterology	PARO	Professional Association of Residents of Ontario	TRI	Toronto Rehabilitation Institute
CGS	Canadian Geriatrics Society	GIM	General Internal Medicine	PBL	problem-based learning	TWH	Toronto Western Hospital
CIA	Clinical Immunology and Allergy	HSF	Heart and Stroke Foundation	PCC	person-centred care	UGME	Undergraduate Medical Education
CIHI	Canadian Institute of Health Information	HSRLCE	Heart and Stroke/Richard Lewar Centre of Excellence	PD	Program Director	UHN	University Health Network
CIHR	Canadian Institutes of Health Research	ICES	Institute for Clinical and Evaluative Sciences	PGME	Postgraduate Medical Education	UME	Undergraduate Medical Education
CISEPO	Canada International Scientific Exchange Program	ICU	Intensive Care Unit	PGY	postgraduate year	U of T	University of Toronto
CME	continuing medical education	ID	Infectious Diseases	PhD	Doctor of Philosophy	VC	Vice Chair
COPD	chronic obstructive pulmonary disease	IDCCM	Interdepartmental Division of Critical Care Medicine	PHO	Public Health Ontario	WCH	Women's College Hospital
CPA	creative professional activities	JAMA	Journal of the American Medical Association	PI	Principal Investigator	WCRI	Women's College Research Institute
CPD	Continuing Professional Development	JDRF	formerly Junior Diabetes Research Foundation	PIC	Physician-in-Chief	WIHV	WCH Institute for Health Systems Solutions and Virtual Care
CP&T	Clinical Pharmacology and Toxicology	KT	knowledge translation	PMCC	Princess Margaret Cancer Centre		
C-QuIPS	Centre for Quality Improvement and Patient Safety	MAM	Mississauga Academy of Medicine	PM&R	Physical Medicine and Rehabilitation		
CREMS	Comprehensive Research Experience for Medical Students	MD	Medical Doctor	RCPSC	Royal College of Physicians and Surgeons of Canada		
CREOD	Centre of Research Expertise in Occupational Disease	MED	Membership, Equity and Diversity	RPC	Residency Program Committee		

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CARDIOLOGY



OVERVIEW

The Division of Cardiology at the University of Toronto is the largest cardiology division in Canada. It is comprised of over 115 faculty in six teaching hospitals, three cardiac intensive care units and five inpatient ward services. Outstanding faculty cover all areas of cardiovascular medicine, including basic, translational, clinical trials, and epidemiologic and health services research, as well as faculty experts in quality improvement, educational research, and administration. The Division consists of international leaders in the clinical care of patients with complex cardiac disorders, the education of future academic and community-based cardiologists and the development of leaders in basic, clinical and epidemiologic cardiac research. The Division is committed to ensuring that residents are fully equipped for academic as well as clinical practice in large and small communities alike. The Division has made, and will continue to make, improvements in the quality of its training program, particularly in the areas of Competence by Design (CBD), frequency of evaluation, assessment and feedback. The Division continues to promote the generation and translation of new knowledge through a robust research program and collaborates across subspecialties, departments and hospital sites.





GOVERNANCE

Department Division Director (DDD)

Dr. Susanna Mak is an Associate Professor in the Department of Medicine’s Division of Cardiology. Dr. Mak is a Clinician Scientist in human integrative cardiovascular physiology and a trained heart failure clinician. She is the Director of the Anna Prosserman Heart Function Clinic and the Director of the Harold & Esther Mecklinger and the Posluns Family Cardiac Catheterization Research Laboratory at Mount Sinai Hospital. As a clinical cardiologist, she is a heart failure specialist at the Anna Prosserman Heart Function Clinic, which is the longest serving Heart Failure Clinic in Toronto. Dr. Mak received her PhD from the Institute of Medical Sciences at the University of Toronto and is an expert in the assessment of hemodynamics and heart chamber function in humans. Dr. Mak’s research interests include the contrasts between the cardiovascular physiology of men and women, the pathophysiology of pulmonary arterial hypertension and heart failure, and the quality of care for patients with acute and chronic heart failure.

Division Executive Committee

The Cardiology Division is led by a Divisional Executive that meets monthly throughout the academic year. The membership includes the Division Heads of Cardiology from four hospital systems, our Cardiology Program Director and the Heart and Stroke Polo Chair for Cardiology Research. The current Division Heads are Drs. Kim Connelly (Unity), Heather Ross (UHN/SH), Jacob Udell (WCH) and Harindra Wijeyesundera (SHSC). The ad hoc membership includes site directors for education, undergraduate education leadership and AFC fellowship program directors. Developed in 2019, our agenda includes a review of the Division census, faculty and rotation teaching responsibilities and performance, initiatives for faculty development, planning for our annual named lecture and resident research day, recruitment and promotions processes and nominations for University, National and International Awards. The program director also raises education issues and University-wide initiatives in this forum.

Division Education Committee

The Division Education Committee has expanded under the leadership of Dr. Victoria Korley. The program was successful in the accreditation process in 2020 receiving full accreditation for eight years and will be rereviewed in 2028.

Residency Program Committee (RPC)

Three award winning site directors, Dr. Shaheeda Ahmed (SHSC), Dr. John Janevski (UHN/SH) and Dr. Abdul Al-hesayen (Unity) support the residency program committee (RPC), with trainee representatives from the first to third year of cardiology training. During the pandemic, the Division expanded the RPC to include the three chief residents and three resident wellness leads (Dr. Andrew Czarniecki (SHSC), Dr. John Graham (Unity) and Dr. Sanjog Kalra (UHN/SH). The faculty members also participate in annual events including CaRMS interviews and the in-training practice examination. Dr. Sean Balmain serves as the lead for Simulation Education. Dr. Ted Davies serves as the lead for the Community Cardiology Experience.

Resident-Led Committee

Our residents in the program are engaged in the Academic Half Day Curriculum Committee, and the Resident Wellness Committee (see below).

Competence Committee

Review of each trainee’s progress in the program and through the lens of CBD is conducted by this committee which is chaired by Dr. Alan Barolet.

Resident Research Committee

Chaired by Dr. Mina Madan, this committee provides oversight of resident engagement in research to ensure our trainees are on track to fulfilling their college requirements. Clinician investigators and scientists from each hospital site are represented and there are two resident representatives on the committee. Regular check-ins are provided to residents, helping them find supervisors and projects of interest, with a final goal of presenting their research at the Division’s Annual Resident Research Day.



Clinician Teachers Working Group

Struck in 2019, the Clinician Teachers Working Group is an ad hoc committee based on leadership in postgraduate and undergraduate education. Chaired initially by Dr. Caroline Chessex, the working group developed terms and references for membership and activity. The aim of the working group is to employ a quality lens to improve education as measured by TES and RES, and to increase opportunities to celebrate teachers (see below).

Strategic Planning

The Division is currently in the process of developing its strategic plan. Supported by the Department of Medicine and an external consultant, the DDD with support of the Division Executive committee are working towards stakeholder engagement in summer 2023 and planning meetings in the fall towards a full plan for implementation before January 2024.

EDUCATION

Undergraduate Medical Education

The Division of Cardiology is committed to cardiovascular education at both the pre-clerkship and clerkship curricula. The Foundations curriculum underwent a complete overhaul and the cardiovascular section was developed by Dr. Michael McDonald and Dr. Jeremy Edwards. The educational objectives span cardiovascular physiology, pharmacology, pathophysiology and diagnostic tools in cardiology. The curriculum included lectures, small group seminars and workshops and videos for asynchronous learning. Leadership for the Foundations curriculum has been transitioned to Dr. Hani Amad and Dr. Kaja Konieczny. Dr. Konieczny, recruited as of 2022, has also taken over as the education lead for ECG teaching for the pre-clerkship curriculum, a fundamental skill in medicine. This annual undertaking sees our Division delivering 40 ECG small group workshops to students over three 1.5-2 hour sessions and involving approximately 25 faculty cardiologists.

Postgraduate Medical Education

U of T has one of the largest cardiology training programs worldwide. It has 27–30 cardiology residents in the PGY4–PGY6 years and an additional 70–75 subspecialty fellows in one of 10 subspecialty areas of cardiology.

The educational objectives, achievements and outcomes are regularly monitored by the Cardiology Resident Program Committee (RPC) and the Fellowship Directors.

Adult Cardiology Residency Program

The Adult Cardiology Residency Training program has been led by Dr. Victoria Korley since 2019. In 2020, the program received full accreditation from the Royal College. The leadership structure includes highly interactive and collaborative site directors that report to Dr. Korley regularly. The RPC and the Division Executive meet monthly, and significant issues or challenges are swiftly escalated to the DDD and Division Heads. Much of the education leadership also participates annually in three days of CaRMS interviews, which also serves as a team building exercise and social event. Residents are arranged in three cohorts that rotate together, spending six months at a time at each site. The system builds cohesion, internal mentorship and offers leadership opportunities through the appointment of three PGY-6 chief residents every six months. At each site, there is also a resident wellness advocate and a lead for simulation in the program. The competence committee evaluates progress for each resident prior to promotion to the next year of training. Residents meet with their site director every three months, with the program director every six months and with the DDD annually.

Curriculum and Education Initiatives

The curriculum conforms to the requirements of the Royal College while leveraging the diversity of programs and case mix at the U of T. Examples of this include the cardiac intensive care unit at the UHN, the highest acuity unit in Canada where trainees receive exposure to cardiogenic shock, heart replacement and support therapies not available elsewhere in the country. Other examples include a pioneering program of adult congenital heart disease, sports cardiology, cardio-oncology, heritable arrhythmias, cardio-obstetrics to name only a few.

Formal and protected education occurs across multiple platforms. Dr. Korley enabled a trainee-led academic half-day committee and in 2021 doubled the number of academic half-days from once to twice monthly. Each site has an array of education rounds including cardiology grand and research rounds, bedside and ECG teaching, imaging rounds, journal clubs, case rounds, hemodynamic rounds and arrhythmia teaching.

Specific education events for which the residents are excused from their hospital rotations include a “**Bootcamp**” for the CIs in their first 2 months of training which provides hands-on training in essential diagnostic and therapeutic procedures in cardiology. The “**Cardiology In-Training Examination**” is a several-day event taking place in May and June that tests their knowledge and skills in all areas of cardiology. The experience is highly valued and is intentionally challenging to identify gaps in their knowledge and prepare them for Royal College Exams. In 2019, prior to the pandemic, the program further invested in online cardiology review courses, which proved beneficial when the pandemic hit. The program swiftly transitioned trainees to virtual learning platforms, allowing them to continue their rotations remotely. Curated synchronous and asynchronous materials from various platforms such as medEngine and Quercus, were compiled from across the city with the support of the trainees themselves. New initiatives are being planned, including a PGY6 OSCE, a simulation oral examination in response to a change in the date of the final Royal College examinations to occur prior to the end of the PGY-6 year. A needs assessment survey was conducted in 2019 and in 2022 to ensure the program is in sync with education experiences and tools that the residents value.

Competence by Design (CBD)

Adult Cardiology was on-boarded to the CBD platform across the country for the 2021-2022 academic year. Extensive preparation took place over several years, including a dedicated weekend retreat in 2019 to familiarize the faculty with the new procedures. Goals and objectives were designed for each rotation and CBD rolled out successfully.

The implementation of CBD required leadership for each subspecialty rotation to collate appropriate objectives and goals for each rotation (echocardiography/multimodality imaging, interventional cardiology, electrophysiology, congenital heart disease/pediatric cardiology, heart failure, general and critical care cardiology). Leads from this group of faculty conduct an annual bootcamp at the start of each academic year to ensure competency in cardiac procedural skills. Faculty also serve as advisors for our residents throughout their training.

Fellowship Training

The Division of Cardiology has the largest fellowship program in Canada by far, with upwards of 80 trainees, and offers clinical and research training in several disciplines of cardiovascular medicine. The vast majority of our

cardiology residents pursue further subspecialized training after their PGY6 year prior to taking positions at academic and community institutions. Our fellowship programs also feature trainees from every continent and are the core of several longstanding relationships between the U of T and several international institutions. The core subspecialties of cardiology are available at all sites – Imaging/ Echocardiography, Interventional and Structural Cardiology and Electrophysiology. The U of T and the University Health Network are the destinations for the most complex and critically ill patients from across Southern Ontario, which in turn has fostered the growth of fellowships in Heart Failure and Cardiac Transplantation and more recently, Critical Care Cardiology. Several of our programs offer further subspecialization with two and three year programs. Unique fellowship programs include Adult Congenital Heart Disease (Clinical, Interventional and Electrophysiology), Cardio-Obstetrics, Cardio-Oncology/Cardiotoxicity, Hypertension, Cardio-rheumatology, Integrative Physiology, Complex Interventions and Cardiac Rehabilitation.

Partnership with the University of the West Indies

Since 1993, the Division of Cardiology at the University Health Network and Sinai Health have offered a two-year full cardiology fellowship program to trainees from the University of the West Indies. As of 2021, over 90% of cardiologists in Jamaica were trained at the University of Toronto. Several of our colleagues have completed additional fellowships and have several historic accomplishments upon their return to the English Caribbean. The first publicly funded cardiac catheterization laboratory, STEMI program and invasive electrophysiology program are some of the cardiac services that now operate in Kingston Jamaica. In 2022, a joint continuing medical education meeting hosted in Jamaica was launched, inviting many U of T faculty.

AFC Programs

Interventional cardiology and Electrophysiology fellowship training programs are accredited by the Royal College of Physicians and Surgeons of Canada and provide certification as Areas of Focused Competence (AFC). To meet the standards for accreditation, the AFC programs have built a structure of program directors (Dr. Sam Radhakrishnan for interventional cardiology and Dr. Krish Nair for electrophysiology), curriculum development committees, a citywide education series and a competency-by-design framework for evaluation. Although all fellowships have specific objectives, protocols and standard operating procedures approved by the DoM and the PGME, an individual fellowship is funded and administered at single hospital site.



Challenges and Future Directions

Coordination of an AFC model for fellowships is challenging as funding for training and administration is hospital-based not centralized, sporadic and is inconsistent. Cardiovascular medicine is increasingly complex and there is subspecialization at both academic and community centres. Recruitment of new cardiologists starts in residency, but is typically contingent on completing fellowship training. Much of the discussion of challenges in residency training also apply to fellowships. The implementation of both DoM and University-wide leadership for fellowship training is an important model to emulate within our large Division. The fellowship pool represents incredible talent and productivity, but their contributions are not well profiled to the Division as a whole. The inaugural Mehdi Afshar awards (2023) to recognize research and community service achievements will mark the first University-wide recognition for fellows. The Division is undertaking a strategic exercise to conduct a self-study to inventory fellowships and evaluate our approach to fellowship training from best practices, development of competency, funding, recruitment and retention.

RESEARCH

The breadth of research excellence within the Division is reflected in the Division’s publication outputs and funding success. Over the past five-year review period, Division of Cardiology members have published 4,446 publications, which generated 92,136 citations and resulted in an average H-index of 27.46. The Division reported research funding for the reporting period totalling more than \$122.827 million and saw a steady increase year over year in the total number and value of grants. Funds were secured from a variety of sources including peer-reviewed granting agencies, industrial partners and hospital foundations. Granting agencies included significant contributions from the Canadian Institutes for Health Research (CIHR) and the Heart and Stroke Foundation (HSF).

Pillars of Research

Basic Research Pre-clinical research laboratories are at the foundation of medicine, and in our Division they operate within programmatic structures including vascular biology, heritable cardiac arrhythmias, cardiac regeneration, adaptation to stress and repair, and cardio-metabolic disease (Appendix A).

Translational Pre-clinical laboratories conduct highly specialized research in animal models and ex-vivo human materials to support new clinical innovations in cardiology. This includes: electrophysiology and intra-coronary imaging and intervention (Appendix B).

Translational Clinical laboratories conduct vanguard clinical research in human subjects providing evidence of feasibility, mechanism, proof of concept and efficacy of diagnostic and therapeutic interventions. **This includes:** Multimodality Imaging and Applied Science (Appendix C); Imaging Methodology, such as: Structural Heart Disease, Imaging Methodology, Cardiotoxicity and Adult Congenital Heart Disease; and Human translational/integrative physiology (Appendix C).

Clinical Research The City of Toronto and surrounding regions provide an ideal environment for conducting large-scale clinical research in part due to the diverse and sizable population. A unique example of recent collaborations with significant patient health impact, include work with Toronto’s paramedic services and the electrophysiology and acute care departments, that have designed clinical trials of pre-hospital care to improve outcomes in the field for patient’s experiencing cardiac arrest.

Clinical Trials Since 2011, Dr. Michael Farkouh and now Dr. Jay Udell have built and led the infrastructure of the Peter Munk Cardiac Centre Clinical Trials Unit. Dr. Farkouh remains at the forefront of multiple major international multicentre trials, answering key questions in treatment of cardiovascular disease. Dr. Shaun Goodman is the Co-Director of the Canadian Vigour Centre, the leading academic research organization supporting both investigator and industry initiated clinical trials. Drs. Mina Madan, Vlad Dzavik and John Graham also represent Canada on the international stage of major coronary disease clinical trials. The U of T took centre stage with the leadership of Dr. Patrick Lawler in the REMAP-CAP international clinical trial effort to test multiple interventions in the critically ill COVID patient population. Supported by the infrastructure described

above and as a leading member of the REMAP-CAP steering committee, Dr. Lawler designed an adaptive platform for clinical trials that could test multiple interventions in a timely manner.

Epidemiology, Biostatistics, Data Science and Health Services ICES scientists Drs. Douglas Lee, Harindra Wijeyesundera and Dennis Ko leverage the power of administrative databases to chart the course of cardiovascular medicine. Dr. Wijeyesundera holds a Canada Research Chair in Structural Heart Disease Policy and Outcomes and his research program shapes his broad leadership roles in determining structural heart disease practice in Canada. Perhaps the most prolific researcher in our division, Dr. Douglas Lee leads a program of study focused on systems of care for heart failure. With the support of the Dr. Farkouh and the Clinical Trials Unit, Dr. Lee launched a multicentre clinical trial. Published in the NEJM in the last 6 months, the COACH trial tested a novel health services intervention to improve HF outcomes in Canada. Dr. Carolina Alba was the recent recipient of a New Investigator Award from the Heart and Stroke Foundation and the Fenwick Professorship with expertise in prognostic scoring for heart failure patients. Both Dr. Lee and Dr. Alba’s recent clinical trial efforts have involved centres from across the University.

Digital Care, Wearable Devices, Virtual Platforms and Big Data This growing area of research has brought several new Clinician Investigators, Drs. Andrew Ha, Chris Cheung and Yas Moayed in disciplines from electrophysiology to heart failure. The Ted Rogers Centre for Heart Failure Research has partnered with the Vector Institute and developed a computational sciences group, led by a PhD scientist to support cardiovascular research using Big Data, artificial intelligence and machine learning methodology.

The Heart and Stroke Polo Chair for Cardiology Research

In 2021, Dr. Shaun Goodman completed his second and final term as the Heart and Stroke Polo Chair. This is an endowed chair at the University and the chair is a standing member of the Division of Cardiology Executive. Our committee evaluated five applications from two women and three men and were unanimous in support for Dr. Mina Madan. Dr. Madan is a Clinician Investigator, a clinical trialist and the Director of the Cardiac Catheterization Laboratory at Sunnybrook Hospital, the only woman interventional cardiologist in our university division.

She has carried forward the work done by Dr. Goodman to provide seed funding for young investigators, within five years of recruitment. Dr. Madan has also chaired the Resident Research Committee, which has representation from all hospital sites. The central mission of this committee is to mentor our cardiology residents to find supervision for their scholarly projects.

Resident Research

The program emphasizes residents’ involvement in scholarly activity and research. They participate in Cardiology Grand Rounds and Research Rounds, and the annual Resident Research Day is mandatory for all trainees. During their three years of training, residents are expected to present twice, and at least once in the competitive stream which includes submission of a manuscript. Dr. Mina Madan, the Heart and Stroke Polo Chair in Research for the Division, chairs the resident research committee. Residents are afforded opportunities to present their projects to peers, to the Division and at national and international cardiology meetings. The program provides reimbursement for travel and registration fees for residents presenting their work. The division is particularly proud of the number of high-quality publications produced by our residents.

QUALITY AND INNOVATION (QI)

The Division is committed to quality improvement and patient safety initiatives. Dr. Sacha Bhatia led the Choosing Wisely Campaign, as is now in leadership at Ontario Health. The Division has recruited 4 additional faculty with the CQI job description since 2018. Three of our faculty are focused on the quality of care for heart failure. Drs. Juan Duero Posada, Adriana Luk and Stephanie Poon work in complementary fashion; Dr. Poon works at the national level to set quality indicators for effective and accessible HF care; Dr. Duero Posada is the program director for fellowship training and focuses on best practice for advanced heart failure while Dr. Luk is the head of the CICU at UHN and leads a registry database in cardiogenic shock.



FACULTY

The Division of Cardiology consists of 116 full-time, 15 part-time and 58 adjunct faculty members. The distribution of full-time faculty according to job description includes 31 clinician scientists, 48 clinician teachers, 29 clinician investigators, five clinicians in quality and innovation and four clinician educators. The distribution of faculty varies across sites. The sites include UHN-TGH (42), UHN-TWH (8), Sinai Health (11), St. Michael’s Hospital (25), Sunnybrook Health Sciences Centre (22), and Women’s College (9).

The Division undergoes continuous renewal; in the past five-years, 23 new faculty have been appointed to the University across U of T affiliated teaching hospitals. These appointments have been balanced among clinician teachers, clinician educators, clinician scientists and clinician investigators.

Cardiac programs demand significant resources and require operational leadership by hospitals in partnership with cardiologists. To contextualize the programs under the umbrella of the Division of Cardiology, the breadth of clinical services is summarized in Appendix D as Outpatient and In-patient General Cardiology and Cardiac Intensive Care; Interventional Cardiology; Structural Cardiology; Electrophysiology; Heart Failure and Pulmonary Hypertension, Regenerative Medicine (Transplant), Shock, Mechanical Circulatory Support.

Wellness and Recognition

Since 2021, the program has appointed a faculty member as a resident wellness advocate at each site. Dr. Korley has also enabled a resident wellness/social committee. To recognize the importance of our Chief Cardiology Residents, the “Emory Burke Award for Leadership” was developed with a generous donation from the friends and family of Dr. Emory Burke. These annual awards were presented for the first time in 2022. The “Building Links” community job fair, held both in person in 2019 and virtually in 2022, connects trainees with Cardiology leaders in community hospitals, providing insights into cardiac care opportunities and needs in those communities. In 2019, the **Paul Dorian Resident Wellness Fund** was established in honour of the outgoing DDD. It is an advancement fund soliciting donations from faculty and alumni and allows additional funds for social or educational events.

Figure 1.1: Academic Position Description of Full-time Cardiology Faculty

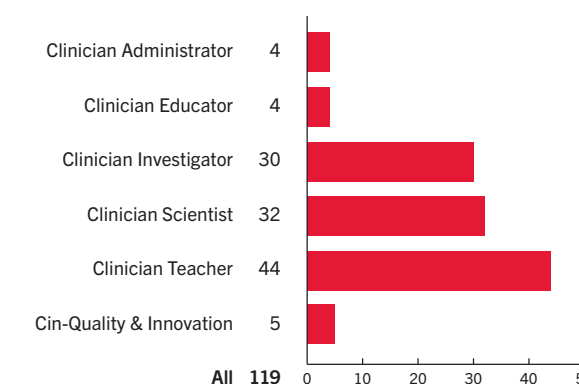


Figure 1.2: Affiliation of Full-time Cardiology Faculty

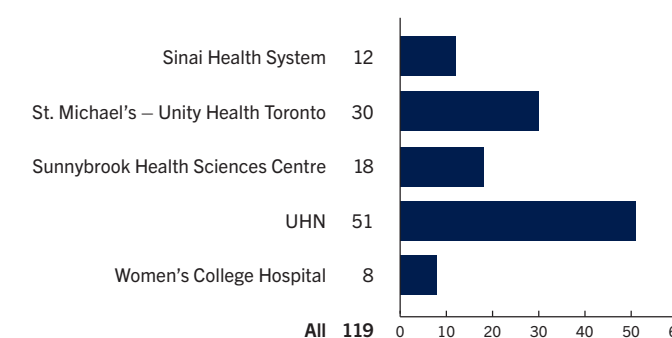


Figure 1.3: Current Rank of Full-time Cardiology Faculty

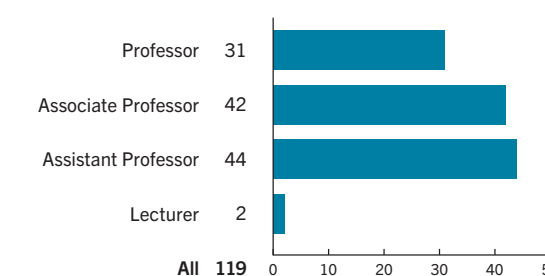
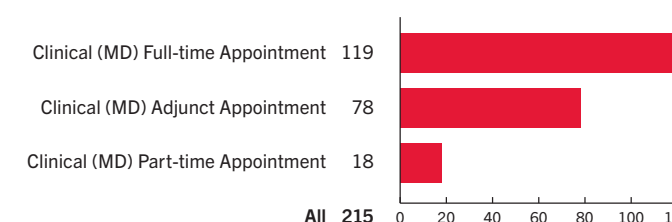


Figure 1.4: Primary Appointment of Cardiology Faculty



Mentorship

DICE: Diversity and Inclusion in Cardiology Education

DICE is a mentorship program aimed at undergraduate students and medical students who identify as BIPOC individuals, interested in internal medicine and cardiology. Initiated and led by two women in our Cardiology Training Programs, Dr. Mena Gewarges (now a cardiology fellow in Advanced Heart Failure) and Dr. Tahira Redwood (now a fellow in interventional cardiology, part of a longstanding partnership between U of T and University of the West Indies). Initially funded by resources available to the DDD, DICE has successfully secured independent funding. It has provided directed mentorship to over 40 students since its inception, offering experiential learning opportunities, and coaching for applications and interview skills. The group has been instrumental in helping several black students match to internal medicine.

Developing and Celebrating Teaching Faculty

The Clinician Teachers Working Group identified the need for faculty recognition and their development. Prior to 2019, the Division lacked Clinician Educators. Now the Division has four award-winning Clinician Educators who hold leadership roles in education. These faculty members are Michael McDonald (the Rogers Chair for fellowship education), Caroline Chessex (UHN/SH lead for fellowship education), Jeremy Edwards (Director, Fitzgerald Academy) and Gillian Nesbitt (Site director for echocardiography UHN/SH). In such a large division, exceptional teachers may go unnoticed. To address this, the Division has developed the highly effective teachers list to recognize the top quintile of teachers annually. We have increased the number of teaching awards. Notably, since 2019, we have promoted six faculty based on their sustained excellence in teaching.

ADVANCEMENT

The ability to generate support from grateful patients and families, philanthropic foundations and industry is a major strength of the Division at the U of T. The infrastructure for advancement stems from the hospital foundations, research institutes, the University and in some cases from specific cardiac programs. Perhaps the best known of these gifts is the Roger’s Family gift of \$130M in 2014 and \$90M

in 2022 to the University Health Network in collaboration with the U of T and the Hospital for Sick Children, which were used to establish the Ted Rogers Centre for Heart Research and enable research teams focus on heart failure, molecular biology and heritable heart diseases, and adult congenital heart disease.

The University Faculty greatly values gifts that establish chairs and support academic faculty to pursue their scholarly activities. All chairs are searched with the participation of the DDD and representation from the University. A list of faculty and Chair support is attached.

Many philanthropists support the University Division directly, including the Man Chair associated with the DDD.

Advancement supports several University Awards including:

- The Wigle Award for Excellence in Cardiology Resident Teaching
- The Chisholm Award for Excellence in Cardiology Fellow Teaching
- The Ursula Bangs Resident Research Award
- The Emory Burke Trainee Awards for Leadership
- The Mehdi Afshar Trainee Awards for Research and Community Service
- The Women in Cardiology Award for Research Training

LOOKING FORWARD

Balancing clinical work and education is a challenge. Contemporary tertiary care cardiology centres have the operational complexity of full hospitals, with comprehensive diagnostic services, interventional and device procedures, inpatient and outpatient care, and round-the-clock coverage. The sheer volume of clinical work and the need for 24/7 coverage has traditionally relied on CTU-like models of core internal medicine and cardiology residents and faculty MRPs. However, factors such as fewer residents and increased absenteeism have made it difficult to provide sufficient protected time for education while ensuring adequate clinical coverage. This imbalance poses a threat to the well-being of both trainees and faculty. We are a large division, and sites continue to incorporate non-resident care providers including physician assistants, hospitalists, fellows and nurse practitioners.

Training the Academic Cardiologist is crucial. The pandemic has exacerbated the burden and backlog of cardiovascular disease in the Greater Toronto Area, while the number of care providers in cardiovascular medicine, including technologists, nurses, and cardiologists, has decreased. The majority

of the cardiologists we train have secured job offers prior to the completion of their residency training and qualifying examinations. To serve our communities, our program needs to retain and increase the number of residency training positions. Our executive anticipates major challenges in recruitment of academic cardiologists due to community circumstances, the requirements for additional scholarly training and the lifestyle implications of an academic career in downtown Toronto. Our vision is a supportive and collaborative culture across the division. To actively engage trainees at all levels, the key is a fair distribution of clinical work, income and protection of time that allow scholarly creativity and innovation across our hospital sites and all stages of career. It is particularly important to nurture and feed the academic passion of their near-peer junior faculty mentors.

Equally important and requiring consideration:

Faculty Identity

An external review has identified challenges in creating an identity for the Division of Cardiology due to its size. Rather than attempting a monolithic branding statement, the Division has taken the approach of embracing its diversity and pride in the breadth of academic opportunities that derive from its size and creativity of the faculty. Instead of feeling lost among the crowd, each faculty member develops an academic signature based on their engagement within several teams – from hospital cardiac program (UHN, Sinai Health, Unity/St. Michael’s, WCH and SHSC) and research institutes, to clinical specializations (interventional, structural, heart failure etc.), pillar of research, and their profile as an educator. The Division executive recognizes the need to nurture this sense of identity and create pathways for our younger faculty to advance. It is crucial to utilize the university structures of the academic planning document, continuing faculty assessment and promotion to highlight opportunities, and encourage leadership development. A 1.5 year “check-in” is also arranged by the DDD with the faculty member, Division Head, mentors and Physician-in-Chiefs. As noted earlier, recruitment and retention in academic cardiology continues to be a challenge. A continuing mission of the Division is to bring forward the richness of academic life in tangible ways that inspire trainees and faculty at all levels.

Skill Building and Education Scholarship

Pathways to leadership and sustainable academic success are aided by fostering new scholarly skills. Currently, the Division does not have a program for maintaining competency and reliance is placed on basic structures like maintenance

of certification from the Royal College. It is unclear how many faculty members participate in educational conferences and other means to enrich their knowledge base as medical experts. As a step recognizing their leadership positions, we have changed the job description for four Clinician Teachers to Clinician Educators. Specifically helping these individuals to also create programs of education scholarship is another goal for our Division.

Equity, Diversity and Inclusion

As recently as 2020, approximately 20% of cardiologists in Canada were identified as women. Amongst the full-time faculty at the University of Toronto, the proportion of women increased from 22% to 28% between 2018 and 2023. Over half of our new recruits were women over that period. 2022-2023 marked the first cohort of incoming cardiology residents in which the proportion of women was higher than that of men. Although gender equity is improving, the Division acknowledges the need to further enhance diversity, particularly among Clinician Scientists and Full Professors. While identifying women is a convenient indicator, it is by no means a complete scope of diversity. The underrepresentation of women is likely a marker that multiple individuals are also excluded from our Division. An important goal for the Division is to improve our understanding of points of entry to our Division and how we might improve the diversity of applicants.

Accessibility

The resource intensity of the Cardiac programs at U of T reflects our urban setting. Despite the single-payer healthcare system, access is still skewed toward populations with high health and digital literacy, ability to travel, and higher disposable incomes. Outreach within and outside the city, and global health initiatives occurs in pockets throughout the University. Initiatives such as our partnership with the University of the West Indies need to be sustained and amplified.

Policy and Impact

An area of “literacy” of skill building the Division can pursue in translating academic endeavours into policy or impactful outcomes.



CLINICAL IMMUNOLOGY & ALLERGY



OVERVIEW

The University of Toronto's Division of Clinical Immunology and Allergy (CIA) is a specialty of expanding horizons and potential. Over the past five years we have faced significant challenges due to the pandemic but also encountered opportunities for success. The division has promoted, sustained, and amplified its national and international status in many areas. To highlight a few, there has been ongoing collaboration internationally on the pathophysiology and treatment of anaphylaxis, urticaria and angioedema, food allergy and immunodeficiency.

The Division continues to operate the first and largest rapid drug desensitization program in Canada. We have studied and identified new allergens and mechanisms for these diseases and have developed novel treatment modalities. Additionally, our teaching and educational programs continue to grow with new partnerships and collaborative efforts among medical specialties that have seen the largest numbers of trainees compared to pre-COVID levels.

In recent years, immunologic treatments have come to the forefront in the treatment of a wide range of diseases, including cancers, asthma, multiple sclerosis, rheumatologic diseases and inflammatory bowel disease. These therapies have markedly improved the outlook for patients while simultaneously triggering unique immunologic disorders such as secondary immunodeficiencies, cytokine reactions, and drug hypersensitivities that has required our division to be able to pivot to ensure the provision of health care to those who need it most.

Challenges

The COVID-19 pandemic had distinct implications for the CIA specialty. The rollout of the largest immunization program in history resulted in unique challenges whereby our division mobilized to ensure patients who had suspected vaccine allergy could be assessed rapidly and given appropriate vaccinations. We were designated as a Special Immunization Clinic for Toronto and received funding from the Canadian Immunization Research Network. Additionally, because of the impact the pandemic had on our specific patient population, such as those with immune deficiency, we collaborated and innovated new models of care, expanding our telemedicine capability to underserved communities throughout Ontario. Our faculty members also engaged in advocacy to ensure access to treatments such as vaccines, biologics and home delivery of immunoglobulin during the pandemic.

Our division was particularly hit hard in relation to mandated vaccination requirements and some opposition from certain community members. The allergists often found themselves caught between the patients and the mandates. Our faculty rose to the occasion and objectively assessed patients in a timely manner to ensure appropriate vaccination.

Despite these tremendous challenges, the other areas of focus within our division did not falter but continue to thrive.

GOVERNANCE

Department Division Director (DDD)

Dr. Stephen Betschel was appointed DDD of the Division of Clinical Immunology and Allergy in September 2020. He is a Clinician Teacher and Associate Professor in the Division, and is a staff Clinical Immunologist and Allergist in the Division of Allergy and Clinical Immunology at St. Michael's Hospital and Division of Respiriology at University Health Network. Dr. Betschel also holds courtesy appointments at Michael Garron Hospital and St. Joseph's Health Centre.

Upon earning his medical degree at McMaster University, Dr. Betschel went on to pursue his residency training in internal medicine, and fellowship in Clinical Immunology and Allergy at the University of Toronto. Additionally, Dr. Betschel was a Doctor of Philosophy candidate in the Department of Molecular Genetics and Microbiology and identified critical virulence factors associated with Group A Streptococcus 'flesh eating disease'.

Dr. Betschel's extensive service to the medical community is demonstrated through various leadership positions locally, nationally and internationally. Dr. Betschel served for 14 years as the training program director in Clinical Immunology and Allergy at the University of Toronto. He currently serves as the Chair of the Canadian Hereditary Angioedema Network and has served as a medical advisor to Canadian Blood Services, Hemaquebec, INESSS, CADTH, and Immunity Canada.

Division Executive Committee

The Division Executive Committee has specific terms of reference and includes Dr. Peter Vadas, Division Head of Clinical Immunology and Allergy at St. Michael's Hospital (former Interim-DDD, January 2018-June 2020); and Dr. Christine Song, Program Director (PD).



Our administration is streamlined due to the smaller size of our division. However, with anticipated growth, we are in the process to develop research and recruitment committees. Quarterly meetings are held to discuss research, mentorship, teaching and administrative issues as they arise.

Research Program Committee (RPC)

The committee meets at least quarterly to review the program and evaluate trainees. The PD also participates in the pediatric clinical immunology and allergy RPC meetings.

Strategic Planning

The Division has initiated the process of strategic planning and aims to articulate a vision, mission, and objectives that both amplify and accelerate innovation and partnerships. The Division is currently working with the support of the DoM and an external consultant to facilitate planning discussion and environmental scans of internal and external landscapes. Planned process will include broad stakeholder engagement and small-group planning meetings. It is expected that a formal plan will be available in fall 2023, with implementation to follow shortly thereafter.

EDUCATION

The postgraduate training program in CIA at U of T is the largest training program in Canada. Not only does CIA have a robust training program for our core trainees, but the Division is also active in training other specialties, including: dermatology, rheumatology, infectious diseases, family medicine, occupational medicine and clinical pharmacology. We accept elective trainees from across Canada and internationally, including Thailand, Ireland, Germany and Cayman Islands. Our adult CIA program is well integrated with the pediatric program at the Hospital for Sick Children.

We have increased and promoted learning that takes place at point of care. As CIA is primarily an outpatient specialty, much of our undergraduate and postgraduate training and education occurs in an ambulatory setting. However, there are specific areas within the specialty that focus on inpatients, including diagnosis and management of adverse drug reactions, rapid drug desensitization, diagnosis and management of primary immune deficiencies, angioedema and anaphylaxis. For these areas, learning takes place at point of care.

In emphasizing our training on patient-centred team-based care in both the inpatient and ambulatory settings, our trainees have an opportunity to supervise rapid drug desensitization protocols in a multidisciplinary critical care setting. Teams comprise intensivists, pharmacists, nurses, respiratory therapists, and other specialists (typically, infectious disease, respirology, hematology/oncology). Further, trainees gain experience managing inpatients with anaphylaxis, angioedema, adverse drug reactions, and auto-inflammatory diseases; the patients are admitted into General Internal Medicine (GIM), intensive care, cystic fibrosis program and other units. Investigation and management of patients in an outpatient setting typically involves nursing (immunodeficiency, hereditary angioedema), pharmacists (drug allergy), and nutritionists (food allergy/immunodeficiency). Lastly, resource stewardship and continuous quality improvements, such as anti-microbial stewardship (inpatient and outpatient drug allergy testing to reduce unnecessary use of expensive, broad-spectrum antibiotics) foster multidisciplinary collaborations between teams of investigators.

Undergraduate Program

Dr. Christine Song is the Immunology course lead for the Foundations curriculum for first-year medical students at the University of Toronto. She both developed and teaches

the two-week course covering all basic immunology and introducing clinical concepts in allergy, immunology, rheumatology and transplantation. Teaching modalities include live lectures, online modules and video lectures. There are weekly and end-of-block assessments. An emphasis on the flipped classroom model requires the development of self-learning tools and practice assessments for learners. This curriculum has led to vastly increased visibility for the specialty, leading to an increased number of medical students requesting to shadow staff and participate in research projects. Dr. Song has been awarded the University of Toronto Teaching Excellence Award MD program. Undergraduate trainees who have rotated through our service have won national awards at the Canadian Society of Allergy and Clinical Immunology Annual meeting.

Postgraduate Program

The Division has developed a comprehensive training program for residents pursuing both academic and community-based careers in CIA. Dr. Christine Song is the current residency program director (July 2017–present). At the last Royal College accreditation review in 2020, no areas for improvement were identified. The program was fully accredited with the recommendation for follow-up by regular accreditation review.

Competence by Design (CBD)

CBD was successfully implemented in July 2021. Residents assess and manage patients in both academic and community settings with a focus on ambulatory care. They also assess and manage pediatric patients in close collaboration with the U of T pediatric CIA program at the Hospital for Sick Children. Residents see inpatient consults in adverse drug reactions, anaphylaxis, immunodeficiency, angioedema and mast cell disorders. The postgraduate adult CIA rotation is mandatory for other U of T training programs, including dermatology and pediatric CIA, and is offered as a popular elective for residents from a variety of training programs

Non-medical expert roles are assessed in both ambulatory and inpatient settings. The Division believes that encouraging trainees to reflect on these roles, such as health advocate, collaborator, communicator and leader, promote patient-centred care and thoughtful resource allocation (with exposure to the Choosing Wisely campaign). Trainees also participate in telemedicine clinics, that serve remote and often Indigenous populations. Trainees gain exposure to the use of technology in underserved communities and interact with individuals who are culturally distinct.

All trainees complete at least one scholarly project during their two-year program and present their work as a poster or podium presentation, culminating in a peer-reviewed publication. Residents are encouraged to attend and present their studies at national and international conferences. A recent graduate is enrolled in the Eliot Philipson Clinician Scientist program and pursuing her Master's in Clinical Epidemiology with a focus on Drug Hypersensitivity.

Members of the CIA faculty regularly teach allergy and immunology topics during core internal medicine half-days, medicine noon rounds and hospital grand rounds. Resident training has also benefitted from the implementation of regular journal clubs and complex case rounds. An anaphylaxis simulation tool has been incorporated into the training program, allowing trainees to hone their diagnostic and management skills in a controlled environment. This simulation tool has proven to be very helpful in the assessment of trainees.

RESEARCH

The Division's research programs are broad in scope, resulting in innovative research discoveries that can support patients with various diseases to better enable them to live more normal lives. Faculty are actively engaged in research at basic, translational and clinical levels with meaningful outputs in the areas of: adverse drug reaction and rapid drug desensitization, primary immune deficiencies, mast cell disorders, hereditary angioedema, chronic spontaneous urticaria, COVID vaccine responses in immunodeficiency and COVID vaccine allergy. Despite the small size of the division, CIA members have published over 105 papers, which generated 1,474 citations and resulted in an average H-index of 20.75 over the reporting period. Divisional faculty held grants totaling \$2.103 million. Perhaps not captured by this data pull, two international guidelines, on pathophysiology and treatment of anaphylaxis, urticaria and angioedema, food allergy and immunodeficiency were led by members of the Division, and were published during the COVID-19 pandemic.

Notable multi-disciplinary collaborations within CIA include cholinergic urticaria with anaphylaxis, mast cell activation syndrome (MCAS), and platinum allergy in patients with advanced ovarian cancer. The Adverse Drug Reaction and Rapid Drug Desensitization Program was established by the Division of CIA in 2001 to quickly identify and treat hospitalized patients experiencing adverse reactions, thereby reducing morbidity, length of stay and attendant costs.

The Rapid Drug Desensitization (RDD) Program was established when this form of therapy was in its infancy. It is now a routine, implemented treatment that allows patients to safely receive a wide range of anti-microbial, chemotherapeutic and non-antimicrobial therapies to drugs that had caused life-threatening allergic reactions. RDD is routinely used in patients with cystic fibrosis and antibiotic allergy and in patients with acute coronary syndromes and ASA allergy, among others. This program is the only one of its kind in Canada.

Significantly, CIA has advanced clinical research in milk and peanut anaphylaxis using novel epicutaneous desensitization techniques. Expertise in primary immune deficiency and gamma-globulin replacement treatment has led to a multisite Ministry of Health-funded immunoglobulin treatment program that is a standard setting and research initiative to optimize immunoglobulin replacement. Faculty also lead international collaborations in the study of sequestered autoantigens in inducible forms of physical urticaria (i.e., cholinergic, exercise and cold-induced urticaria). Ongoing collaborations with basic scientists have resulted in an uptake of evidence-based care into clinical practice and health policy. A high-impact publication on platelet activating factor (PAF) synthesis and release during mast cell activation and degranulation has served as a foundation for ongoing research into the mechanisms leading to severe and fatal anaphylaxis. In patients with acute anaphylaxis, serum PAF levels correlate with anaphylaxis severity. CIA is developing a clinical trial of PAF receptor blockers as rescue therapy in acute anaphylaxis in conjunction with the Food Allergy and Anaphylaxis Program at the Hospital for Sick Children.

Collaborations/Networks

CIA has established numerous collaborations with many DoM divisions across sites in the management of complex acute and chronic diseases. **Some examples include:**

- Cystic fibrosis: adverse drug reactions and rapid drug desensitization in patients with severe respiratory impairment (with Respiriology);
- Systemic mastocytosis: CIA manages the largest cohort of highly symptomatic patients with mastocytosis in Canada in conjunction with Hematology and Dermatology;
- Treatment of severe asthma with novel biologics (with Respiriology – omalizumab, anti-IL-5 and anti-IL-4/IL-13 agents)

- Primary and secondary immunodeficiency (Hematology, Infectious Diseases, Gastroenterology; Respiriology, Transfusion Medicine)
- Drug hypersensitivity (Clinical Pharmacology, Oncology)

The Division has made significant strides toward growing its academic and clinical networks. Multidisciplinary collaborations have been fostered to address a number of complex acute and chronic diseases as follows:

- Ontario Immunoglobulin Treatment (ONIT) program**
A provincially funded multisite standard setting and research program dedicated to enhancing care for patients who receive immunoglobulin treatments in institutions and at home using either intravenous or subcutaneous immunoglobulin therapy.
- Cholinergic Urticaria with Anaphylaxis**
Cholinergic urticaria with anaphylaxis is a chronic condition with recurrent life-threatening multisystem reactions. Division members are investigating the role of IgE against HSP70, a heat shock protein released during physiologic stress (high ambient temperature and strenuous exertion) in collaboration with basic scientists at the Hospital for Sick Children and with the Urticaria Research Group at Charite Hospital in Berlin.
- Mast Cell Activation Syndrome**
The cause of MCAS is unknown. The vast majority of affected individuals are female and many report a sudden onset of symptoms. We hypothesize that one form of MCAS is autoimmune, caused by autoantibody to the kit receptor on mast cells, causing activation and mast cell degranulation with mediator release. We are investigating this mechanism in collaboration with Dean Metcalfe, Director, Laboratory of Allergic Disease, and Joshua Milner, Chief of Genetics and Pathogenesis of Allergy Section, NIH and Eyal Grunebaum, Head, Division of Clinical Immunology and Allergy, Hospital for Sick Children.
- Platin Allergy in Patients with Advanced Ovarian Cancer**
Platin salts are first-line therapy in women with ovarian cancer. Approximately 5%–20% of patients treated with either cisplatin or carboplatin will develop allergy to this drug, necessitating treatment with less effective chemotherapeutic agents. The Division has established protocols to safely desensitize patients with platin allergy allowing them to receive the best available therapy. We are now assisting the Genitourinary Oncology Group (Amit Oza and Neesha Dhani) at Princess Margaret Cancer Centre to establish a Rapid



Drug Desensitization Program in-house in order to provide their patients with this life-extending therapy. Ongoing program development aims to recruit full-time CIA faculty at UHN/PMH to address these needs comprehensively and to enhance patient care and expand research opportunities.

FACULTY

The Division of Clinical Immunology and Allergy consists of three full-time, nine part-time faculty members and four cross-appointed members.

The Division by job description includes one clinician investigator and two clinician teachers. CIA within the DoM resides entirely at St. Michael's Hospital. There are several part-time adjunct and cross-appointed members of the division who play a key role in the teaching of the residents in CIA as well as mentorship and committee work.

CIA faculty members are actively engaged in research at basic, translational, and clinical levels. Through strategic planning exercises this spring, the Division seeks to better understand how to establish strategic partnerships with new sites, divisions, and basic research partners to address limited faculty and resources. The division is working to create a viable recruitment and succession plan to further support these initiatives. Expansion to other teaching hospitals will require recruitment of clinician teachers and clinician investigators, as well as providing support to mid-level career faculty with capacity to develop their leadership skills.

Strategic recruitment of CIA faculty in other hospitals is critical to Divisional success. As a Division we believe there are significant strengths that can be brought forward to other sites, as is currently done at St. Michael's Hospital, to improve patient care, enhance teaching, and promote collaboration across disciplines. This also strengthens scholarship opportunities.

Figure 2.1: Academic Position Description of Full-time Clinical Immunology & Allergy Faculty

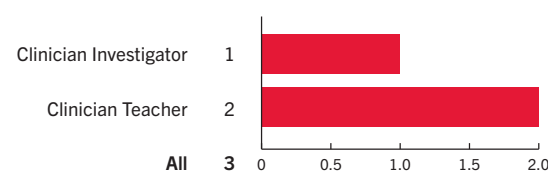


Figure 2.2: Affiliation of Full-time Clinical Immunology & Allergy Faculty

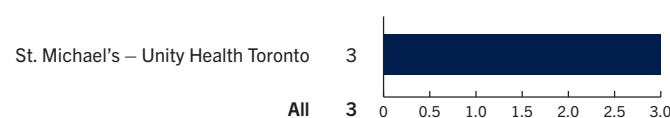


Figure 2.3: Current Rank of Full-time Clinical Immunology & Allergy Faculty

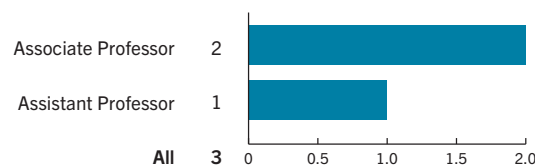
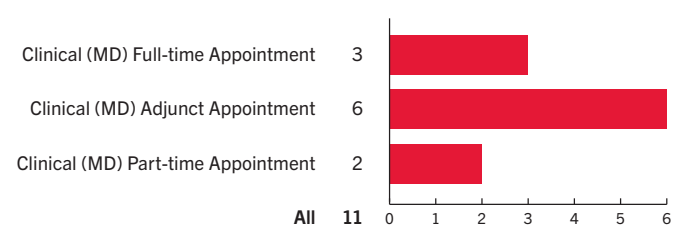


Figure 2.4: Primary Appointment of Clinical Immunology & Allergy Faculty



Mentorship

Given the smaller size of the Division, there is no formal mentorship program. However, our close-knit group enables us to work collaboratively and support each other with learning and development. As the Division and its membership grow, we recognize the significance of mentorship and plan to formalize it to the best of our ability.”

Equity, Culture and Inclusion

As a Division, we are committed to practices that promote inclusion and build equity. As the Division positions to grow, inclusion of EDI in search and programs will be a cornerstone in building the Division composite.

Wellness

Despite the significant emotional and wellness impact posed by COVID on our faculty, our division continues to thrive due to the prevailing culture of respect, compassion, integrity and inclusion. Open communication among division members and a commitment to patients and the healthcare system have been instrumental to our success. This was made possible largely attributed to the leadership of Dr. Peter Vadas, the Division Head of CIA at St. Michael’s Hospital, which houses the only division of CIA in the U of T network.

Continuing Medical Education

Members of CIA are active in continuing medical education (CME) with programs aimed at community-based allergists/immunologists, pediatricians, family physicians, dermatologists and otolaryngologists. Curriculum focuses on enhancing collaborative interactions between primary-care providers and our internal medicine faculty. Various venues for interaction and collaboration include the Annual Allergy Update, the Food Allergy Symposium, the American Academy of Allergy Asthma and Immunology, and the Canadian Hereditary Angioedema Network. CME is occurring on an international scale with faculty members involved in the design and execution of many CME events worldwide in food allergy, urticarial and hereditary angioedema.

Rounds

Weekly CIA rounds are held on Friday mornings, usually led by trainees. These rounds typically draw 8–12 attendees.

The use of virtual attendance has further expanded participation, with continued stable attendance and involvement across several sites and disciplines. Notices of upcoming rounds are distributed by email to faculty in adult and pediatric programs, as well as to community-based allergists/immunologists.

Annual Research Half-Day

CIA held its first annual research half-day on April 21, 2023, where all members of the division presented their research, increasing awareness regarding the diverse research conducted within the division and promoting collaborations internally and discussion on future research opportunities. This was very highly received and will be an ongoing program.

QUALITY AND INNOVATION (QI)

The Division of CIA has made significant local, national and in some instances international impact over the past five-years. Programs established years ago have reached maturity and are being established in other centres, like the chemotherapeutic drug desensitization program at Princess Margaret Cancer Centre. Clinical services have been extended to remote indigenous communities in Northern Ontario via Ontario Telemedicine Network (OTN). The Division has also developed diagnostic tools, such as a screening tool for hereditary angioedema for emergency department use, and an anaphylaxis simulation tool for CIA trainees. Quality improvement studies are ongoing to improve the safety of allergy immunotherapy.

An economic study comparing home and hospital care in the treatment of primary immunodeficiency has had a national impact by showcasing the increased capacity for care in the home setting. Data from this study was used by Health Quality Ontario to recommend the funding of home care at a provincial level which is becoming a reality with the ONIT program including St. Michael’s Hospital as one of its three sites. The success of this program is continually assessed by measuring patient outcomes using registry data and the province has committed to ongoing funding.

Lastly, an Alternate Funding Plan Innovation Fund QI study titled “Inpatient beta-lactam allergy assessment by antimicrobial stewardship programs: a multicentre prospective study” examines data from U.S. centres that have shown that “de-labelling” of patients with beta-lactam

allergy has reduced length of stay, reduced hospital re-admission rates, and reduced use of second- and third-line antibiotics with a corresponding reduction in the incidence of MRSA, VRE and C. difficile. If these outcomes prove applicable in Canada, significant cost reductions and improvement in patient outcomes can be anticipated.

LOOKING FORWARD

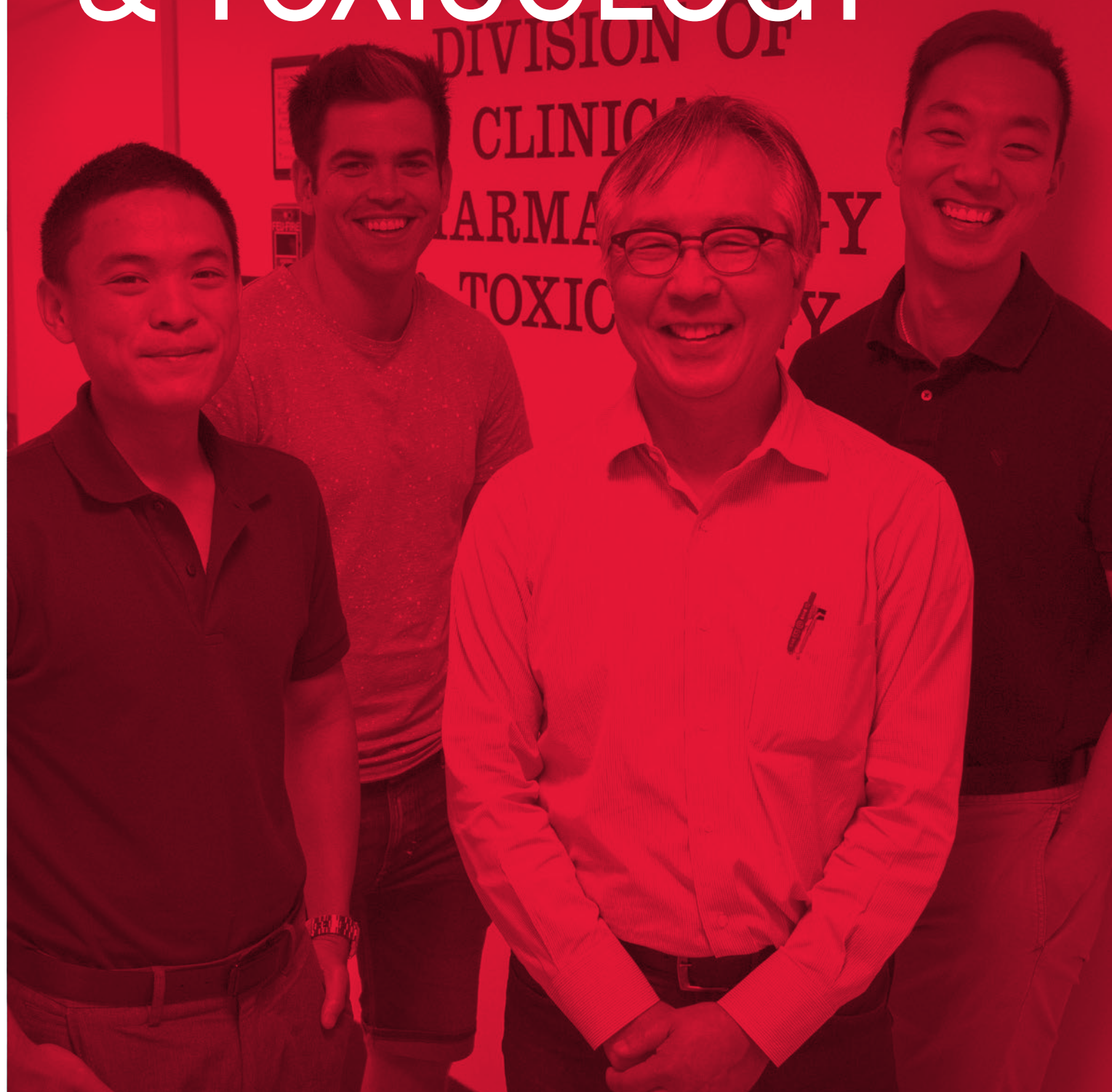
Divisional challenges that CIA faces in the coming years are not unique but do warrant careful strategic planning which is currently underway. Preliminary priorities include enhancing representation and collaboration across sites and specialties, building capacity through recruitment and partnership, and promoting education that better supports quality patient care.

Through adopting an integrated and collaborative approach, the Division of Clinical Immunology and Allergy is poised for growth. Specifically, building greater understanding of the immune system on a pathophysiologic level, combined with expansion of immune-based treatments and their complications, the Division aims to advocate for growth that will enhance patient care and outcomes across all sites at the University of Toronto.

Representation at other teaching hospitals is required to grow the vibrant and energetic academic program. The Division seeks to strategically place highly qualified early career faculty at fully affiliated hospitals that would give the program the clinical and teaching depth and breadth required to attract and recruit clinician educators and clinician investigators. Further, we will continue to pursue strategic partnerships with both clinical and basic science departments, such as the Department of Immunology, to facilitate cross-fertilization in areas of mutual interest.

As an example, developing a comprehensive, accessible, and sustainable drug hypersensitivity assessment program is a specific goal. While several faculty members currently assess drug hypersensitivity in their respective hospital clinics, opportunities to improve timely access for patients will be explored. Collaboration with hospitals and the Ministry of Health will be further strengthened to achieve this goal. Notably, commitments have already been made to recruit a soon-to-graduate Clinician Scientist at UHN and to engage in discussions with PMH more broadly to improve drug hypersensitivity assessment for enhanced patient care and outcomes.

CLINICAL PHARMACOLOGY & TOXICOLOGY



OVERVIEW

The University of Toronto's Division of Clinical Pharmacology and Toxicology (CP&T) is one of only a few such programs in Canada. Division members are engaged to varying degrees in research, teaching and the provision of clinical care, principally in the fields of adverse drug reactions/drug safety and acute-care toxicology at a cross-divisional level. Historically, these activities have been concentrated at Sunnybrook Health Sciences Centre (SHSC) and the Hospital for Sick Children (SickKids) although recent recruitment has permitted the emergence of a growing inpatient consult service at University Health Network.



GOVERNANCE

Department Division Director (DDD)

Dr. David Juurlink will complete his second term as DDD in December 2023. He is a pharmacist, internist, and head of the Division of Clinical Pharmacology and Toxicology at Sunnybrook Health Sciences Centre in Toronto.

He is also a medical toxicologist at the Ontario Poison Centre at the Hospital for Children, a Senior Scientist at ICES, and the Chair of the Royal College Examination Committee in Clinical Pharmacology and Toxicology.

Division Executive Committee

The division is one of the smallest in the Department of Medicine, with most faculty cross-appointed from other divisions (principally General Internal Medicine (GIM), Emergency Medicine (EM), and Critical Care Medicine (CCM)) and departments (Pediatrics). The CP&T executive consists of Dr. David Juurlink (citywide Departmental Division Director and Division Head at Sunnybrook), Dr. Tamorah Lewis (Division Head, Hospital for Sick Children), Dr. Peter Wu (site lead at Toronto General Hospital), Dr. Margaret Thompson (Medical Director, Ontario Poison Centre) and Dr. Howard An (Program Director).

External Review

A division underwent a cyclical review as commissioned by the Chair, Dr. Gillian Hawker. The review was conducted on Monday January 17th, 2023 by two external reviewers: Dr. Elizabeth Phillips from Vanderbilt University Medical Center (a former trainee of the program) and Dr. Lewis Nelson from Rutgers New Jersey Medical School. The review was conducted in-person and deemed a success. The Division was highly praised for its knowledge translation and research outputs.

One particular highlight was the addition of new faculty members over the past two years who, along with Dr. Juurlink as Division Director, have raised the profile of the Division and generated increased interest in the subspecialty, particularly among internal medicine residents. The Division has also been successful in attracting residents who wish to develop specific expertise in Medical Toxicology and who focus their time at academic medical centers, largely in emergency medicine, or at Poison Centres.

A key recommendation from the review emphasized the importance of improving cross-divisional and/or partnership collaborations pertaining to research, such as with Emergency Medicine, and mentorship across different career tracks, strengthening ties with the Leslie Dan Faculty of Pharmacy (e.g., research on addiction medicine) and potentially Immunology, and developing a broad strategic plan. (Appendix A)

EDUCATION

Postgraduate Medical Education

The division plays a major role in the education of postgraduate medical trainees at Sunnybrook Health Sciences Centre (SHSC) and Hospital for Sick Children (HSC). The former involves an elective rotation for senior residents in GIM, Anesthesia or Clinical Allergy and Immunology. Trainees are the first point of contact for inpatient consultations, most of which relate to suspected adverse drug reactions, drug desensitization and overdoses. Scheduling permitting, residents also see consultations at University Health Network.

Senior postgraduate trainees from universities across Ontario (most of them in Critical Care or EM) rotate through the Ontario Poison Centre (OPC) at the Hospital for Sick Children, which provides support for the care of poisoned patients across Ontario, Manitoba and Nunavut. During 24-hour call shifts, trainees on this rotation liaise with OPC's poison specialists and assist bedside clinicians under the guidance of one of OPC's 11 medical toxicologists.

Sub-specialty Training

Subspecialty training in CP&T is a two-year program accredited by the Royal College of Physicians and Surgeons of Canada (RCPSC). In general, two trainees are accepted each year. Most applicants have previously trained in Internal Medicine or Emergency Medicine, but other potential entry streams include Pediatrics, Psychiatry and Anesthesia. While the division has the capacity to support fellowship training, funding opportunities are limited, and prospective fellows are limited to those with independent funding.

Trainees' clinical activities are concentrated at two sites (SHSC and HSC) and are customized to the interests of the individual. This flexibility is a major strength of the program. Trainees focus their educational and scholarly efforts in the area that best aligns with their career goals (e.g., acute-care toxicology, drug safety, quality improvement). Some trainees, especially those aspiring to careers in academia, combine subspecialty training with a MSc or PhD, typically in either Clinical Epidemiology, Quality Improvement, or Education. In addition, several trainees have completed dual subspecialty training, combining CP&T with another subspecialty program such as Geriatrics or Critical Care.

Regardless of a trainee's area of focus, the RCPSC Specialty Training Requirements (see appendix) are addressed through a mix of clinical activities and educational sessions. The latter include:

- Small-group teaching, 2 to 4 times weekly at OPC
- Toxicology Grand Rounds, twice monthly at OPC
- Clinical Pharmacology Grand Rounds, weekly (Sept to June) at Sunnybrook
- Clinical Pharmacology noon rounds for GIM residents (monthly)
- National case-based rounds (monthly)
- Small group/1-on-1 teaching, either in person or by Zoom, with various faculty (Drs. Juurlink, Zipursky, Oh, Shear, Kamani, Moolani Merchant, and Wu)
- Academic half day (weekly)
- Journal club (typically 3-4 evenings per year)
- PCL100Y, a graduate-level course offered by the Department of Pharmacology, mandatory for all trainees

July 2023 saw the implementation of an intensive series of daily 2-hour lectures at OPC on a range of topics foundational to the discipline. Trainees are joined in person by their counterparts from UWO for the month. This undertaking, by Drs. Adrianna Rowe, Emily Austin and Cyrille De Halleux (Chief Resident) was viewed by all as an overwhelmingly positive experience, and we anticipate continuing it in the coming years.

Training in CP&T is cross-divisional and cross-departmental by design. Trainees work closely with faculty in EM, GIM, and Pediatrics and have access to experts in Clinical Biochemistry, Pharmacogenomics, and Mycology. They acquire in-depth knowledge of human pharmacology, pharmacokinetics, pharmacodynamics, therapeutics, and toxicology (pediatric and adult). They also receive exposure to concepts in pharmacogenomics, pharmacoconomics, pharmacoepidemiology, complementary and alternative medicine, and drug regulation.

The program integrates the CanMEDS roles and encourages trainees to undertake electives outside Toronto. Past graduates have undertaken electives in Phoenix, Denver, Vancouver, London (Ontario) and Sri Lanka.

All trainees rotate through the Sunnybrook Drug Safety Clinic. With the support of hospital administration, this clinic and the educational experience it affords have been greatly strengthened enormously over the past two years. It is now overseen by three immunologists/allergists cross-appointed to the division (Drs. Lisa Fu, Yasmin Moolani Merchant and Erika Lee). It deals with the assessment, testing, and occasional desensitization of patients with a broad range of adverse drug reactions.

The past decade has witnessed a growing interest in CP&T across the country. Historically, one or two trainees applied to the Toronto program each year. In 2022, we received applications from 9 trainees across the country, with diverse backgrounds (IM/Geriatrics, EM, Psychiatry, and Pediatrics).

Continuing Medical Education

Trainees and faculty regularly attend, and present at, a variety of local and national educational rounds. They include:

Sunnybrook Clinical Pharmacology Grand Rounds

These occur weekly from September until May-June each year and cover a range of topics in clinical pharmacology. The primary audience for these rounds is physicians, pharmacists and scientists who have an interest in the topics.

Poison Centre Rounds

These occur every two weeks at HSC during the academic year. Remote video access is available for those not on site. Residents rotating through the Poison Centre discuss interesting cases encountered over the preceding week. An hour of teaching about toxicology typically follows, generally provided by Drs. Thompson, Austin, Mackenzie (UWO), Lazongas or An. Primary audience for these rounds include postgraduate trainees in EM, ICU and CP&T, and those trainees from other universities across Ontario.

National Case-Based Rounds

These commenced during COVID-19 and occur by Zoom monthly throughout the academic year. Faculty or trainees at each of the active training sites in Canada (Toronto, London and Calgary) present a recent case, followed by Q&A. These rounds are typically attended by 40 to 60 people across the country and are accredited by the Royal College of Physicians and Surgeons of Canada.

Clinical Pharmacology Journal Club

These occur three to four times annually, either at HSC, or the home of a faculty member, or by Zoom. Residents and faculty discuss relevant papers in the field over dinner. A social event offsite usually follows.

Finally, residents and faculty attend national and international meetings in pharmacology and toxicology. These generally include NACCT, the ACMT annual meeting, ASCPT or the CSPT (the national specialty meeting). However, over the past decade, CSPT has evolved to become less clinical, diminishing trainees' interest in the meeting. The cost of attendance is partially funded by the DoM. In 2023, we will implement the requirement that residents in the second year of the program will have their travel costs defrayed only if they are presenting.

Fellowships

This division does not have dedicated funding for fellows but are able to support the training of any who are independently funded.

RESEARCH

Research in the division of CP&T has several foci. They include the following:

- Health services research in the fields of post-market drug safety, drug interactions, suicide/self-harm, and maternal-fetal drug safety. The bulk of this research is conducted at the Institute for Clinical Evaluative Sciences by Dr. Juurlink and Dr. Zipursky.
- Cardiovascular disease, including primary/secondary prevention and cardiac rehabilitation; this is conducted by Dr. Oh at the Toronto Rehabilitation Institute (TRI).
- Pediatric pharmacogenomics / precision therapeutics (Drs. Lewis and Verstegen, both primarily appointed in the Department of Paediatrics).

Over the reporting period, members of the Division of CP&T published 268 publications, including abstracts and peer review journals, generating a total of 4,899 citations and an average H-index of 56.5. Faculty collaborate extensively with colleagues nationally and internationally on topics such as adverse drug reactions (Dr. Shear), drug safety (Drs. Shear and Juurlink), toxicology (Dr. Juurlink), pharmacokinetics (Dr. Ito), maternal-fetal medicine (Dr. Ito), geriatrics (Dr. Liu) and cardiovascular disease (Drs. Oh, Dorian, Harvey). Between 2018 to 2022, the Division averaged approximately eight grants per year, and total research funding for this period was \$3.932 million.



FACULTY

The appointment of divisional faculty is unique within the DoM. Specifically, the Division has only two faculty members with primary-full-time appointment to CP&T. Dr. Paul Oh and Dr. David Juurlink. Other Faculty whom the Division works closely with include appointments in divisions such as: GIM, EM, CCM and with other Departments, such as the Department of Paediatrics. Within these other divisions and departments, mentorship and promotional activities take place.

The main divisional faculty members at Sunnybrook are Drs. David Juurlink and Jon Zipursky (GIM), Alya Kamani (CCM), Barbara Liu (Geriatrics), and Drs. Lisa Fu and Yasmin Moolani Merchant (CAI). Division members at the Hospital for Sick Children include Drs. Tamorah Lewis, Ruud Verstegen and Shinya Ito. At Toronto General Hospital, Dr. Peter Wu has recently been joined by Dr. Alex Kumachev. At St. Michael's Hospital (and also affiliated with the Ontario Poison Centre) are Drs. Margaret Thompson and Emily Austin. Other faculty active in the division but based outside the main U of T teaching hospitals include Drs. Chris Lazongas and Howard An (former and current PD, respectively) and Dr. Connie Mackenzie (IM, Resp, CP&T, University of Western Ontario).

Recruitment of faculty has long been a challenge because of the small number of active clinical pharmacologists in North America, and because recruitment generally necessitates an accompanying position within another division (GIM, EM, etc.). With the exception of an interested candidate from abroad or from one of the other two Canadian programs (in London and Calgary), the recruitment to Toronto of qualified, academically-oriented graduates from our program presents the most realistic opportunity for divisional growth in the near future. Aside from Drs. Tamorah Lewis and Ruud Verstegen (both of whom are recent recruits within the Department of Paediatrics at HSC), recent recruits from our training program include Dr. Peter Wu (GIM and CP&T, Toronto General Hospital), Dr. Emily Austin (EM and CP&T,

Figure 3.1: Academic Position Description of Full-time Clinical Pharmacology & Toxicology Faculty

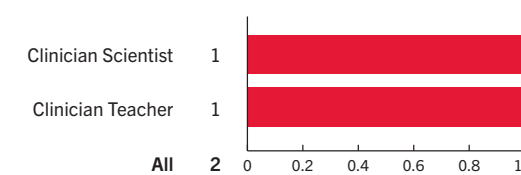


Figure 3.2: Affiliation of Full-time Clinical Pharmacology & Toxicology Faculty

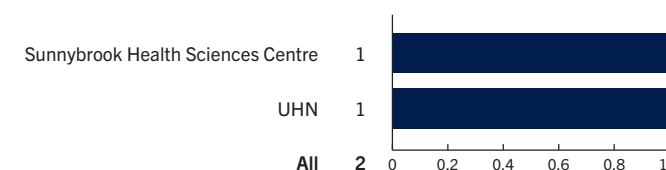


Figure 3.3: Current Rank of Full-time Clinical Pharmacology & Toxicology Faculty

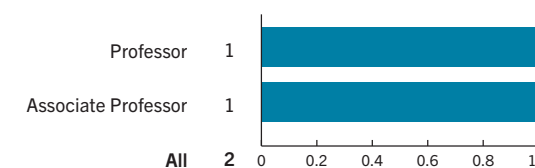


Figure 3.4: Primary Appointment of Clinical Pharmacology & Toxicology Faculty



St. Michael's Hospital, Dr. Alya Kamani (IM, CCM and CP&T, Sunnybrook Health Sciences Centre) and Dr. Alex Kumachev (GIM and CP&T, Toronto General Hospital).

Despite primary appointments at hospitals outside the main Toronto teaching hospitals, our program has been fortunate to have Dr. Howard An (CP&T 2016) as the current program director. He recently assumed this role from Dr. Chris Lazongas (CP&T 2013), who served in the role from 2016 to 2022.

QUALITY AND INNOVATION (QI)/ADVOCACY

This has not historically been a focus at CP&T, but Dr. Peter Wu is engaged in research and stewardship initiatives involving medication rationalization, sedative reduction and deprescribing at TGH.



LOOKING FORWARD

The greatest challenge faced by the Division of CP&T is its small size. Most Division members are cross-appointed from other divisions (or departments) where they have clinical, teaching and research obligations that are often unrelated to their activities within CP&T. Consequently, a small group of "core" faculty provides most CP&T-related clinical care, teaching and trainee supervision alongside their existing responsibilities. Faculty recruitment is a critical long-term divisional objective, although progress has been made with the recent recruitment of Drs. Emily Austin and Peter Wu, as has the appointment of Dr. Howard An as Program Director.

With a small number of faculty scattered across the city, geographical dispersion has posed another challenge to clinical care and divisional cohesiveness, although the latter has been mitigated significantly through the increased use of virtual platforms during COVID. Finally, financial support of trainees' educational initiatives (e.g., remote electives, conference travel, invited speakers, etc.) is a common challenge faced by all divisions. Unlike many other divisions, CP&T has not historically received philanthropic support or unrestricted funds from industry. While support from the DoM has been historically generous, efforts are now underway to seek support for trainees from both philanthropists and industry.

CRITICAL CARE



OVERVIEW

The University of Toronto's Interdepartmental Division of Critical Care Medicine (IDCCM) is an interdepartmental division of the Temerty Faculty of Medicine (TFoM) at the University of Toronto (U of T). It has grown from close to 80 full-time and part-time faculty members to more than 100 members, including those who are cross-appointed to their base-specialty departments (Anesthesia, Medicine, Paediatrics and Surgery). Amongst the Division's faculty, over 30 members have achieved the academic rank of full professor.

This interdisciplinary Division sees the greatest patient population (more than five million) of any Canadian university critical care division; it sees the greatest diversity of patients and complexity of cases. Residents and fellows in the Division see cases and treatments that may be only heard of in other centres. Residents and fellows have outstanding opportunities for research, but also a means to introduce them to faculty at the forefront of critical care.

The Division is renowned for its clinical expertise and research leadership in a broad range of fields including acute lung injury, mechanical ventilation, critical care physiology, sepsis, trauma, critical care education, outcomes after critical illness and health services research, neuroscience and the cellular and molecular biology of critical illness. The Division has developed strong city-wide communication and representation of Division members. Equally important is the facilitation of mentorship, which is viewed as vital to the success of the program and wellbeing of divisional faculty, trainees and staff.

Critical Care's mandate is to develop leaders in critical care and foster the development of competent, caring and resourceful intensivists. Their vision is to consider the critically ill patient in his/her global trajectory, sometimes well beyond the ICU walls. There are many opportunities for research and development in basic science, physiology, clinical trials, clinical epidemiology, ethics and education. The success of the program lies in the diversity of faculty and breadth of the educational opportunities provided by the various academic and community intensive care units (ICUs).

GOVERNANCE

Department Division Director (DDD)

Dr. Laurent Brochard was appointed to his second term as DDD July 2020. He serves both as Interdepartmental Division Director for Critical Care, and as Division Director within the Department of Medicine at the University of Toronto. He is a full professor and clinician-scientist in the Division of Critical Care and is sited at St. Michael's Hospital. He has strong involvement in research, and especially clinical research about mechanical ventilation. He has been editor-in-chief of the journal, *Intensive Care Medicine*, from 2001 to 2007 and is currently serving as deputy editor for the *American Journal of Respiratory and Critical Care Medicine*, renewed for the third 5-y mandate. He founded a European Research Network dedicated to clinical studies in mechanical ventilation called REVA and is leading an international group of applied respiratory physiology, with more than 300 members internationally, the PLUG group (plugwgroup.org). He has an h-index of 120 and more than 700 publications.

Division Executive Committee

The Executive Committee consists of Dr. Brochard and the Department Heads at the affiliated hospital sites, program directors, research directors, and wellness and mentorship lead. On average the committee meets monthly.

The Organization Chart of IDCCM Education Committee is available at Appendix A.

Steering Committee

Critical Care has initially been supported by a 16-person Steering Committee which has representation at partner sites. The Program Director, Research Director and Associate Research Director are also members. The committee has evolved towards a regular faculty meeting to engage members of the Division in appropriate discussions.

Figure 4.1: Academic Position Description of Full-time Critical Care Faculty

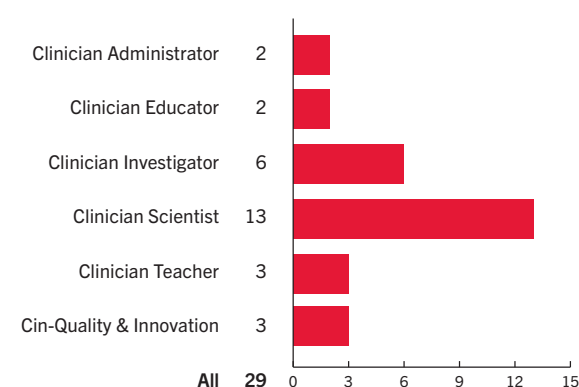


Figure 4.2: Affiliation of Full-time Critical Care Faculty

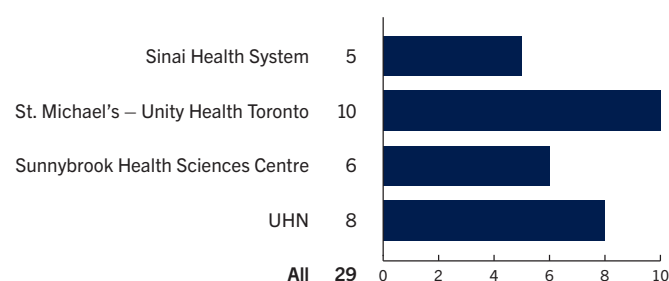


Figure 4.3: Current Rank of Full-time Critical Care Faculty

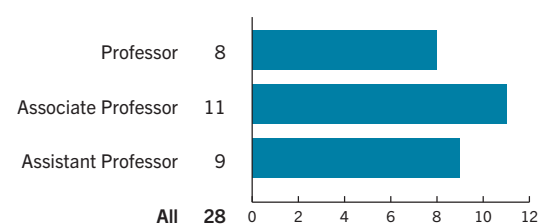
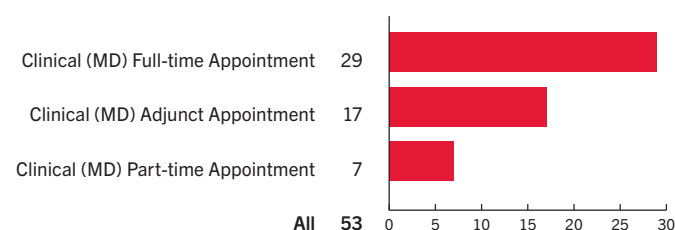


Figure 4.4: Primary Appointment of Critical Care Faculty



Program Director

The program director chairs the Residency Program Committee (RPC). Each academic site has an educational lead/clinical educator who represent their sites on RPC. Site education leads have variable remuneration. The site education leads are responsible for CCM and rotating resident orientation, teaching, and evaluations.

In 2022 the Division appointed a new Program Director (Jenna Spring) who took over after six years of very successful leadership from David Hall.

Strategic Planning

With Faculty engagement and executive committee leadership, a five-year strategic plan was developed in 2015. Since the plan's implementation, Critical Care Medicine (CCM) has ranked second among its CCM peers worldwide. Due to the COVID-19 pandemic and heavy clinical burden, the Intradepartmental Division was not able to gather for strategic planning renewal.

The strategic plan articulated a need to find new pathways for research collaboration through establishing a unified framework that will define the Division across U of T. Individual research groups exist, but there was no IDCCM research framework that incorporated and integrated all the Division's scientists and researchers involved in basic science, translational and physiological research, clinical research, health-services research, education, and quality. Rallying everyone together within such a framework through an emerging theme in critical care—that critical illness is only part of a continuum—is the purpose of the “Alliance” vision. To reach this vision, the Division recruited a Research Director and an Associate Director of Research, who are tasked with building a unified framework.

External Review

The Division completed a successful external review in 2019. Conducted by Dr. Sean Bagshaw and Dr. Boyd Taylor Thompson. The group was praised for their international presence, training environment and research outputs, including high praise for recent initiatives to engage the broader IDCCM community (i.e., Alliance; NABOR; iCORE) and celebrate success (i.e., Dr. Art Slustky Research Day; H. Barrie Fairly Professorship). The intradepartmental division

was encouraged to continue efforts to engage broader critical care community, to work on opportunities within ICU and The Hospital for Sick Children, and to continue efforts that explore formation of an independent Departmental status and/or Critical Care “Institute” that can serve as a mechanism to support and grow funding sustainability and stability. Lastly, it was recommended that the IDCCM should facilitate the international outreach program by developing a more formalized governance structure; a long-term strategic plan and a budget to ensure its continued success, sustainability and appropriate recognition. (Appendix B)

Dr. Brochard will complete his second term as Division Director in June 2024. In preparation, the Division will need to focus on succession planning and identifying requirements of next leadership.

EDUCATION

Postgraduate Medical Education

The Critical Care Medicine Education Program at U of T is a two-year curriculum. It reflects the length and learning objectives of the Royal College of Physicians and Surgeons of Canada (RCPSC) CanMEDS 2014 Physician Competency Framework for subspecialty training. The core lecture series, designed and implemented over the past five years, has been updated this year to enable a transition to competency-based training. This progressive change started in July 2015 and has been successfully implemented, achieving a full CBD approach and has been acknowledged by the full accreditation of our program in February 2021. Formative workplace assessments and In-Training Evaluation Reports (ITERS) have been introduced as well as more tailored educational plans structured to meet Critical Care Medicine's entrustable professional activities (EPAs). Critical Care is working with U of T's Office of Postgraduate Medical Education as well as the RCPSC to ensure the most efficient and effective onboarding of competency-based medical education.

Competence by Design (CBD)

As of July 2019, the Division of Critical Care has transitioned to competency-based learning. Formative workplace assessments have been introduced, in addition to In-Training Assessment Reports (ITARs), as well as more tailored educational plans structured to meet Critical Care Medicine Entrustable Professional Activities (EPAs). All RC adult trainees have an academic advisor to help coach them through the process of CBME as well as to help them develop individualized learning plans. The EPAs allow for direct feedback on key competencies as the trainees progress through the four stages of training: Transition to Discipline, Foundation of Discipline, Core of Discipline, and Transition to Practice.

The program is delivered through blended learning techniques, including interactive didactic lectures, procon debates, high-fidelity simulation-based training and hands-on workshops. Throughout the program, all trainees are afforded unique access to world-class educators, scientists and investigators. After two years, trainees acquire the core competencies required to function as a critical care consultant. They also gain the chance to excel—to develop a career as an expert and leader in their chosen clinical or academic field.

At least 12 months of the two-year CCM program involves clinical rotations in critical care units. There is also a requirement to complete one month in a community ICU. Rotations are customized to the individual needs of the resident.

Six months of the two years are dedicated to scholarly activities, including research, quality improvement, education, etc. These activities are supervised by a member of the program committee and the output is presented to a jury at the end of each academic year.

The resident participates in the day-to-day running of an ICU, the supervision of all junior medical staff, the comprehensive care of critically ill patients, the interhospital transportation of critically ill patients and the organization of rounds, seminars and teaching sessions. The resident gains significant experience in the administrative, quality initiative, supervisory and consultative roles required to function as an attending critical care physician. During each rotation and throughout the two-year program, the resident also has graded responsibility so that at the beginning the resident will be involved to a greater degree in primary care and subsequently involved more in a supervisory capacity.

During the academic year, residents attend an academic half-day didactic lecture, which occurs weekly; topics in intensive care are reviewed. A two-year core lecture series was designed

and implemented in 2013 and runs from September to June each academic year. The core lecture series was developed to fulfill the education objectives outlined in the Specialty Training Requirements. These sessions focus on normal cardiorespiratory physiology and the pathophysiology of critical illness.

Most topics are presented in didactic fashion. There is also hands-on learning for ventilator and dialysis machine parameters and settings. Informal teaching sessions are also held on topics of the residents' choice. Residents are expected to attend at least 90 percent of the Tuesday lectures. The program offers a unique “boot camp” in block one for all incoming CCM residents to facilitation orientation. The program has a city-wide curriculum that includes a core curriculum, POCUS, simulation, OSCE, in-training examination and “clinical research in progress” (CRIP) rounds.

Once each month, an Ethics Roundtable Discussion takes place during the academic half-day. Participants discuss an ethical principle that pertains to the practice of critical care. Experts from the Centre for Bioethics at U of T are regularly invited to moderate discussions.

Other monthly activities for residents include a Journal Club, a simulation activity, city-wide rounds and Research in Progress Rounds.

Fellowships

Critical Care runs several highly successful International Fellowship Programs. Fellowship opportunities are offered at St. Michael's Hospital, Sunnybrook Health Sciences Centre and a joint program through the University Health Network and Sinai Health System. All clinical and research fellows are enrolled as full-time postgraduate students in the TFOm at U of T and, as such, enjoy all the academic resources of a large university program. Upon completion, all our fellows are awarded a certificate from the University. We have continued to attract Clinical Fellows from around the world to our Hospital Based Critical Care Medicine Fellowships. These trainees bring a wealth of knowledge and continue to enrich our program with their diverse backgrounds and training.

Recently three additional fellowships have been created: an onco-hematologic critical care fellowship at Sinai, an ECMO fellowship and an ECHO fellowship at TGH. Of note, two recent faculty recruited at Sinai (Dr. Spring, Dr. Ferreyro) had successfully completed the onco-hematological critical care fellowship.



Protected time for the pursuit of academic goals is essential and comprises not less than 25 percent of the fellowship time. Fellows are strongly encouraged to pursue higher qualifications, and many choose to sit the American Board of Internal Medicine Critical Care examinations and work toward the European Diploma of Intensive Care Medicine during their fellowship. The well-structured and comprehensive teaching provided has proven invaluable to those preparing for examinations. The Critical Care Medicine Clinical Fellowship at U of T is truly an international program. Our alumni, with whom we continue to collaborate, hail from countries all over the world, including Australia, Brazil, the United States, Italy, Japan, Switzerland, the United Kingdom, Singapore, Argentina, Ireland, Spain, India, Nepal and Israel. The program has trained leaders in critical care throughout the world. The Clinical Fellowship is an essential vehicle for the Division's Global Outreach Program, helping to improve the quality and delivery of patient care on every continent.

The Critical Care Medicine Program provides clinical fellows with exceptional clinical, educational and research experience. The aim is to recruit those trainees who are about to or have recently completed critical care training in their home country. It is important to the success of our educational programs that we have learners who are at different postgraduate

levels, who have different educational and professional goals and who will augment one another's learning.

The combined Trauma Surgery and Critical Care Fellowship is highly competitive with other programs in Canada and the United States and continues to draw outstanding surgeons. It represents an important innovation in critical care education in the IDCCM and adds breadth and depth to the program. It also continues to be a very successful collaboration between IDCCM and the Division of Trauma Surgery.



RESEARCH

As members of an interdepartmental division, Critical Care faculty generate and translate new knowledge across the Departments of Medicine, Paediatrics, Anesthesia and Surgery.

We have more than 100 members, of which 30 are full-time faculty members and 25 are part-time or adjunct members, who have a primary appointment in the DoM. Over the review period, divisional faculty with a primary or secondary appointment in the DoM produced 2039 publications, generating more than 84,320 citations and an average H-Index of 42.4. DoM faculty with a primary appointment in the Division held grants totaling \$14,251,349.06 over the five-year period; they were primarily awarded by Canadian Institutes of Health Research and hospital foundations. The total for the whole division was approximately \$49 million.

The structure of IDCCM is unique. Faculty members work at six different academic hospitals across Toronto, collaborating with scientists to improve the care of the critically ill.

Collaboration is therefore a priority. Dr. Margaret Herridge and Dr. Hannah Wunsch serve, respectively, as the Division's Research Director and Associate Director. Under their leadership, many high-impact projects have been initiated; an exciting research environment has developed within Critical Care. The Annual Day of the Division has been reshaped to make it a Research Day now referred to as the Art Slustky Day. The 2023 edition (in person) had 52 original abstracts presented.

The IDCCM has several research themes for which Toronto has not only an international reputation but is also a world leader. **These are led by several inter-professional research groups within the city across the academic institutions:**

- Respiratory failure, ARDS and mechanical ventilation. Mechanical ventilation trials in the ICU are done in collaboration with the Toronto Centre of Excellence in Mechanical Ventilation (CoEMV, Laurent Brochard) and the PRACTICAL platform trial (Ewan C. Gologher,

Niall Ferguson). These trials aim at advancing personalized and evidence-based mechanical ventilation.

- Extracorporeal lung support or ECLS. The Toronto group has an international recognition and is one of the leaders of the International ECMONet (Eddy Fan, Niall Ferguson).
- Neurocritical care, through the research done on brain injury at the different centres
- Education research
- Survivorship and long-term post ICU follow-up research is led by Dr. Margaret Herridge and has a considerable international impact.
- Health services research: Toronto is one of the world leaders in this domain.



- International outreach: collaboration with many countries in South America (Brazil, Argentina, Chile, Peru), in Africa (Rwanda, Ethiopia), in Asia (Nepal, India, Thailand) and with many European countries (France, Italy, Spain, UK, etc.) characterizes many of the work initiated in Toronto as well as international network (InFact, John Marshall).

In 2023, almost 600 publications came out of IDCCM with a mean Impact factor of 18 (see figures at Appendix C).

There has been concerted effort to bridge collaborations across the academic institutions within these themes and to mitigate competition. The IDCCM has garnered several activities to foster and facilitate this, including the Art Slustky Research Day; the Alliance Day; visiting professor/clinical research in progress rounds (CRIP); the “Nuts and Bolts of Research” (NABOR) initiative and has developed a specific financial support program for fellows, clinical associates

and young faculty (trainee award, IDCCM Scholar award, Barrie Fairley professorship awards, thanks to an endowed professorship) as operational grants to support our members at the early stage of their career.

The research leadership fully supports the implementation of equity, diversity and inclusivity in our research best practices.

Visiting Professor Rounds and Clinical Research in Progress

For the last ten years, IDCCM has been hosting routine Clinical Research in Progress (CRIP) and Visiting Professor (VP) Rounds. In that time, we have received more than 50 visiting professors spanning a broad range of seniority and research interests (sepsis, respiratory failure, ethics, education, neurocritical care, etc.). The VP Rounds were designed to be more than typical Grand Rounds and Go experiences. The visiting professors typically spend two full days shuttling around Toronto and meeting with trainees, faculty and research staff. They give two lectures, one for the trainees and one Grand Rounds talk. This program also includes the annual or biannual named lectureships in critical care: Resident's Day Lecture, the Sibbald Lecture and the Goldstein Lecture.

The CRIP Rounds occur roughly monthly during the academic year and provide an informal forum to discuss research ideas at their earliest phase and socialize at the same time. When possible, we link CRIP presentations to the visiting professor's interest and get feedback. In the past year, IDCCM welcomed more than 20 new “cross-appointed” members.

We have also created the Nuts and Bolts of Research sessions to offer some clues about the complexity of clinical research. These sessions are a useful complement to the monthly CRIP sessions attached to the Visiting Professor program or the Physiology Rounds.

Annual International Meeting

The Critical Care Canada Forum is a four-day conference focusing on topics relevant to the care of critically ill patients, wherever the patients are located. Internationally recognized, the Critical Care Canada Forum focuses on leading-edge science through informative and interactive sessions, led by an outstanding international faculty and organized by members of the Division (chair: Niall

Ferguson, and for the scientific part: Laveena Munshi and Eddy fan). About one thousand attendees come every year and the meeting is also the official meeting of the Canadian Critical Care Society.

Recognition and Awards of the Division

In addition to teaching awards at each site, IDCCM annually announces the John Granton Award, which recognizes and celebrates a faculty member's outstanding contribution to critical care education, in addition to an award for the best educator at each site. The Simon Abrahamson Award to an exceptional trainee, the John Laffey Research Award to a fellow achieving important research success, the Brian Kavanagh award recognizes the research work of a full-time clinical fellow and the Afrothites Kozatkis award recognizes a pediatric fellow. The Division also has a Humanitarian Award, and two interprofessional awards (adult and pediatric).

City-Wide Research or Education Rounds

The Division has instituted a program called Critical Care Brian Kavanagh Physiology Rounds, with a monthly lecture. This is organized by Dr. Ewan Goligher.

Other city-wide research rounds exist, such as the Mechanisms of Associative Injury (MOAI) sessions organized by the Mechanical Ventilation group, and the Research Rounds at SickKids.

Mentorship and Wellness

The IDCCM and DoM partner to make physician and trainee mentorship and wellness a priority. Site leads have been appointed to champion and support our faculty.

The Division has appointed a Wellness Lead (Dr. Shelly Dev), who pays special attention to the well-being of our fellows.

Further, we are taking steps to implement a longitudinal wellness curriculum to engage staff and trainees in discussions about wellness and burnout and to collectively explore diverse approaches to achieve a healthier way of living as physicians. This mandate will include exploring the impact of and approach to time management, nutrition, sleep, stress reduction and mindfulness meditation.

Equity, Diversity and Inclusion

A committee was struck in 2022 to champion Equity, Diversity and Inclusivity (EDI) as it applies to the University of Toronto Critical Care Training Programs CaRMS selection process. An EDI statement was added to our program, and included changes to the review process. Trainees were invited to share information in their letters of intent with the goal of better understanding distance travelled by our applicants. The committee will continue to meet and review the selection process as well as look for ways to improve diversity within the training program.

QUALITY AND INNOVATION (QI)/ ADVOCACY

The Division's ultimate objective, as outlined in its current strategic plan, is to become a leader in critical care quality improvement (QI) through a collaborative infrastructure that promotes sustainable, evidence-based and cost-effective care that leads to reduced harms and improved outcomes while increasing efficiency and value for the health-care system.

There are ongoing initiatives at hospital sites and collaborations across sites. The division has quality innovators at each site and a group has been created in Toronto to harmonize the projects and practices (Dr. Nava Maham, Dr. Andre Amaral).

At Sunnybrook Health Sciences Centre, a Process of Care database was developed and validated based on data collected through the iCORE registry. Dr. Eddy Fan is leading the project. The database assists reporting about early mobility, lung protective ventilation, DVT prophylaxis, delirium screening, sedation management and spontaneous breathing trials. All units collecting data on iCORE received reports, and quality reports are posted monthly. The current indicators are revised regularly. This project is delivering indicators to all sites (now including community sites) and has now been the source of multiple publications. Work continues to expand the database to community hospitals, and Drs. Amaral and Fan have been actively engaged with stakeholders to increase adoption. Scarborough and Rouge Hospital, St. Joseph's Health Centre, Niagara Health System (St. Catharines site) and Michael Garron Hospital are partners, and each is in various stages of contractual development to contribute to the registry.



LOOKING FORWARD

The Division is very successful academically. It is large and diverse but suffers from insufficient resources which challenge long-term sustainability. Since becoming an interdepartmental division in 2003, the Division has grown significantly in terms of faculty membership, activities, and projects. Some aspects of the division are limited by the complex aspects of the various practice plans, in general more related to base departments than to critical care, except at Sunnybrook where the critical care department has full autonomy as a practice plan. The structure of the Pediatric program is also complex and puts the support for critical care at risk in the future. The place of critical care at UHN has recently evolved to become an interdepartmental structure within UHN-Sinai, which should offer a simpler governance model and allow for better direct support to Critical Care. At SMH-Unity Health, critical care is a priority, but its members are split between medicine, surgery, and anesthesia practice plans. To continue meeting our goals to grow, attracting the best talents worldwide and providing the best up to date education, the structure of the Division needs adjustment. A committee will be struck to examine different solutions and models, including exploring becoming a full department.



DERMATOLOGY



OVERVIEW

The University of Toronto's Division of Dermatology is the largest Division of Dermatology in Canada. The division consists of over 40 dermatologists and another 40–45 residents and fellows in dermatology training. Housed at three main teaching sites (Women's College Hospital, Sunnybrook Health Sciences Centre, and UHN-Toronto Western Hospital), with a strong connection to the Pediatrics Division at the Hospital for Sick Children, the Division provides patient care in areas of general dermatology, complex medical dermatology, and unique subspecialties including skin surgery (Mohs surgery), phototherapy, wound care, patch testing, and cosmetic and pediatric dermatology. There is a strong clinical research focus with emphasis on cutaneous malignancy, transplant dermatology, and clinical trial quality.

GOVERNANCE

Department Division Director (DDD)

Appointed in 2017, Dr. Vincent Piguet trained at the School of Medicine, University of Geneva, graduating in 1995. He spent two years doing research in virology and immunology at the Salk Institute in San Diego, USA before obtaining his MD and PhD in 2000/2001 and specialist certification in dermatology and venereology in 2004 from the Swiss Medical Association. He received a prestigious fellowship from the Swiss National Science Foundation in 2003 and was subsequently promoted to assistant and then associate professor at the University of Geneva.

In 2010, Dr. Piguet joined Cardiff University in the UK as Professor and Chair of the Department of Dermatology and Wound Healing. He was also appointed consultant dermatologist at the University Hospital of Wales. In 2011, he obtained UK certification in dermatology and in 2014 became a fellow of the Royal College of Physicians. In 2011, he was appointed Director of the School of Medicine Institute of Infection and Immunity and in 2015, Director of the School of Medicine Division of Infection and Immunity. In 2017, he was appointed as full professor and DDD, Dermatology, in the Department of Medicine at the U of T and Division Head in the Division of Dermatology at Women's College Hospital.

Division Executive Committee

The purpose of this committee is to advise the DoM DDD on faculty, research, quality and innovation, and general division priorities. The committee is an advisory committee of the Division of Dermatology with a mandate to engage in ongoing, high-level discussions about the educational, research and quality improvement goals of the Division; to bring leadership for all levels of medical education—UG, PG, and Fellowship—collectively shape the educational environment within the Division; to bring leadership from the citywide dermatology sites together to increase the research capacity in the Division, including collaborations with other divisions in the DoM and in the U of T-affiliated teaching hospitals; to ensure successful implementation of priorities outlined in the Strategic Plan for the Division and achieve deliverables within the agreed timelines. Meetings take place every other month for 1 hour during the regular academic year (September-June). Additional meetings of the DDD and individual members may be necessary with periodic reports to the Dermatology Executive Committee. Please refer to Appendix A for the list of Committee members.

Postgraduate Residency Program Committee

The members of this Committee are Drs. Phil Doiron [Program Director (PD)], Vincent Piguet [Departmental Division Director (DDD)], Dalal Assaad, An-Wen Chan, Tiffany Chen, Joel DeKoven, Aaron Drucker, Sam Hanna, Jadranka Jambrosic, Marissa Joseph, Rebecca Levy, James Limacher, Yvette Miller-Monthrope, Christian Murray, Adam Natsheh, Kucy Pon, Cheryl Rosen, Cathryn Sibbald, Nowell Solish, Jennifer Tran, Scott Walsh, Marni Wiseman, Geeta Yadav, Jensen Yeung, and one or two residents representing each of the five years of the program. The Dermatology Postgraduate Residency Program Committee (RPC) was led by Dr. Scott Walsh (former PD) from 2006 to 2018. Dr. Philip Doiron (current PD) has led the RPC since. The PD reports to the DDD and to the DoM Vice Chair Education, Dr. Arno Kumagai. The Committee meets a minimum of four times per year and oversees all aspects of the residency program.

Scholarship Support Committee

The members of this committee are Drs. Vincent Piguet (DDD), Phil Doiron (PD), An-Wen Chan, and Scott Walsh. Residents involved in research are able to request support for conference attendance if they are presenting an abstract or project. The applications are reviewed by the committee members and if approved residents are reimbursed from Divisional funds for a certain amount of conference travel expenses.

Strategic Planning

The mission of the Division of Dermatology is to meaningfully affect health through international leadership in dermatology education, research, and the translation of new knowledge into better care and health outcomes.

In 2018 the Division established strategic objectives to achieve this mission as follows:

Research The Division seeks to enhance and grow its basic and clinical research program by engaging in new partnerships within the Department of Medicine's (DoM) subspecialties and specialties, with the University of Toronto's (U of T) basic scientists and with external partners in industry, foundations, and institutes, among others.

Quality and Innovation The Division seeks to lead in quality and innovation (QI), improve patient care, and create new training opportunities for trainees and faculty.



The Division seeks to nurture faculty well-being and promote meaningful knowledge translation.

Recognition The Division seeks to elevate the Division of Dermatology on an international scale. Its goal is to be among the top five dermatology divisions in the world.

Recruitment The Division seeks to recruit educators and scientists to sustain these objectives. The Division aims to elevate itself nationally and internationally through research and education. The Division seeks to be ranked in the top ten worldwide by 2028.

In Fall 2023, the Division will undergo strategic planning review of the above priorities to inform Divisional planning, resourcing and partnership opportunities.

EDUCATION

The Division of Dermatology Residency Training Program is the largest in North America and teaching is designed as follows:

- a first year of internal medicine and subspecialties
- a second year more focused on the various branches of dermatology and related fields;
- three core years of all aspects of dermatology (pediatric and adult), dermatologic surgery, dermatopathology, and cosmetic and procedural dermatology.

Further, the Division collaborates with the University of Manitoba in running a joint training position in Dermatology; the resident is based in Winnipeg for the first two years and in Toronto for the final three years of core dermatology training.

Research is a core focus of training in the residency program, and several residents have succeeded in securing grant funding from the Canadian Dermatology Foundation, among other funding agencies. Residents regularly present at national and international conferences and at the Division's own Resident Research Day (held annually in June).

The program also has a strong clinical base with subspecialty clinics in cutaneous lymphomas, immunobullous diseases, hair, vascular malformations, HS, complex medical dermatology, HIV dermatology, male genital skin disease and childhood morphea. A dedicated group of dermatopathologists teaches concepts in dermatopathology weekly as well as during dedicated rotations. Cosmetics and procedural dermatology, including Mohs micrographic surgery, have dedicated teachers and rotations.



Residents have been very successful in securing opportunities (including electives in Botswana and conferences in European countries) through the American Academy of Dermatology as well as the Canadian Dermatology Association. Several residents have participated in Camp Liberté, a charitable organization that offers a unique experience for children with cutaneous disorders. The dedicated residents, and their innovations, continue to make the program grow, and a collegial group of committed staff ensures a solid and fulfilling residency experience.

Currently, Dermatology has 33 residents in the program and 11 fellows (medical, procedural, and cosmetic dermatology as well as cutaneous oncology) who reflect the community's diversity. Rotations involve multiple academic and community sites to give the residents knowledge and experiences in all aspects of adult, pediatric, academic, and community dermatology as well as pathology, procedural dermatology, and all related disciplines.

The Division has many multidisciplinary subspecialized clinics, including the following:

- Psoriasis (Dermatology, Rheumatology)
- Atopic Dermatitis (Dermatology, Immunology)
- Cutaneous Lymphomas (dermatology, oncology)
- MOHS and skin cancer surgery (dermatology, plastic surgery, pathology and radiation oncology)
- Hidradenitis Suppurativa (dermatology, GI, surgery)
- Skin cancer (plastic surgery, pathology and radiation oncology); and
- HIV dermatology

The Division also has many partners in gastroenterology, otolaryngology (ENT), oncology, infectious diseases, allergy and immunology, nephrology, endocrinology, plastic surgery, radiation oncology, ophthalmology, and dentistry. The Division strives to offer the best patient-centred care and training for their residents. Residents rotate through all the related disciplines in the first two years of training and then focus on core dermatology, pathology, and procedural training for the final three years. Scholarly projects are a mandatory component of the program, be it basic or clinical research or quality assurance.



Dermatology has the most formal teaching within the program of any residency program in North America. This teaching includes the following:

- Full academic days on Fridays;
- Basic sciences of skin on Tuesdays;
- Monthly dermatologic and cosmetic surgery training; and
- Regular dermatology-focused training on each of the CanMEDS competencies

The Division hosts an annual three-day resident retreat at the beginning of the academic year that focuses on team building and addresses a CanMEDS competency with focus on dermatology. This retreat has been held for the last 15 years (with a hiatus in 2020 and 2021 due to the COVID-19 pandemic) and unites PGY1–PGY5 residents in a cohesive group. The Division also has a staff champion and resident lead for each of the CanMEDS competencies; they ensure that all aspects are covered within the academic curriculum. Finally, the teaching curriculum is mapped carefully to rotations and evaluations. The Dermatology Residency Program covers experiences and the knowledge base in all facets of dermatology over a three-year rotating plan (which includes both education and evaluation) for PGY3–PGY5 and a two-year rotating plan for PGY1 and PGY2 residents.

Residents participate in teaching at the peer level as well as at the undergraduate medical education level to train them to become the teachers of tomorrow. Residents receive feedback from teaching and presentations. The Professional Association of Residents of Ontario's teaching award has been won by dermatology residents six times.

The Division recently undertook a survey of current residents and recent graduates to assess all aspects of the training program and instituted changes to develop consistency across teaching sites. Even though it has an understaffed program with 14 full-time faculty for approximately 45 residents and fellows, the Division manages to provide in-depth teaching to undergraduates, postgraduates (dermatology and related disciplines), fellows, and postgraduate continuing medical education (CME).

Undergraduate Medical Education

Dr. Sameh Hanna and Dr. Jennifer Salsberg are responsible for undergraduate education. They are responsible for the curriculum as the co-Chairs of the Dermatology Undergraduate Education Committee. Other members of these committees

include Dr. Yvette Miller-Monthrope, Dr. Geeta Yadav, and Dr. Erin Dahlke.

The dermatology undergraduate curriculum at U of T spans all four years of medical school, increasing in complexity and medical-student involvement as the students' progress through their studies. The first-year course consists of a concise but wide-ranging introduction to dermatology. "Derm Week," as it is known, covers many core dermatology principles (e.g., morphology, dermatologic nomenclature, skin diversity considerations) and diagnoses (e.g., psoriasis, dermatitis, skin malignancies, hair loss, cutaneous infections, acne and rosacea, procedural dermatology). This course is part of the Concepts, Patients & Communities 1 course that spans the first-year medical school curriculum at U of T.

A portion of the curriculum is built around the case-based learning model with group and individual components and feedback in the latter part of the week from expert tutors who review the cases with the learners. As well, the Integrated Clinical Experience/Clinical Skills component of Dermatology-Week has the students learning and performing methodical full skin examinations with particular focus on patient comfort, consent, respect, and cultural sensitivity.

In second year, students get to synthesize what they've learned with several dermatology-focused modules in the context of other disciplines (e.g., STIs in sexual health and gynecology; atopic dermatitis, lice, and scabies in pediatrics, common skin malignancies in geriatrics).

Third-year students can participate in dermatology electives with academic and community-based dermatologists. To assist in identifying these opportunities and making them more accessible to learners, an electives database has recently been developed by the dermatology program. Part of this effort included reaching out to dermatologists, especially in the community, to encourage them to offer placement for students; this has been quite successful in broadening these opportunities.

Postgraduate Medical Education

Dermatology residents interact regularly with internal medicine residents and staff, usually in their capacity as dermatological consultants. Division members continue to be world leaders in dermatology research.

Residency training in dermatology involves the development of thorough knowledge of the skin, its appendages and visible mucous membranes both in health and disease, and the

acquisition of clinical and technical skills and attributes for an independent consultant's practice.

Residents must demonstrate the knowledge, skills, and attitudes relating to gender, culture, and ethnicity relevant to dermatology. They are expected to incorporate such perspectives into research methodology, data presentation, and analysis. These objectives align with Objectives of Training in Dermatology, a document formulated in 2009 by the Specialty Committee of Dermatology of the Royal College of Physicians and Surgeons of Canada.

Fellowships

Currently, there are dermatology fellowships in surgery, cosmetic dermatology, advanced medical dermatology, inflammatory skin disease, and cutaneous oncology. Residents are mostly required to have completed their residency training before starting a fellowship. Most often this means a full residency in Dermatology, but in some cases other specialists may be considered. Those who have a strong interest in pursuing fellowships often engage in electives, observerships, or reach out to individuals associated with the program. There are currently 12 physicians completing fellowship training at U of T: two in Mohs surgery, six in advanced medical dermatology; two in inflammatory skin diseases, and one in cutaneous oncology.

Electives

The program offers dermatology electives for undergraduate medical students. This elective includes exposure to outpatient dermatology and potentially inpatient consultation services. Preparation and basic dermatology knowledge are a prerequisite to taking this elective. Electives routinely run for a two-week period and can be scheduled at Sunnybrook Health Sciences Centre, Women's College Hospital (WCH), University Health Network (UHN)/Toronto Western Hospital, or with a community dermatology practitioner.

Dermatology electives are also offered to residents in other programs (typically Family Medicine, Internal Medicine and subspecialties, and Plastic Surgery) with an interest in gaining more exposure to dermatology. Elective residents are most commonly from other programs at U of T, but the program also receives requests for electives from residents across Canada. Occasionally, though rarely, electives will be offered to residents whose home program is outside of Canada. Clinic and teaching capacity restrictions limit the number of electives the program is able to offer.

Continuing Medical Education

CME-accredited programs regularly address subjects such as Wound Care and Dermatology in Women. Other CME events include the annual Toronto Psoriasis Seminar and Robert Lester Postgraduate Seminar, monthly Dermatology Research Rounds, Dermatologic Surgery Lecture Series, and biannual Wellness Rounds.

Competence by Design (CBD)

The Division launched the new Competence by Design (CBD) curriculum on 1 July 2022. The CBD curriculum applies to all new residents who began training on 1 July 2022 and after. As part of CBD, specialist education follows an integrated staged approach. Promotion or advancement from one stage to the next is determined collectively by the Competence Committee (CC), which is a subcommittee reporting to the RPC. The CC meets at least quarterly, typically following RPC meetings. The CC meets in camera to review and make decisions related to the progress of residents in achieving the national standards for Dermatology as set by the Royal College of Physicians of Canada. The CC is chaired by one or two faculty members chosen by the PD and approved by the RPC.

Changes to the curriculum under CBD include greater exposure to general pediatrics in PGY1. All residents spend two months of their first year of training doing a combination of pediatric general clinic, CTU/Wards, or emergency medicine. Additionally, for those with a greater interest in pediatrics, the program now offers an optional pediatric stream for incoming CBD residents. The pediatric stream allows residents to take more pediatric rotations (rheumatology, infectious diseases, immunology and allergy) in their first year of residency. Note that the pediatric stream does not represent a separate residency program. All of the above-mentioned pediatric rotations would be taken in addition to general/adult versions of the same.

The biggest change introduced by CBD is resident evaluations. Residents still receive a comprehensive evaluation at the end of each rotation block (an In-Training Assessment Report [ITAR]) that is completed by their main rotation supervisor. However, residents also must now complete a certain number of Entrustable Professional Activities (EPAs) under the new CBD curriculum. The number and type of EPAs are determined by the Royal College's Specialty Committee of Dermatology. EPAs represent specific clinical skills and experiences and their frequency and variety offer residents an opportunity to frequent and specific feedback throughout their training.

EPAs can be completed by senior residents, clinical fellows, staff or dermatologists, and other staff physicians. At least half must be completed by U of T faculty members.

RESEARCH

The Division of Dermatology has a strong clinical research focus. The focus of the research in dermatology is on inflammatory skin diseases such as psoriasis, atopic dermatitis, and hidradenitis suppurativa, as well as skin cancers (BCC, SCC and melanoma). Both basic science research and clinical research are performed in these areas. Division faculty members are the leads for the Skin Investigation Network of Canada (SkIN Canada): Dr. An-Wen Chan (PI), Dr. Vincent Piguet (co-PI) and Dr. Aaron Drucker (co-PI), as well as several other dermatologists across the country.

The breadth of Dermatology research excellence is reflected in the Division's publication outputs and funding success. Over the five-year review period the Division had 634 publications, generating 10,060 citations and resulting in an average H-Index of 20. These past five years, Division Faculty have secured 24 peer-reviewed grants and one industry-funded grant resulting in total funding of \$6.440 million; most of this funding came from extramural agencies, including the Canadian Institutes of Health Research (CIHR) and the Canadian Dermatology Foundation (CDF). The core research sites (Medical Sciences Building, U of T, etc.) and the hospital-based research institutes have traditionally supported basic wet-bench researchers over those conducting clinical and health-services research.

The Division of Dermatology has a range of collaborations in the dermatology research-intensive sites (WCH, Sunnybrook). These are just a few of the new initiatives in a variety of inflammatory skin diseases and skin cancers:

- a Cardio-Rheumatology initiative (with Drs. Paula Harvey, Lihi Eder, and Vincent Piguet) closely collaborating with Dermatology;
- the Division has a network of international collaborations to study infections and skin mucosal transmission of HIV/HTLV-1 with the United Kingdom (University College London), the United States and Japan (Hamamatsu), as well as Toronto colleagues (Drs. Rupert Kaul and Mario Ostrowski in Infectious Diseases);
- the Keratinocyte Carcinoma Consortium, which includes collaborators from the United States, Australia, and the Netherlands for pharmacoepidemiological studies; and

- a transplant dermatology research collaboration, conducted with UHN's multiorgan transplant program and St. Michael's Hospital's (SMH) transplant program, that focuses on epidemiology and the prevention of skin cancer;
- the Skin Investigation Network of Canada (SkIN Canada), a national, interdisciplinary network with collaborators across Canada (including Dr. An-Wen Chan [PI], Dr. Vincent Piguet [co-PI] and Dr. Aaron Drucker [co-PI]), with a vision to catalyze and sustain innovative, high quality, patient-driven research that improves the skin health of Canadians. The Network's mission is to advance skin research in Canada by creating a national forum, guided by patients and knowledge users, to strengthen and harmonize collaborations and capacity in the skin research community;
- a multidisciplinary collaboration on COVID and skin which studies the impact of COVID in patients who are on Biologics, with Vincent Piguet (Dermatology), Vinod Chandran (Rheumatology), Mark Silverberg (GI), Tania Watts (Immunology), Anne-Claude Gingras (Immunology)

Expansion of research in the Division is possible if recruitment follows in certain specialized areas, such as skin inflammation, and skin cancer. Research capacity will grow as well with continued fundraising. The Division is pursuing grants through CIHR and CDF as well as support from the pharmaceutical industry and donors.

Dr. Vincent Piguet, who has an extensive research background in basic and clinical research related to skin diseases (inflammation/infection), and Dr. Aaron Drucker, who has excellent clinical research skills in atopic eczema and inflammatory skin diseases, were recruited in 2017. Since their recruitment, research has grown significantly in the Division.

The Division has had a significant recruitment in 2020: Dr. Kendall Billick, whose unique educational background in infectious diseases as well as dermatology, and passion for teaching is a great asset to the Division. His focus is on teaching and practicing complex medical Dermatology full-time in the outpatient and inpatient setting. One area of interest involves incorporating the use of rapid bedside tests to guide care, such as with dermoscopy and cutaneous ultrasound. Dr. Billick plans to collaborate with other faculty to offer care addressing infectious diseases of the skin, and he has an area of research interest in cutaneous leishmaniasis, including the role of photodynamic therapy to treat this infection.

Future plans include starting Canada's first Medical and Surgical Nail Service, addressing the unmet needs of patients with nail disorders. Dr. Billick aims to make the U of T a national referral centre for these patients. A dedicated Nail Service would offer important teaching opportunities and would be unique among Canada's Dermatology training programs. As a long-term objective, the aim is to leverage this expertise to establish a recognized Nail Fellowship training program accredited by the Royal College. Furthermore, the Division has several residents active in research and generated high impact-factor publications.

Within the next two-years, the Division aims to further develop clinical research. Although the initial plan to establish dermatology laboratories with initial data and recruit one to two research faculty in cutaneous oncology and inflammatory skin diseases was delayed due to the pandemic, recruitment and clinical research plans have now resumed. The Division is actively exploring options to establish capacity in core clinical research areas such as epidemiology, health-services research, and clinical trials. However, the Division now lacks the infrastructure to perform clinical trials efficiently.

In five years time, the Division expects to see higher-impact publications more regularly and aims to recruit additional research faculty, secure multi-year grants, and identify residents at an earlier stage for the clinician scientist training program.

FACULTY

Dermatology has disproportionately more part-time and adjunct than full-time faculty members. Of the 14 full-time Dermatology faculty members, there are nine clinician teachers, one clinician educator, two clinician investigators, and two clinician scientists. These full-time faculty members are sited at three of the fully affiliated teaching hospitals: four at Sunnybrook, eight at WCH, and two at Toronto Western Hospital/UHN. Of the full-time faculty members, five are at the rank of assistant professor, six at associate professor, and three at full professor. The balance of staff at each site comprises part-time and adjunct faculty members. There are 15 office-based adjunct and part-time faculty members and 42 adjunct and part-time faculty members appointed to Dermatology connected to the fully affiliated or community-affiliated teaching hospitals. They provide clinical care and teaching services in one or more of the following areas: general dermatology, wound care, cosmetics, cancer, contact dermatitis (both within the occupational medicine program at SMH), laser treatments, and dermatopathology.



Awards/Distinctions/Recognition

The Division holds regular meetings with faculty, including annual appraisals done by physicians-in-chief and/or the DDD at hospitals or U of T. The Division also supports faculty for promotion when a profile shows strength and compatibility with the next academic rank. The activity of faculty is monitored closely by Division leadership and their respective administrative offices. Letters of thanks for various contributions are sent regularly, and data is captured both in terms of volume and quality.

The Division of Dermatology secured \$3-million in donation from AbbVie, a global research and development-based biopharmaceutical company, to establish a pioneering AbbVie Chair in Ethnodermatology at the University of Toronto's Temerty Faculty of Medicine. One of the first positions of its kind in the world, the chair will drive collaborative academic research, provide advanced training to the next generation of dermatological practitioners, and lead outreach programs to better inform equitable, diverse and inclusive dermatological care in Canada and around the world. (Appendix B)

Communications

As of January 2018, the Division created a tri-annual Dermatology newsletter that provides members of the Division with clinic and research updates as well as information about upcoming events and highlights of any achievements and awards. The Division asks for contributions from faculty, residents, and community dermatologists to best engage all audiences. This newsletter is emailed to all Division faculty, residents, and fellows. It is also posted on the DoM website.

Figure 5.1: Academic Position Description of Full-time Dermatology Faculty

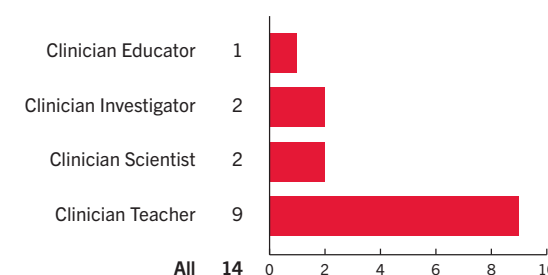


Figure 5.2: Affiliation of Full-time Dermatology Faculty

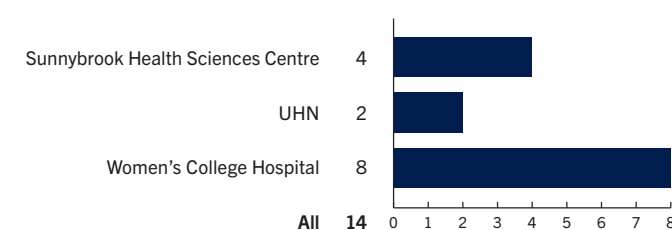


Figure 5.3: Current Rank of Full-time Dermatology Faculty

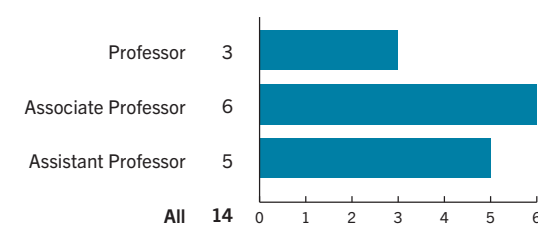
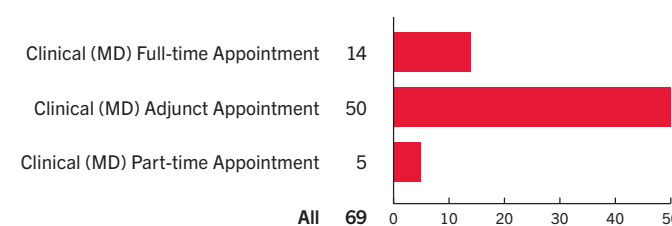


Figure 5.4: Primary Appointment of Dermatology Faculty



Rounds

Rounds are given at the various hospitals. The Division can provide updates on novelties in the field and on new clinics and clinical services available in Dermatology. There are also regular presentations at grand rounds and research rounds at WCH, Sunnybrook, and other sites. Rounds in-person were interrupted by COVID but are slowly resuming in-person.

Wellness

Dr. Kucy Pon was appointed as the Director of Resident Health and Wellness in the Division, and Wellness Rep for Dermatology in the DoM. The Division encourages regular discussion between full-time faculty members and the senior leadership team. We also consider personal circumstances while striving to enhance well-being. In a recent example, the Division became increasingly concerned about physician wellness at WCH/ RKS I, primarily due to IT/EPIC issues associated with a considerable increase in workload. As a result, the leadership of the hospital (PIC/Vice President Clinical) put a plan into place to improve the situation.

The Division is actively working to distribute on-call responsibilities more equitably, particularly for understaffed sites, yielding early positive results. However, due to the small number of full-time faculty and the large clinical and teaching burden, this remains a serious concern. For trainees, the Division follows the recommendation of the Provincial Association of Residents of Ontario (PARO) and U of T PGME, and well-being issues are discussed with the PD as they arise. The Division accommodates training needs and life events such as illness, parental leaves to name a few. In addition, each year there are at least two formal sessions that focus on trainee wellness, covering topics such as mindfulness, work life balance, and dealing with stressors at work.

Mentorship

All full-time faculty members identify mentors at the time of their recruitment, faculty satisfaction with mentoring is regularly assessed.

New PGY1 residents are paired with a PGY2 resident to help orient them during their first year. Additionally, each resident is assigned a CC member to serve as their faculty advisor.

In this function, the CC member follows their residents (typically two or three per member) throughout their entire residency programs. In addition to tracking their progress through the program, faculty advisors maintain regular informal communication with residents.

PGY4 and PGY5 residents are required to complete at least 3 months of a senior resident clinic where they have weekly half-day clinic hours. They are closely supervised by a full-time faculty member.

Equity, Diversity and Inclusion

Dr. Marissa Joseph was recruited to be the Faculty Lead, Equity, Diversity, and Inclusion (EDI) in the Division, and sits on the Division Executive Committee to ensure the Division priorities and activities are aligned with EDI principles and best practices.

The Admissions Committee (AC, a subcommittee of the RPC) has introduced new categories of evaluation to the file review and interview process. These categories include “Distance Travelled” (the consideration of unique circumstances that may have had an impact on an applicant’s education or career trajectory, which may include systemic barriers or highlight their experience as a member of marginalized community) and “Advocacy” (a demonstration of an applicant’s commitment to leadership and community engagement). The program also seeks diversity in the composition of the AC itself.

The creation of the AbbVie Chair in Ethnodermatology showcases the Division’s commitment to advancing health equity and establishing itself as a global leader in EDI (Equity, Diversity, and Inclusion) within the field of dermatology. The goal of the Chair is to address longstanding gaps and inequities in dermatological research, education and patient care. In particular, there is increased recognition of the need for new investigations into the distinct impacts of skin conditions on patients of colour, for better and more in-depth data on the disparities in dermatological care provided to different populations, as well as for greater representation of skin of colour in medical education programs and curricula. The inaugural chairholder will have a broad educational and research mandate. This will include leading the development of curricula to ensure future physicians and dermatologists are adequately trained to diagnose and treat skin conditions in persons of colour and to apply principles of inclusive dermatology, as well as undertaking much-needed clinical investigations into skin disorders and diseases’ distinct impact on people of colour.

Faculty Development

The residency program has organized regular faculty development sessions to help faculty become familiar and comfortable with the new CBD curriculum, in particular with the need to complete EPAs for residents.

Faculty in the Division frequently attend national and international conferences, expanding their knowledge in EDI areas. Faculty also participate in leadership and wellness initiatives offered via the DoM, or the Centre for Faculty Development, such as the New and Evolving Academic Leaders (NEAL) Program (Dr. Perla Lansang recently completed this).

QUALITY AND INNOVATION (QI)/ ADVOCACY

Under the leadership of Dr. Trevor Champagne, Dermatology’s QI lead, the Division has several QI initiatives. They include the following:

- participation [as clinical lead(s)] in a pilot Ontario Telemedicine Network TeleWound care initiative;
- evaluation of a local teledermatology initiative at WCH to support the Canada Health Infoway Benefits Evaluation framework and the value of knowledge transfer;
- a robust Dermatology program review and data analysis using custom survey software; and
- changes to management analysis of clinic workflow in electronic medical records at the Ricky Kanee Schachter Dermatology Centre (RKS) at WCH.



Virtual consultations are provided by Dr. Champagne for in-patients at WCH (family practice), MSH, SMH (until 2023), MGH, UHN, NYGH, TEGH, and Ontario Telemedicine Network (OTN [for rural hospitals and outpatient clinics]).

The Division supports patient advocacy through patient-centred care initiatives in collaboration with the Canadian Skin Patient Alliance (CSPA), to raise awareness about skin disease. There are also advocacy initiatives taking place within the SKIN Canada Network, via patient engagement surveys.

LOOKING FORWARD

Careful strategic planning will begin in the fall of 2023 with preliminary priorities as follows: strengthening cross-departmental partnerships, enhancing collaboration across sites and specialties, building capacity through recruitment and partnership, promoting education that better supports quality patient care, elevating its international research presence, and continuing advancement efforts to boost funding for research and education.

Ensuring a leadership pipeline will be critical to continuing momentum in research and partnerships. As the current DDD is in their second term, the Division will commit time for planning and discussion pertaining to succession planning.

Equally important is the need to continue momentum and planning pertaining to recruitment and representation across DoM affiliated teaching sites. Increased representation at teaching sites is required to continue growth of the Divisions vibrant and energetic academic program. The Division seeks to strategically place highly qualified early career faculty at fully affiliated sites that would give the program the clinical and teaching depth, and breadth required to attract and recruit clinician teachers, and clinician investigators.

The Division has also made significant progress in promoting equity, diversity and inclusion (EDI). We will continue efforts to excel in EDI through implementation of policy and better practices that seek to enhance broad engagement of faculty who have diverse perspectives in departmental activities.



EMERGENCY MEDICINE



OVERVIEW

The Division of Emergency Medicine in the Department of Medicine (DoM) is one of three Emergency Medicine (EM) divisions in the Faculty of Medicine, alongside counterparts in the Department of Family and Community Medicine and the Department of Paediatrics. The three divisions run separate training streams for residents and fellows but cooperate closely in the planning of joint educational and wellness events, rounds and continuing education (CE) conferences. The DoM Division is led by a Director and a Divisional Executive Committee that meets every two months. It is supported financially by the DoM and by contributions from each of the three Emergency Department (ED) practice plans at the three core hospital.

Over the previous two and a half years, there has been a significant reduction in on-site faculty engagement and meeting frequency due to COVID-19. Much of the work of the Division has turned virtual. The pandemic has posed an extreme hardship for EM learners and faculty in the ED environment given the risk of infectious disease and working with personal protective equipment. The academic mission, though, has continued to excel and the Division has been successful in faculty recruitment and promotion.

Strategic priorities were revisited in 2015. Updated focuses are Quality Improvement (QI) and research collaborations across sites; faculty mentorship, recruitment and recognition; and exploring alternative funding and the possibility of establishing a University of Toronto (U of T) Department of Emergency Medicine. The Division had planned to hold another strategic retreat in the spring of 2020, but this was cancelled due to the pandemic. The Division will start another strategic-planning process in 2023, and a new strategic plan will be delivered by 2024.

In alignment with DoM guiding principles, the Division of Emergency Medicine strives to accomplish various tasks. Details are available in (Appendix A).

GOVERNANCE

Department Division Director (DDD)

The Division Director represents the Division on all DoM executive meetings. They annually meet with senior residents, faculty applicants and junior faculty, and selectively with senior faculty as required. The Director reports directly to the Chair of the Department of Medicine and is responsible for oversight of the academic mission of the Division and all aspects of faculty related matters including, professionalism and wellness.

Dr. Erin O'Connor (June 1, 2023-May 31, 2028)

Dr. O'Connor was appointed as DDD in June 2023.

They are an Assistant Professor in the divisions of Emergency Medicine and Palliative Medicine here in the DoM and a staff Emergency and Palliative physician at University Health Network (UHN). Her academic interests include improving care of palliative patients in the Emergency Department (ED) and she teaches symptom management and communication skills.

Dr. O'Connor co-founded the Palliative Medicine Committee of the Canadian Association of Emergency Physicians and currently serves as Vice-Chair. She developed two

national courses to teach palliative medicine skills to paramedics and emergency physicians and for the past four years has served as the Deputy Medical Director of the EDs at UHN, proving herself a strong and effective leader. She has been nominated for and received numerous teaching and leadership awards.

Stepping into this role, Dr. O'Connor plans to work closely with her counterparts from the departments of Pediatrics and Family and Community Medicine to develop a unified strategy for Emergency Medicine to build community and raise the division's international profile. She looks forward to connecting with faculty and learners from across the division as she takes on this leadership role and plans to spend the first three months attending team meetings, connecting with faculty and learners and visiting hospital sites to gain perspective on the division's position across the city.

Dr. Anil Chopra (2013-2018, 2018-2023) Dr. Anil Chopra served as Division Director for two-terms; first in 2013 and was reappointed for a second term in 2018. Dr. Chopra is the Vice President, Medical Affairs of the University Health Network and is an Associate Professor and Clinician Administrator in the Division of Emergency Medicine. Dr. Chopra has a special interest in improving health

services delivery, quality and patient safety. In his role as Co-Chair of UHN's Quality of Care Committee, he has worked with leaders across UHN to promote a safety culture and reduce preventable harm.

Division Executive Committee

The Executive Committee includes a representation of Division faculty from different career levels and position descriptions. The Division Executive Committee meets every two months. (Appendix B: terms of reference). The Committee is supported administratively by a program coordinator who is assigned by the Department to the Division. (Appendix B: Members List)

The Executive Committee is responsible to review and provide oversight for all aspects of quality-of-care issues, faculty recruitment and promotion, the Division budget, undergraduate and postgraduate education issues, divisional awards, CE activities and social events.

Strategic Planning: Under the leadership of Dr. Erin O'Connor, the Division will work to review and update strategic priorities in the coming year. As recommended by the external reviewers, specific focus on research focused priorities that unify research across the Division.

External Review

In October 2022 the DoM commissioned an external review of the Division to inform recruitment considerations of the next DDD; the results of which were very positive. Review was conducted by Dr. Michelle Welsford from McMaster University and Dr. David Messenger, from Queens University. Both reviewers were national and from Ontario. The decision to do so was a result of careful consideration by the DDD, Division Executive and Chair, Department of Medicine, to best ensure that perspective and recommendations of potential reviewers were informed and knowledgeable of the complex framework of Toronto and Ontario Emergency Medicine. Review was positive and provided strong recommendations that will be considered by the next Division Director along with the executive committee. The review included a broad range of faculty participants at different career stages and position descriptions. Review findings articulated praise for Divisions scholarly outputs and overall contributions to the discipline, education and population care. Areas for opportunity included: exploring opportunity for the Division to become its own

Department, coordinated recruitment planning, strategy development, particularly around research and promotion, were highly recommended. (Appendix C).

EDUCATION

Undergraduate Medical Education

EM undergraduate teaching is a proud tradition and strength at U of T. Medical students are exposed to the practice of EM in both pre-clerkship and clerkship. In delivering Emergency Medical undergraduate education, faculty are involved in supervising students during their core clerkship rotations, electives, selective observerships and the integrated Objective Structured Clinical Examination (iOSCE). Emergency Medicine is the most highly rated clerkship course across Canada. Over 250 undergraduate students rotate through six blocks in 10 affiliated hospital sites each year. The program also attracts a significant number of elective students from across North America, although COVID has affected numbers over the last several years.

As the class continues to grow and reach out further into the community, especially the new group at the Mississauga Academy of Medicine, the responsibilities of the EM Undergraduate Committee are expanding and increasing in importance. The Undergraduate Committee is chaired by the Course Director and the Associate Course Director. Committee members include site coordinators who are representatives from each hospital where core clerks are placed for their third-year rotation, as well as an elective coordinator and a third-year student representative.

In June 2017, the Division launched a new immersion experience for 12 students at the end of year three, however it has been placed on hold due to COVID. By getting hands-on experience early in training, students can better understand the EM specialty. Students saw patients in three EDs, attended ultrasound rounds and participated in hands-on seminars and simulation.

EM staff and senior residents participate in the instruction of the EM Bootcamp Seminars. The series, run at the start of each clerkship rotation, is highly evaluated and a boost to learner confidence. EM Bootcamp Seminars prepare participants to move into the clinical units and start seeing patients at the bedside. Faculty and EM residents teach various small group sessions including simulation, ultrasound, suturing, casting, trauma, cardiology, orthopedics and toxicology.



They are also involved in Finally, *The ABCs of Emergency Medicine*, authored by 60 U of T faculty, which has been made available through open access on the website of EM Division and attracts positive feedback from users.



Postgraduate Medical Education

The Division oversees a five-year Royal College of Physicians and Surgeons of Canada (RCPSC) Postgraduate Residency Training Program. This Program—one of the largest of its kind in the country—has a total current enrolment of 50 residents and an intake of 10 residents [seven Canadian Medical Graduates (CMG) and three International Medical Graduates (IMG)] per year. The Residency Training Program is led by a Program director and an Assistant Program Director. They are supported by 1.4 FTE program administrator roles. There is a highly functional Emergency Medicine Residency Training Committee (EMRTC) comprising two representatives from three core hospitals, one from our community site, and one from our pediatric site. There are multiple resident representatives [PGY1, PGY2, two PGY3 chief residents, and outgoing chief residents who remain on the committee for PGY4 and PGY5]. The Program Committee is closely involved in decision making.

Since 2018, the Division has instituted the following changes:

- Expanded the role of the assessment committee to oversee in-training examinations, the simulation OSCE, the PGY1 examination, and examination preparation for PGY4 residents,
- Updated the Resident Academic Project Committee to better promoting and support residents in developing their scholarly projects,
- Launched the following new curricula:
 - Equity, Diversity, Advocacy, and Cultural Safety
 - Transition to Practice
- Appointed a curriculum coordinator to support Chief/Lead residents and to have a longitudinal vision for curricular changes in the program,

- Instituted longitudinal pediatric EM as a component of each core EM rotation,
- Launched a suite of recommendations for teachers in order to enhance the principles of equity, diversity, and inclusion in day-to-day teaching,
- Clear job descriptions, appointment/re-appointment practices, and stipends for each of the curriculum lead positions within the program.

Initiatives have included representation from three core hospitals and include residents in aspects of planning and operations.

CaRMS attracts at least 150 applicants for 7 CMG spots and additional 150 applicants for 3 IMG spots and has filled them from the top 24 ranked candidates for several years. The EM program is structured in accordance with the Specialty Training Requirements of the RCPSC, with the aim of training high-calibre EM consultants. Over the course of five years, residents experience a full spectrum of clinical rotations across several different teaching hospitals. There is exposure to both large urban “core sites” as well as community hospitals, which are among the busiest in Canada.

Residents are excused from their clinical responsibilities to attend weekly full-day Academic Days. Both faculty and residents lead activities that include interactive case-based seminars, formal didactic rounds, procedural workshops, journal clubs and team-based simulation sessions.

The program is based out of three core teaching hospitals, one community hospital, and one pediatric hospital. Each site offers a unique patient population. St. Michael’s Hospital (SMH) is located downtown and plays a lead role in the urban health program. The population it serves includes a large number of patients who are experiencing homelessness, who are marginally housed or have substance use disorders, and indigenous patients. University Health Network (UHN), particularly the Toronto Western site, also serves a large number of patients who are experiencing homelessness, who are marginally housed, who are recent immigrants to Canada, or Canadians who do not speak English as a first language. Sunnybrook Health Sciences Centre (SHSC) is located further north in the city of Toronto. The population it serves is older and reflects the aging society in Canada. SHSC also sees a large number of recent immigrants to Canada and Canadians who do not speak English as a first language. Both the Toronto General site of UHN and SHSC evaluate quite complex populations including oncology patients. SMH and SHSC are Level 1 adult trauma centres.

Summer Curriculum

Transition to Discipline (PGY1): Specifically focused on PGY1 residents to provide foundational teaching as they begin residency. There are didactic, simulation, and practical workshops. There is also a walking tour of shelters in Toronto to provide perspective on historically marginalized populations that residents will see in the emergency department.

Summer Camp (PGY 2-5): Unique summer curricula each year designed by the Chief/Lead residents. This is focused on areas of interest for residents that may not be captured during rounds that are focused on core EM topics or a deeper dive into topics that may only be briefly covered during the core curriculum. Examples include artificial intelligence in the emergency department, career planning, financial planning, and a deep dive into critical care.

Core Academic Curriculum

Foundations of Discipline (PGY1): Dedicated 90-120 minutes focused on the breadth of emergency medicine presented at a PGY1 level.

Rosens Rounds (PGY 2-5): Focused on topics from the core EM textbook “Rosen’s Emergency Medicine”.

Resident Rounds (PGY 1-5): Each resident is required to present at least once each year. The type of rounds differs based on the PGY-Level of the resident (Appendix E).

City Wide Grand Rounds & Morbidity, Mortality, and Improvement Rounds (Faculty and Residents): These sessions are organized by the Division and presenters come from many TAHSN hospitals and outside of Toronto.

Journal Club: There are five journal clubs per year. Each one is facilitated by two or three residents supported by faculty who provide their clinical expertise and knowledge of clinical epidemiology.

Longitudinal Curricula

Equity, Diversity, Advocacy, and Cultural Safety: This is a longitudinal curriculum that spans two years and is refreshed on an ongoing basis.

We work with numerous local community organisations to provide teaching from physicians, interdisciplinary staff, and individuals with lived experience on a variety of topics. It is highly resident driven and residents with special areas of interest are encouraged to assist with designing material and reaching out to community groups. It includes a walking

tour of shelters and supervised substance use sites for PGY-1 residents, and a didactic curriculum that is focused on populations that are marginalized, at high risk, or who may need specific advocacy or cultural competencies in the emergency department. Specific topics include Black Health, Trans Health, Homelessness, Indigenous Health, New Arrivals, Human Trafficking, Patients who are Incarcerated, and Trauma Informed Care (Appendix E).

Fellowships

The fellowship program in the Division was established in 2001 as a partnership between the academic emergency medicine physician groups at SMH and SHSC. The program’s mission is to train and mentor the highly competent experts in the EM-related domains of prehospital care, trauma, research or clinical care who will become leaders in parts of the world where these growing domains are not well established. The vision is to be a respected, highly sought, world-class program that attracts and trains outstanding physician leaders who will help define the future practice of emergency medicine and its related domains in their home countries through innovation, advocacy and scholarly work.

The program has partnered with University-affiliated programs and external partners to meet its mission and vision. These include the trauma, emergency and critical care services and related postgraduate teaching programs at the partner hospitals. They also include the academic emergency physician groups at the partner hospitals, the Sunnybrook Centre for Prehospital Care, the City of Toronto’s Paramedic Services, Ornge Transport Medicine and the Keenan Research Centre at the Li Ka Shing Knowledge Institute. In the five most recent academic years (2017–22), seven fellows from four different countries have completed the program, including three in the trauma track and four in prehospital care.



The Fellowship Program has been well positioned and very successful in achieving its mission and vision in providing outstanding training opportunities for future leaders. Graduates of the Program return to their home countries and typically assume hospital-based, subnational, or national leadership roles.

While the University is very supportive of the Program, there is currently no funding from the University or the hospitals partnering in the Program. Every Fellow in the prior eight years was self-funded by their home hospital, university, or government. The lack of University- or hospital-based funding limits the Program from offering opportunities to a number of excellent and highly ranked candidates. In addition, the Program was unable to offer the trauma track as the trauma service at SHSC was unable to provide opportunities for the fellows. The Program will continue offering the clinical and prehospital tracks, but due to these challenges, the Fellowship Program's overall viability is now in jeopardy.

Competence by Design (CBD)

Competence By Design has fully launched within the EM program and is overseen by EMRTC. The launch of this initiative led to several rotation changes to better reflect the competencies required by emergency physicians, created three unique curricula for residents who are transitioning into and out of residency (see above), and fully implemented competence committee reviews of each resident.

RESEARCH

Emergency Medicine is home to a dynamic network of research and innovation. The Division continues to grow in academic productivity and is recognized nationally and internationally as a leader in advancing EM. The Division has demonstrated strength in multidisciplinary research and quality improvement projects that make a direct impact on patient care in the ED, in local, national and international communities, and in resource-poor environments abroad. Specifically, EM at U of T has a substantial reputation and track record in prehospital research, resuscitation research, health services research, educational, and quality research, as well as an international reputation in other areas (e.g., global health). The Division employs ten clinician scientists at four sites. Two are full professors, five are associate professors, and the others are junior faculty at the assistant professor level. They work in highly relevant research programs that have been funded through Canadian Institutes of Health Research

(CIHR) and National Institutes of Health (NIH), among others (e.g., Heart and Stroke Foundation, Cancer Care Ontario). Between 2018-2023 an average of 40 principal investigator (PI) grants were held yearly by EM faculty totalling approximately \$10.104 million. Funds were secured from a wide variety of sources including peer-reviewed granting agencies, industrial partners and hospital foundations. Between 2018-2023, the Division of Emergency Medicine has published 973 publications generating 9,136 citations and an average H-Index of 8.15.

EM has developed strong relationships through research collaboration. **Several such partnerships include:**

- Rescu networks of Canadian and U.S. research teams, health policymakers in Ontario [Institute for Clinical Evaluative Sciences (ICES) and the Ministry of Health and Long-Term Care (MHLTC)], the Canadian Cardiovascular Society (guideline documents), the RCPSC (education scholarships) and Addis Ababa University in Ethiopia (TAAAC-EM).
- Divisional faculty are participants in Rescu, which is a pan-Canadian research program of Emergency Medical Services (EMS) that was created and developed by Dr. Laurie Morrison. Rescu works with emergency responders, both on land and in air, to develop and evaluate processes of care and timely interventions to improve outcomes for patients who suffer life-threatening trauma and cardiac emergencies in out-of-hospital settings.
- Drs. Steve Lin and Brodie Nolan, both based at St. Michael's Hospital in Toronto, also conduct research in prehospital care. Dr. Lin's research focusses on resuscitation and outcomes in cardiac arrest patients, and includes translational research. Dr. Nolan also studies trauma care and patient safety.
- Dr. Michael Schull, President, CEO and Senior Scientist at ICES, leads a vibrant community of research that focuses on health-service use. His own research uses Ontario-wide health services data to evaluate quality of care and patient outcomes as they relate to emergency care, and the study of interventions designed to reduce ED waiting times. His work has influenced health-policy decisions at local, national, and international levels.
- Several Division scientists are appointed at ICES, where they use health services data to examine cardiovascular care (Drs Atzema and McNaughton), as well as oncological care (Dr. Grewal), in the emergency setting. Dr. Clare Atzema's work in atrial fibrillation led to her receipt of the CIHR-ICRH/CAEP Mid-Career Lecturer Award

in Emergency Medicine in 2022. She collaborates with and mentors Dr. Keerat Grewal and Dr. Candace McNaughton, both junior scientists at ICES. Dr. McNaughton worked at Vanderbilt and the Nashville V.A. Medical Center prior to joining the faculty at the U of T in 2021, and she brings her network of collaborations from the U.S. to the University.

- Dr. Jacques Lee holds the SREMI Research Chair in Geriatric Emergency Medicine at Mount Sinai Hospital, where he studies the care of older adults who need emergency services. Dr. Carolyn Snider works with patients and community colleagues to research and redesign how emergency care can be delivered in an equitable way for those experiencing marginalization. This includes preventative care in youth experiencing injury from violence.
- Dr. Lisa Puchalski Ritchie is a clinical epidemiologist and implementation scientist at University Health Network. Her work focuses on the use of knowledge translation strategies to improve health care delivery and outcomes, with a particular focus on low-resource health care settings. Her work includes efforts to build research and implementation capacity, and to develop and evaluate evidence-based approaches to improve uptake of evidence into clinical practice, and through this to improve clinical care and patient outcomes for high-burden, locally-identified priority health conditions, across a range of clinical areas.

FACULTY

Over the past five years (2018–23), the Division has worked to increase the number of faculty. Currently, 57 full-time and nine part-time faculty members. 19 new adjunct faculty are also associated with EM. The Division has been working to recognize faculty development and mentoring. EM faculty comprises 47 percent assistant professors; 22 percent of our faculty hold senior academic appointments at the associate professor or professor level.

Distribution of full-time faculty according to job description includes 63 clinician teachers, ten clinician scientists, five clinician investigators, 11 clinicians in quality and innovation, four clinician educators and four clinician administrators. Lastly, the distribution of full-time faculty varies across sites. The highest distribution is at UHN (33), SMH (33), SHSC (29), Trillium – Mississauga Hospital (1) and Sinai Health system (1).

Figure 6.1: Academic Position Description of Full-time Emergency Medicine Faculty

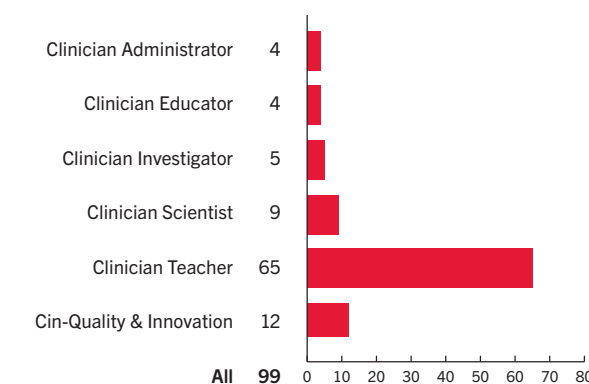


Figure 6.2: Affiliation of Full-time Emergency Medicine Faculty

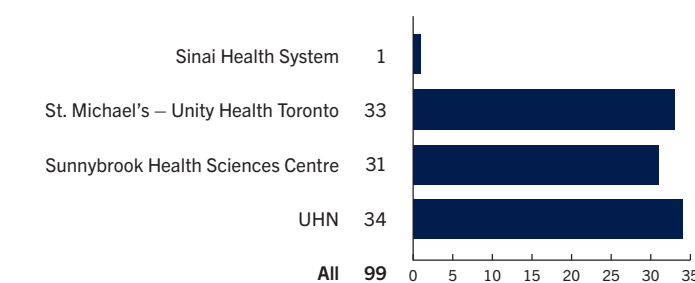


Figure 6.3: Current Rank of Full-time Emergency Medicine Faculty

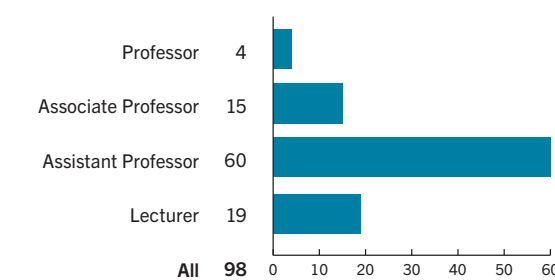
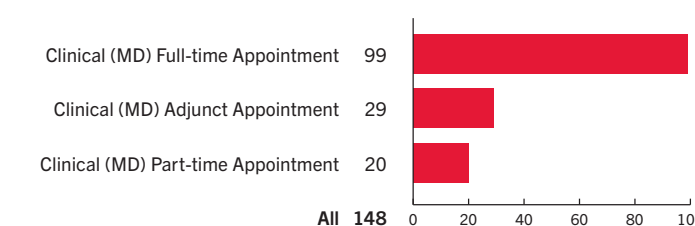


Figure 6.4: Primary Appointment of Emergency Medicine Faculty



Over the past five years (2018–23), the Division has worked to increase the number and has recruited 38 full-time new faculty. In the past 5 years, 22 new adjunct faculty are also associated with EM. The Division has been working to recognize faculty development and mentoring. Overall faculty composition is as follows: 101 full-time and 20 part-time and 31 adjunct EM faculty comprises 48 percent assistant professors; 14 percent of our faculty hold senior academic appointments at the associate professor or professor level.

Distribution of full-time faculty according to job description includes 66 clinician teachers, 10 clinician scientists, 5 clinician investigators, 12 clinicians in quality and innovation, 4 clinician educators and 4 clinician administrators. Lastly, the distribution of full-time faculty varies across sites. The highest distribution is at UHN (34), SMH (33), SHSC (32), Toronto Western Hospital (1) and Sinai Health system (1).

EM faculty are a diverse, highly collaborative group, and this characteristic contributes to the Division's success. EM works well across disciplines and specialties, and this diversity allows the Division to provide rich and varied rotation options for trainees. Several faculty members are cross appointed: appointments to other institutions include the Dalla Lana School of Public Health, Departments of Pediatrics and Surgery and the Institute for Health Policy, Management and Evaluation. Divisional representatives on University committees include the Continuing Faculty Appointment Review Committee, the Education Committee, the Promotions Committee in the DoM and the Toronto Trauma Committee, which works with the Department of Surgery. EM faculty occupy senior administrative positions in affiliated hospitals and institutes, including the President and CEO at Providence Health (St. Michael's Hospital and St. Joseph's Health Centre), Vice President and Executive Vice President at UHN and SHSC, the Executive Director of Specialty Education at the Royal College of Physicians and Surgeons of Canada, the CEO at ICES, the Director of the Ontario Poison Control Centre in Toronto and the Chief Medical Information Officer at Hospital for Sick Children.

Wellness

The Division faces challenges of a clinical environment characterized by rising patient volumes, acuity and complexity, and workforce shortages. Severely limited inpatient bed capacity brings to persistent ED overcrowding and amplified by shortages in nursing and allied health support. As a result, faculty burnout is high, which is among the highest rate in



any division within U of T. Moreover, funding for advancing the Division's scholarly activities is limited from the University, hospitals, and MHLTC.

Mentorship

Division mentorship is coordinated by a formal mentorship coordinator, who meets with PGY5s and junior faculty to provide guidance on selecting a mentor and to ensure mentorship needs are met. Mentorship roles and responsibilities have been formalized, and mentors are provided with a mentorship meeting guide and log for tracking mentorship meetings. (See Appendix.) The Division's ED heads and Director regularly meet with all faculty for annual performance appraisals and collect activity sheets to support academic success. The primary focus of the Division has been on frequent and robust early career mentorship to ensure the academic success of the faculty and alignment of goals and objectives. Late career mentorship is a more informal process with shared responsibility between the ED head and Division Director.

Equity, Diversity and Inclusion (EDI)

The Division and DoM have put much greater attention to EDI in ensuring that recruitment of faculty and learners reflects the diversity of the Canadian society. EDI efforts aim to create a safe working environment that is free from discrimination, harassment, intimidation, bullying and disrespectful behaviour. New professionalism policies have been developed by U of T and the hospitals to outline expected behaviours that promote EDI and provide guidance on managing unprofessional conducts with clearly defined roles,

responsibilities and accountabilities. A strong focus has been placed on understanding and supporting Indigenous health, preventing and managing anti-Black racism and antisemitism as well as recognizing the contributions of women in EM and the inequities they face. There is an Office of Inclusion and Diversity at U of T which leads equity workshops, diversity dialogue events, diversity mentorship program amongst other initiatives. The academic EM sites have EDI leads who help organize local and national events such as the Women in EM symposium.

Continuing Education/Development

The Division hosts continuing education and social events to support and connect with faculty, tri-division EM and the larger EM community.

The divisional CE Director is the principal organizer of the Annual Update in Emergency Medicine, a four-day CE conference held in Whistler, British Columbia. This conference has been running for more than 35 years and helps to raise funds for divisional CE events. This conference attracts physicians from across Canada and abroad.

Faculty and residents from tri-division of EM regularly attend weekly citywide academic rounds including morbidity and mortality (M&M) and grand rounds, organized by the City-wide Rounds coordinator. Speakers include residents and faculty from pediatric and adult emergency medicine and community and downtown/urban teaching hospitals. In addition, EM hosts monthly journal clubs from September to May. Attendance at these events has continued to be robust during the COVID-19 pandemic when the rounds became virtual.

Additional continuing education events and workshops are developed to meet the needs of faculty. Toronto Emergency Medical Education Symposium (TEMES) provides EM educators with an opportunity to learn, share and collaborate with colleagues on best practices and innovations in education. Research Day brings together researchers, faculty and residents to share exciting new findings and aid scientific exchange. Faculty Wellness events introduce mindfulness and encourage self-care to decrease the risk of faculty burnout. Additional sessions are being discussed and approved at the Division Executive Committee and receive funding from CE or divisional budgets.

To encourage faculty and resident engagement, EM hosts a number of Division-wide social events. These events include

the annual divisional holiday party, a CaRMS social, a golf day, a baseball social, a resident welcome party, the Canadian Association of Emergency Physicians (CAEP) conference social, a PGY5 resident graduation social, a visiting professor social and two resident/faculty one-day retreats.

Partnerships and Advancement

Supporting Faculty

New faculty members undergo a Continuing Faculty Appointment Review (CFAR) at approximately the three-year mark. The process will help to ensure that they are academically on track and provided with appropriate mentoring and resources. Faculty meet with the Division Director at least twice prior to CFAR for direction and support. Over the past five years, 20 EM faculty members have undergone CFAR with a 100% success rate. The CFAR Committee provides recommendations to help faculty members advance in academic careers and move forward with promotion. Career advancement has become an expectation in EM, and emphasizing the importance of effective mentorship plays a crucial role in facilitating this progress.

There have been 53 successful promotions in our Division in the past five years (40 assistant professors, 12 associate professors and one full professors). The DoM has been working to simplify promotion and decrease duplication of documentation. In addition, EM sites provide administrative support to faculty who seek promotions. Faculty promotions are discussed and supported at the divisional and site physician-in-chief (PIC) level.



The Division recognizes its faculty with two teaching awards. The Division's top teaching award is the Anna Jarvis Award for Teaching Excellence, which recognizes excellence in formal teaching among the faculty over the previous three academic years. The recipient of the Outstanding Clinical Teaching Award for faculty is nominated and selected by the Division's residents. Beyond these divisional awards, EM faculty have received a number of University honours. Recent awards include the 2022 DoM Faculty Award for Humanism in Medicine.

Award acknowledgements and faculty publications are posted in the Division's monthly newsletter. The newsletter has a distribution of over a 1000 EM faculty, residents and staff and has an open rate of 65 percent. Divisional awards are also presented at the annual Research Day. Faculty appointments, CFAR success and promotions are recognized both on the DoM Emergency Medicine website and in the monthly newsletter. The outlets are used to share faculty success, contributions and academic interests. This not only provides acknowledgement of their achievements but also helps foster more collaboration.



Recruitment Plans

Faculty are not recruited solely to provide excellent care to patients but to advance care, science, and diversity. The Division has developed a centralized strategy for faculty recruitment. All new recruits are reviewed and discussed centrally at Division Executive Committee meetings. Recruits are assessed using predefined metrics (position description, defined key attributes and minimum qualifications). Each EM site conducts interviews with a university representative on the selection committee. Equity, diversity, and inclusion along with professionalism are key principles in selecting new EM faculty. The number of applicants to the core academic sites is far greater than the positions available each year. However, given that some faculty have reduced their clinical work or moved jurisdictions during the COVID-19 pandemic, the recruitment efforts are being escalated this year.

QUALITY AND INNOVATION

Simulation Curriculum

The simulation curriculum has been a successful citywide collaboration. Previously there was no formal curriculum for simulation in the residency training program. A collaborative effort, spearheaded by a committee of educators from across training sites, resulted in the development of simulation sessions in all years for junior and senior residents. Residents receive multiple simulation sessions per year with a well-defined longitudinal curriculum encompassing both medical-expert and intrinsic roles. These sessions provide residents the opportunity to learn how to function effectively in a dynamic, uncertain, high-stakes environment where residents can practise procedures and resuscitations safely. The program will continue to evolve the curriculum as it moves to CBD to ensure resident readiness for practice.

Ultrasound Curriculum

The Division has come a long way in EM ultrasound training in a very short time. The program has grown from a single instructor to dozens of active instructors who provide enough capacity today to enable a core ultrasound rotation for PGY1 and PGY3 residents and advanced ultrasound electives. These rotations provide hands-on training for what has become an essential skill for EM practitioners. The rotations use multiple teaching modalities to ensure an optimal



educational experience. These include flipped classroom lectures, supervised scanning sessions at various sites with diverse faculty, specialized scanning training (e.g., in an echo lab), the presentation of scholarly articles at an ultrasound journal club, self-scanning time (with saved images for review by experts) as well as written, practical and visual exams. EM faculty at SHSC, North York General Hospital, UHN and the Hospital for Sick Children have become leaders in the education of trainees and faculty for EM and other services (e.g., General Internal Medicine). An emergency ultrasound fellowship based at SHSC has been running for the past many years and has helped to develop leaders in emergency ultrasound across Canada.

Choosing Wisely Campaign

Two EM faculty have national leadership roles in developing guidelines for emergency physicians to reduce unnecessary investigations and treatments. This work has resulted in publications and national recognition to reduce wasteful and potentially harmful imaging and prescribing. The assessment of this initiative, aimed at determining the impact of the guidelines on patient care in the emergency department, remains ongoing. The current Chair of the national Quality and Innovation Committee for the Canadian Association of Emergency Physicians is an EM faculty member who leads many quality research initiatives between universities across Canada.

Quality Improvement Curriculum

In response to the increased focus on Quality Improvement and Patient Safety (QI and PS) in CanMEDS in 2015, EM faculty developed one of the first longitudinal curriculums in Quality Improvement and Patient Safety among Emergency Medicine residency training programs in Canada. Evaluation

of the first resident cohort demonstrated the effectiveness of this curriculum, and the design of this innovative curriculum was presented at national and international conferences. During the pandemic, we moved the curriculum to an online format and have added case discussion of real QI projects. The format has also evolved from the cohort of 10 residents being split into two groups and responsible for the completion of a QI project. This resulted in very uneven involvement within the group and a sense that the educational value was compromised. While some of the projects were successful and disseminated, others did not reach a conclusion. We have now moved to case-based learning where residents think through a real case and formulate the different stages of a QI project with a lead. Residents are offered to take on a substantial role in a QI project, which count as their academic project.

LOOKING FORWARD

The next cycle of EM strategic planning will begin in 2024 to review current progress toward objectives and develop the vision for the next five-years. There has been much progress made in faculty recruitment and development, academic advancement, mentorship, scholarly activities, academic collaboration in education and research, and EDI. There will be a renewed focus on trainee and faculty wellness as well as quality and innovative processes to address the increasing demands for emergency services in Toronto and the needs of our patients.

The short-term outlook for EM will be very challenging given the HR shortages throughout the system, suboptimal hospital inpatient capacity, ED overcrowding, physician and staff burnout and lack of well-being. Strategies must be devised to prioritize the health and wellness of our learners and faculty in collaboration with hospital leadership. It is crucial to optimize funding models for care and explore the potential of non-physician providers such as physician assistants and nurse practitioners in delivering care within the ED. The safety of the ED staff will also need to be enhanced to ensure that all staff feel safe and supported against aggression and threats of violence by patients and families.

ENDOCRINOLOGY & METABOLISM



OVERVIEW

The University of Toronto's Division of Endocrinology and Metabolism spans five fully affiliated and four community affiliated Toronto Academic Health Science Network (TAHSN) hospitals. The Division's faculty comprises of 53 full-time faculty physicians, all of whom are actively engaged in a range of academic activities in patient care, education, research and health quality initiatives. There are 38 part-time or adjunct community physicians, seven cross-appointees and several collaborating PhD scientists from the Departments of Physiology, Nutritional Sciences, Laboratory Medicine and Pathobiology Medicine, Biochemistry, and Immunology. The Division has by far the largest endocrinology and metabolism training program in Canada, and it is one of the largest endocrinology and metabolism divisions in the world. It attracts trainees for highly sought subspecialty training positions.

The faculty has clinical expertise covering the breadth of endocrinology and metabolism, and provides specialist care for:

- complex management of type-1 and type-2 diabetes,
- diabetes in pregnancy,
- osteoporosis and metabolic bone disease,
- lipid disorders and obesity,
- thyroid, pituitary, adrenal and parathyroid diseases,
- polycystic ovarian disease and premature ovarian failure,
- andrology,
- transgender medicine, and
- endocrine oncology.

Teaching of core and specialty training and research occurs across all clinical sites. Many large clinical programs such as thyroid oncology, pituitary disorders, osteoporosis, and diabetes are multidisciplinary and interprofessional. This collaborative environment promotes and facilitates the success of endocrinology, and metabolism clinical care and research activities. The integration of diabetes research across multiple hospitals and basic science departments are actively supported by the Banting and Best Diabetes Centre (BBDC), an extra-departmental unit of the Temerty Faculty of Medicine (TFoM) at the University of Toronto (U of T). The BBDC is aligned with the Division's priorities for diabetes research and education. Members of the division are also very active participants of the newly created Novo Nordisk Network for Healthy Populations.

GOVERNANCE

Department Division Director (DDD)

Appointed DDD in 2017 and reappointed for a second term in 2022, Dr. Jacqueline James is a clinician-educator and full Professor in the Department of Medicine. She is Vice-President, Education at Sinai Health System, was Co-Chair of the TAHSN Education Committee, currently Co-Chair of the Toronto Hospital Education Table, having helped create guidelines to maintain healthcare professional training of all disciplines across the Toronto region during the COVID-19 pandemic. She is passionate about bringing individuals across all health professional disciplines, clinical and academic sites with a common goal of improving healthcare delivery through providing outstanding educational and research experiences for the next generation of clinicians, investigators, and quality innovators.

Her goal as DDD is to nurture and support the highly successful diabetes and metabolic research programs across the university, while building on existing strengths in endocrinology and endocrine oncology. She aims to strengthen the quality of person-centred care through innovation and collaboration across all affiliated university and community sites.

Division Executive Committee

The Divisional Executive consists of Dr. James, the Residency Program Director (Dr. Jeremy Gilbert, succeeded by Dr. Maria Wolfs), and the Hospital Division Directors (Drs. Baiju Shah, Dr. Lorraine Lipscombe, succeeded by Dr. Afshan Zahedi as interim, Dr. Richard Gilbert, succeeded by Dr. Andrew Advani as interim, Dr. Minna Woo, succeeded by Dr. Gary Lewis as interim). Dr. Woo was also the Research lead, Lead for Endocrine Oncology and Fellowship Programs (Dr. Afshan Zahedi) and Lead for Quality and Innovation (Dr. Ilana Halperin, succeeded by Dr. Julie Gilmour). Dr. James is currently acting CE and Wellness Lead. Searches for hospital divisional leads are now complete as several leadership terms have ended, and some individuals transitioned to other significant leadership roles. The Committee meets bi-monthly during the academic year. New leadership positions created such as the QI Lead were posted to the entire division to encourage all interested individuals to apply. The division has been fortunate to have trained, recruited and supported individuals from diverse gender, religious and ethnic backgrounds and therefore has a diverse pool of individuals to be called upon for leadership roles. (Appendix A)



Strategic Planning

A formal strategic planning process was launched in 2018 and was renewed in February 2023. Division faculty and Community partners were invited to review and renew our commitment to articulated goals. While engagement of the community is ongoing, we have re-articulated our vision; “Together, we lead in research and education which results in the best quality of care and health outcomes for all those living with endocrine related disorders” and have reaffirmed a shared mission; “Together we champion discovery in all aspects of diabetes from fundamental science to prevention and intervention, and focus research on other prevalent endocrine disorders. We develop and support a diverse group of outstanding clinical and academic endocrinologists. We grow collaborations across disciplines to provide expert person-centred care for the full breadth of endocrinology through a framework of continuous quality improvement”.

Key strategic priorities include:

1. Clinical Care, QI and Patient Safety: Advance citywide improvements in access to and the quality of patient care,
2. Research: Expand the breadth and depth of the division’s research activities,
3. Education: Continue to enhance education with unique and value-added training opportunities,
4. Faculty Development and Continuing Education: Optimize continuing professional development to support faculty excellence.

Enablers are defined as:

1. Talents: Strengthen and support the division’s talent pool
2. Fundraising: Raise funds for division initiatives and activities

EDUCATION

The Division prides itself on outstanding clinical teaching and educational programs at all levels. The Division trains specialist endocrinologists—including scientists, educators and community endocrinologists—for a broad range of societal needs. The Division also provides core training for general internal medicine and other programs such as family medicine to teach learners to manage complex diabetes, lipid, thyroid and other endocrine disorders in both inpatient and ambulatory settings. The Division is proud of its development of programs, which support training in advocacy and quality improvement.

Undergraduate Medical Education

Faculty members contribute to case week and site leadership, lectures, seminars and case-based learning teaching in Year 1 and Year 2 MD program courses. This included week leadership and development of cases, lectures, and teaching tools. Current week leads are Diabetes (Dr. Phil Segal), Reproductive Endocrinology (Drs. Adam Millar, Maria Wolfs), Adrenal, Pituitary and Thyroid Disease (Dr. Jeannette Goguen) and Osteoporosis and Calcium Disorders (Drs. Julie Gilmour and Robert Goldberg). Robert Goldberg is the Course Director, Concepts, Patients and Communities 1 and Faculty Development Lead at the Mississauga Academy of Medicine (MAM). Faculty routinely support preceptorship, objective structured clinical examination (OSCE), portfolio preceptorship, academy scholar support and mentorship for medical students.

Division members provide ambulatory clinical experiences as part of the Medicine Clerkship and elective clerkship rotations which are both inpatient and outpatient.

Outstanding undergraduate MD teaching is recognized when the Division bestows its annual Robert Volpé Teaching Award. It has been won in the past five years by Drs. P. Segal, D. Reiss, R. Goldberg, K. Gomez Hernandez and R. Silver. Every year several members of our division receive the MD program award which recognizes faculty who have attained Teaching Evaluation Scores in the top 10% in the Foundations curriculum.

A new medical student award, Division of Endocrinology and Metabolism Student Achievement Award, was funded by a donation from Dr. Jackie James, which recognizes graduating student(s) who have shown exceptional ability and interest in endocrinology. This award is donated in honour of our division’s outstanding former teachers and educators.

Postgraduate Medical Education

Dr. Jeremy Gilbert was the Program Director until his term completed in 2021, and Dr. Maria Wolfs has been PD since. Dr. Jeannette Goguen has been Program Director for the Core Internal Medicine Program. Dr. Shoba Sujana Kumar is the coordinator of the academic half day for core medicine residents.

The subspecialty program, which received full Royal College accreditation in 2021 accepts four to five PGY4s annually. In their first year, residents rotate throughout the fully affiliated hospitals, including SickKids, and have rotations in community sites for generalist and specific exposure. In their PGY5 year, residents continue with clinical-training or begin graduate training in research, education or QI. Each is required to complete an individual research project, and group Quality Improvement (QI) and advocacy projects in their PGY5 year.

Since 2019, QI Projects included “Reducing Vitamin D Testing at Women’s College Hospital”, “Reducing Repeat Alc Testing at a Large Ambulatory Hospital”, “Bariatric Surgery for Patients with T2 Diabetes”, “Improving the Delivery of DKA Care to Patients”, “Closing the Diabetes Care Gap: Blood Pressure Assessment in the Virtual Care Era”, reducing unnecessary lipid testing. Advocacy by residents has resulted in coverage of dermal androgen therapy being available to transgender by the Ontario Drug Benefit formulary.

The Division provides core endocrinology rotations annually for PGY1 to PGY4 residents in General Internal Medicine, Ophthalmology, Anesthesia, Family Medicine, Medical Genetics and others. Dr. James started a new divisional committee to specially focus on overseeing the educational experience of these trainees. We have created a document which clearly articulates the expectations of supervising faculty. The quality of the endocrinology rotation experience



and teaching in our sites is consistently high except for some dipping which occurred during the height of the pandemic where educational experiences for all residents were affected. Our community endocrinologists provide excellent teaching for residents in family practice, much needed for the preparation of primary care MDs for managing common endocrine problems such as diabetes, dyslipidemia and thyroid conditions.

Outstanding postgraduate teaching is recognized by the Dr. George From Award. The recipients of this award for the past five years were Drs. A. Zahedi, D. Donat, K. Gomez Hernandez, and D. Sujana Kumar.

A new award was created in 2019, the Paul Walfish Award, to recognize excellence in teaching, educational leadership, program development and/or educational administration, and/or scholarship related to continuing professional development. Winners were Drs. C. Yu, R. Wong, A. Sawka, and P. Segal.

Fellowships

Clinical and research fellowships have been provided for five to seven trainees annually in endocrine and thyroid oncology, women's health, diabetes in pregnancy, andrology and diabetes research. Dr. Afshan Zahedi has been appointed fellowship director for the division and has facilitated support for faculty seeking to develop a fellowship. Fundraising to support fellowships is actively underway, with a \$1M pledge for diabetes clinical research at Sinai Health accomplished.

Continuing Medical Education

Faculty and residents attend weekly sessions at each site, including a series of interprofessional clinical rounds. City Wide Endocrinology Rounds (CWER) run weekly during the academic year and provide lectures on basic and clinical science. City Wide Community and Academic Rounds (CACER) were developed to have a twice yearly evening education event which successfully facilitates engagement between our community endocrinologists and academic endocrinologists. The BBDC seminar series runs as part of CWER. These rounds have been webcasted since fall 2017. When the pandemic occurred, in-person meetings were shut down. The rounds resumed only virtually until recent lifting of IPAC measures. Virtual attendance is generally in the 50-75 range.

Faculty provided continuing education in annual BBDC updates which are in collaboration with cardiology at UHN, targeting healthcare providers in primary and specialist care in diabetes education and management. These events attracted up to 250 attendees, and have been conducted virtually for the past 3 years.

A working group on continuing education (CE), knowledge translation and faculty development has continued to produce an annual faculty development/continuing professional development day led by Dr. Shoba Kumar. It updates faculty members on current practice-changing basic science and clinical knowledge, relevant educational trends and teaching methods, and practical clinical management processes and skills.

Dr. Denice Feig chairs the BBDC Diabetes in Pregnancy Study Group rounds which have been virtual since the start of the pandemic and attracted about 40 participants locally and across Canada to discuss current research and management of endocrine diseases of pregnancy every month during the academic year.

The Endocrine Oncology group began prior to the pandemic to bring together endocrinologists, surgeons, radiologists, radiation oncologists to discuss strategies to improve care, education and research across the city. The work was interrupted by the pandemic but has now started to resume.

Competence by Design (CBD)

The Royal College delayed implementation of Competence by Design (CBD) for the Endocrine subspecialty program until 2024 for pilot and 2025 for full implementation. The Division will support the introduction of CBD for postgraduate training and is planning for its implementation.

RESEARCH

Investigators in our group cover and generate knowledge across all four Canadian Institutes of Health Research (CIHR) pillars: basic, clinical, health sciences/services and population health. The Division maintains a high international profile, and its members have global reputations in diabetes and metabolism research. Over the past five years, the Division has published approximately 1917 publications since 2018, with 55,986 citations, and an average H-Index of 29.92.



The Division has reported \$61.196 million in grant funds for the reporting period. These grants were secured through a number of peer-reviewed grant agencies including the CIHR, hospital-based foundations, as well as industry-sponsored clinical trials.

Several senior scientists have been internationally recognized for their achievements and impact including the following major awards:

- Dr. Daniel Drucker is the world's leading expert on the incretin system, its basic biology and clinical application to the management of disease, earning the Harold Hamm International Prize for Biomedical Research in Diabetes, the Gairdner Award, the Wolf Prize in Medicine.
- Dr. Susan George was awarded the prestigious Prix Galien, for Pharmaceutical Research. The award recognized her contribution to invention of an assay represented a new paradigm for drug discovery.
- Dr. Bernie Zinman won the American Diabetes Association Outstanding Achievement in Clinical Diabetes Research Award.

Knowledge Translation

Some examples of significant knowledge translation include:

- Scientists including Drs. Richard Gilbert, Andrew Advani, Minna Woo, and newly recruited Cynthia Luk conduct important basic science research into cellular and pathophysiological mechanisms behind the development of obesity, diabetes and its complications.
- Clinical investigations conducted by Drs. Gary Lewis and Satya Dash elucidate the mechanisms and management of the complications of obesity, diabetes and dyslipidemia. Dr. Larry Leiter continues to contribute to clinical trials on the impact of lipid management on major cardiovascular disease risk and events.
- Drs. Gillian Booth, Baiju Shah, Lorraine Lipscomb, and Iliana Lega, joined by recently recruited Calvin Ke have increased our knowledge of how socioeconomic status, the environment, ethnicity and race, gender, age and health access influence the risk of diabetes, obesity and their complications, including their relationship to cancer and its treatment.
- Sinai Centre for Diabetes researchers successfully analyze epidemiologic data and run clinical trials in type-1 and type-2 diabetes, diabetes in pregnancy, diabetes

prevention, and the development of complications. The group includes Drs. Denice Feig, Bruce Perkins, Ravi Retnakaran, Caroline Kramer, newly recruited Dr. Alanna Weisman, and recently retired Bernard Zinman.

- Dr. Anna Sawka, now editor in chief of the international journal Thyroid, studies thyroid cancer, its management, especially low risk thyroid cancer, and psychosocial implications for patients.
- Scientists are members of research institutes such as ICES, the Lunenfeld-Tanenbaum Research Institute, the Toronto General Research Institute, the Women's College Research Institute and the Li Ka Shing Knowledge Institute.
- Dr. Sandra Kim has had a major leadership role in the 2023 Canadian Osteoporosis Guidelines section on pharmacologic management.
- Drs. Lorraine Lipscomb, Alice Cheng and Denice Feig were leaders in the Diabetes Canada Guidelines updates on pharmacological management and glycemic monitoring of people with diabetes in 2020 and 21.

Funding and Collaborations

Combined efforts by Division Faculty and the Temerty Faculty of Medicine to celebrate Insulin 100 – a 2021 celebration that marked the anniversary of the discovery of insulin, resulted in \$20.48 Million in funding to advance research.

- \$20 Million – from Novo Nordisk Canada to establish the Novo Nordisk Network for Healthy Populations
- \$480,000 – Eli Lilly Clinician-Scientist Trainee Fellowships in Diabetes

In 2020, the Drucker Family Innovation Fund was established with \$2 million commitment to the Temerty Faculty of Medicine, BBDC and UHN to support new and innovative biomedical research. Matched by the U of T and UHN, this brings total value to \$6 million.

Partnerships & Collaboration

Banting and Best Diabetes Centre (BBDC)

The BBDC remains closely integrated with the Division, and the Division has provided its leadership since its inception. The BBDC's vision is that in being a centre of excellence for innovation in diabetes research, education, and clinical care, it will tangibly impact diabetes prevention and outcomes in Canada and globally. It continues to play a foundational role

in supporting the Division's academic success in the field of diabetes research and education. Many of its research and clinical faculty members are endocrinologists, and the Division's collaborators in other divisions and departments, such as Physiology and Pathobiology. They make up the core of basic scientists who are also members of the centre. Dr. Lewis was its director 2011 to 2022 and Dr. Minna Woo was appointed in 2022, the first woman in this role. Dr. Tony Lam, a cross-appointee from Physiology, is Associate Director of Research. Dr. Phil Segal chairs the Quality Education and Safety (QUEST) Committee. The BBDC provides numerous grants, studentships and fellowships for research conducted by its members. It hosts an annual scientific day, a joint annual Cardiovascular-Diabetes Symposium, and a seminar series in conjunction with City Wide Endocrine Rounds. The BBDC website hosts important educational materials for clinicians, nurses and pharmacists who care for people with diabetes.

NovoNordisk Network for Healthy Populations

In 2021, the \$20 million donation from Novo Nordisk Canada and matching funds from U of T established the U of T Novo Nordisk Network for Healthy Populations. This cross-disciplinary research network centred in Mississauga aims to reduce the burden of diabetes and related chronic conditions through research and interventions. Dr. Lorraine Lipscomb is the inaugural Director, and Dr. Baiju Shah was appointed Research Chair in Equitable Care of Diabetes and Related Conditions.

Diabetes Action Canada

Diabetes Action Canada is a pan-Canadian research organization focused on bringing patients, their caregivers and researchers together to identify the health concerns of those living with diabetes and to co-create research projects. Dr. Gary Lewis is the Co-Scientific Lead and members of the division have participated in research funded by DAC. In 2021, Dr. Lewis and Dr. James created an online event for patients and families to celebrate the discovery of insulin.

FACULTY

In the past five years, we have had six retirements. There have been 12 full-time recruits; two clinician scientists (CSs), nine clinician teachers (CTs) and eight adjunct lectures. With these recruits, the Division is well balanced academically.

Figure 7.1: Academic Position Description of Full-time Endocrinology Faculty

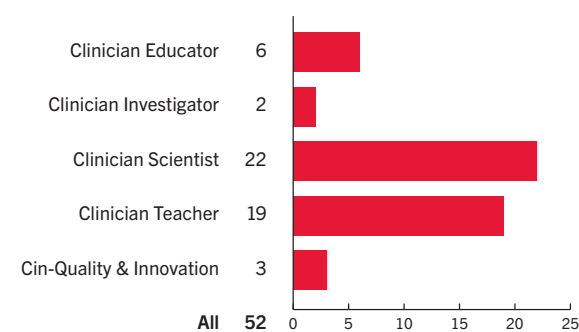


Figure 7.2: Affiliation of Full-time Endocrinology Faculty

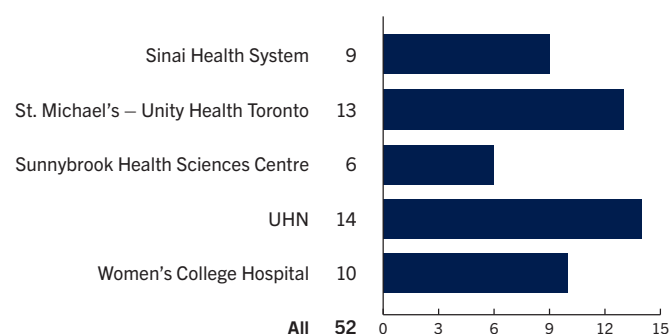


Figure 7.3: Current Rank of Full-time Endocrinology Faculty

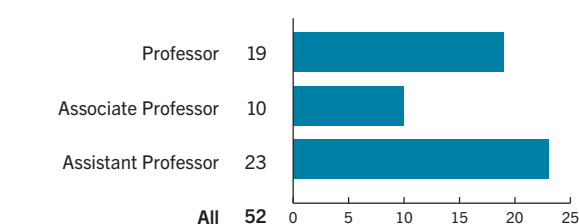
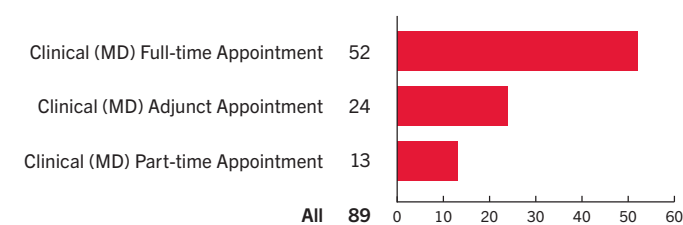


Figure 7.4: Primary Appointment of Endocrinology Faculty



Communications

The DDD publishes a quarterly newsletter and the Division's website is kept up to date with schedules for citywide rounds and educational activities.

Mentorship

Dr. Gillian Booth was Mentorship Lead until the formal committee which she was part of and resources for the role from the Department were discontinued. The Mentorship Lead for the DoM, Dr. Catherine Yu has presented mentorship resources to the division and is an excellent source of guidance for divisional members in seeking mentorship in addition to the division director and physicians in chief. All new recruits are provided assistance in choosing a formal mentor. And the division members have been always very open to serve as mentors when approached by more junior members. Most division members have formal and informal mentors, and the quality of those relationships appears healthy.

Wellness

The issue of wellness and awareness of burnout rates has been raised for discussion by Dr. James at division meetings and its recent retreat. Dr. James is a member of the DoM Wellness Committee and solicits input from division members on what steps can be taken from an organizational approach to support a culture of wellness. During the pandemic, fortunately most members were able to continue to work in the outpatient environment and pivot to virtual care quickly, which meant that most weathered the pandemic without financial hardship. It is known that structural challenges, such as issues related to using EMRs, can increase the risk of burnout. Notably, leaders in the field of digital technologies such as Ilana Halperin and Phil Segal have helped individuals in using new outpatient systems such as Accuro and EPIC. Some research efforts were put on hold but have since rebounded.

Equity, Diversity and Inclusion

For many years, the Endocrinology training program and new faculty recruits have come from diverse backgrounds. We have many female members; in fact our division has a high proportion of females and needs to ensure we continue to attract men to the specialty. There are many faculty members who come from visible minority groups or are first or second generation immigrants, and are in leadership positions and act as role models. Our junior faculty have been supported

through parental leaves and their transition back to their academic roles. The division makes an effort to be sensitive to religious observances in planning academic events. All search committees are expected to complete implicit bias training. Our community of endocrinologists is known to support those requiring transgender care. Dr. James personally provided support for a group of residents who were creating curriculum to improve the care of LGBTQ2s patients.

QUALITY AND INNOVATION

The Dr. Ilana Halperin was the Divisional Lead in QI for 3 years, followed by Dr. Julie Gilmour. During the pandemic some of the planned work on the Diabetes Score Card was suspended. The QI committee consisting of representatives from our TAHSN hospitals and some of our community sites, has initiated a program to address the issue of capacity and the challenging backlog of consultation requests by consensus building around which should be appropriately discharged back to primary care. This leads to development of tools that can be used across our clinics to help busy clinicians safely discharge patients, and provide patient focussed materials, empowering patients to have a clear understanding of their follow-up needs.

LOOKING FORWARD

The Division will continue fundamental research into the pathogenesis and complications of type-2 diabetes with implications for prevention and treatment. Targeted recruitment has ensured succession planning for senior scientists. Epidemiologic and health-sciences research on the risks of developing obesity and type-2 diabetes and the provision of optimal care will continue to grow under the leadership of current clinician scientists. Clinical studies into the prevention and management of diabetes using novel approaches and improving the management of type-1 diabetes through new technologies are being performed. The division will participate in stem cell transplant research for type-1 diabetes.

The importance of recruiting excellent clinician teachers to fulfill the needs of our academic hospitals in delivering both excellent patient care and resident education and support is recognized, and targeted recruitment efforts have been made to accomplish this goal.

GASTROENTEROLOGY & HEPATOLOGY



OVERVIEW

The Division of Gastroenterology and Hepatology (GI) is one of the largest in Canada. It offers an exceptional breadth of clinical opportunities in all aspects of gastroenterology, hepatology, endoscopy, motility and nutrition. Research in the Division spans basic science, translational research, clinical epidemiology and health-services research.

Division faculty operate at five of the six fully affiliated hospital sites as well as numerous community partner sites. The Division works collaboratively with the paediatric program at the Hospital for Sick Children (SickKids), particularly in inflammatory bowel disease, nutrition, hepatology and transplant, as well as the clinical and research aspects of therapeutic endoscopy. There is also a combined GI Research Day (adult and paediatric) every June; faculty, residents, fellows and students present their research.

Over the last five years, the Division has demonstrated gradual success in securing peer-reviewed research funding. The Division is among the top gastroenterology divisions in Canada in terms of funding, publications and citations, and its impact within the subject area is comparable to that of other top-tier universities in Canada and internationally.



GOVERNANCE

Department Division Director (DDD)

Dr. Laura Targownik was appointed as Division Director for Gastroenterology and Hepatology in July 2019 and is currently a Clinician Researcher in the Mount Sinai Hospital Inflammatory Bowel Disease Clinic. She is also a member of the Zane Cohen Centre for Gastrointestinal Research and faculty member of the University of Toronto School of Public Health Institute for Health Policy, Management and Evaluation. Prior to joining the Department of Medicine as Division Director, she was the Chief of the Section of Gastroenterology at University of Manitoba.

A nationally recognized researcher in IBD, Dr. Targownik has held funding from Crohn's and Colitis Canada, the American College of Gastroenterology and the Canadian Institutes of Health Research. She currently serves on the Examiner's Board on the Royal College of Physicians and Surgeons of Canada for Gastroenterology. She is the founder of the Ontario Best Practices Research Initiative in IBD, which aims to be Ontario's primary source of real-world data and patient-reported data on IBD.

Dr. Targownik is a member of numerous research consortia, including the Canadian IBD Research Consortium, the Canadian Gastrointestinal Epidemiology Consortium and the Canadian IBD Transitions in Care Network. She is also the part chair for Equity and Diversity for the Canadian Association of Gastroenterology, and is the current head of GI Women CAN!, where she is spearheading several initiatives with the aim of improving the representation of women in leadership and influence in gastroenterology. She has authored or co-authored over 180 articles in peer-reviewed publications. Her current focus of research

is in using secondarily collected data sources to evaluate the costs and benefits of medications used in IBD, assessing how to optimize delivery of mental healthcare for persons with IBD in diverse practice settings, and on evaluating the impact of patient and physician gender on the patient journey and associated outcomes.

Executive Committee

The Division of Gastroenterology is organized into hospital Gastroenterology Divisions; division heads at each of the five sites are appointed by their respective physicians-in-chief (PICs). The Executive Committee meets nine to 10 times per year and is chaired by the DDD. Dr. Allard finished her term as DDD in June 2018; Dr. Flavio Habal was appointed the Interim DDD while the search for Dr. Allard's successor was conducted; July 2019, Dr. Laura Targownik was appointed successor and Division Director. Committee membership includes site-level division Heads (Dr. Louis Liu, Dr. Gary May, Dr. Elaine Yong, Dr. Jeff Stal), clinical program leads (Dr. Adam Weizman[IBD], Dr. Jordan Feld[Hepatology], Dr. Elmar Jaeckel[Liver Transplant], Divisional Program Director (Dr. Samir Grover) and Assistant Program Director (Dr. Talia Zenlea) and Fellowship Director (Dr. Yvonne Tse); additional members representing divisional interests in research (Dr. Mamatha Bhat, Dr. Gideon Hirschfield, Dr. Vivian Huang), QI (Dr. Adam Weizman) and other members at large (Dr. Morven Cunningham, Dr. Peter Rossos).

The Division has a centralized fund, established by Dr. Allard. As of April 2023, it held a balance of just over \$500,000. Contributions to the fund come primarily from industry as unrestricted educational grants, which are managed centrally according to TFoM guidelines on industry support. The fund is administered by the DDD, and a financial report is presented yearly to the GI Executive Committee.

Education/Residency Training Program Committee

The Committee is chaired by the Program Director (PD), Dr. Samir Grover, who took over from former PD Dr. Maria Cino (2007–June 2018) in July 2018. The Committee includes a faculty representative from each of the adult teaching hospital sites, one representative from the community hospitals, two chief residents and a representative for each of hepatology, liver transplant and motility/nutrition. The Committee typically meets six times a year. Its main task is to oversee

the Royal College of Physicians and Surgeons of Canada (RCPSC)'s two-year training program in gastroenterology. The program is periodically reviewed internally by the University of Toronto and followed by a Royal College review for accreditation. In 2020, the subspecialty training program received full renewal of accreditation, and the next review is not required until 2028.

Research Committee

The Committee is co-chaired by Drs. Bhat, Hirschfield, and Huang, with ad-hoc membership of all Clinician Scientists, Investigators, and Educators. This Committee is responsible for organizing our annual Resident Research Day in June, where all residents and fellows in the Division of Gastroenterology and Hepatology are encouraged to present findings from ongoing or completed research. This event is also open to medical students and non-Divisional residents who are involved with research supervised by a faculty member in the Division of Gastroenterology and Hepatology.

The Committee is also responsible for organizing and adjudicating an annual Resident Research Grant Program, which receives applications for divisional learners and non-divisional learners supervised by Division faculty. The annual budget for this competition is \$15,000, and grants of \$2,000 to \$4,000 are awarded to 4 to 6 learners annually.

In addition, the Committee is tasked with developing the research curriculum which is delivered as part of the Academic Half Day. Topics include tips for performing research as a resident, study design, data analysis and interpretation, and research ethics. The committee is also tasked with ensuring that all residents have adequate supervision for research projects during their residency.

Award Subcommittee

This Subcommittee is chaired by Dr. Scott Fung (outgoing; Dr. Elaine Yong, incoming), and is tasked with selecting annual resident and faculty Division-wide awards. These include the Lou Cole Awards for the best teaching by a resident and by faculty, the Dr. Gordon Greenberg Awards for best research supervision (faculty) and outstanding resident researcher; the Dr. Clifford Ottaway Award for Humanitarianism and Citizenship, and the Dr. KN Jeejeebhoy Award for the best overall graduating resident.

Quality Improvement and Patient Safety Committee

The Committee is chaired by Dr. Adam Weizman. Most members have received formal training in QIPS and different sites are represented. They include Dr. Michael Bernstein (SHSC), Dr. Natasha Bollegala (WCH), Dr. Adam Weizman (MSH), Dr. Jeff Mosko (SMH) as well as the DDD and PD. The Committee is responsible for spearheading QIPS initiatives across the City and developing QIPS projects with the residents.

Strategic Planning

Under the leadership of the current Division Director, Dr. Laura Targownik, and with the assistance of the Department of Medicine and an external consultant, the Division launched its strategic planning initiative in November 2019. However, due to the Covid-19 pandemic and gathering restrictions (lifted August 2022), division planning was delayed. Overall, the process involved a comprehensive environmental scan, as well as one-on-one and group meetings with faculty and stakeholders, which were completed by August 2021. Additionally, a two-part, in-person planning retreat was held on November 26, 2022, and January 23, 2023. The Division Executive committee is currently working to prioritize, operationalize and finalize outputs, with an estimated completion date of October 1, 2023.

- Articulated vision
- Articulated mission
- Key priorities



Having one of the largest gastroenterology training programs in Canada, the Division offers outstanding training in all aspects of gastroenterology, hepatology, endoscopy, motility and nutrition. The program recorded mean and median teaching effectiveness scores (TES) of 4.6 and 4.5 out of 5.0 (respectively) in the 2015–16 academic year. These results are in line with DoM TES scores. However, the TES and rotation effectiveness scores (RES) went down over the past several years (from 4.24 to 3.99). This drop was attributed to a reduction in the number of residents rotating through Gastroenterology as well as an increase in workload. Both reduced the education-to-service ratio.

Undergraduate Medical Education

Divisional faculty participate in undergraduate teaching with Dr. Piero Tartaro serving as our Course Director. Every year faculty deliver lectures, lead seminars and facilitate problem-based learning (PBL) tutorials in the areas of gastroenterology, nutrition and metabolism. In the last few years, Dr. Piero Tartaro (Scarborough), Dr. Maria Cino (UHN), and Dr. Grant Chen (Scarborough) have all received commendations for being in the top 10% of undergraduate teaching. In addition, Dr. Tartaro was the recipient of the 2021 Goldie Prize for Top Early Career Teacher in the Department of Medicine.

Postgraduate Medical Education

The Division’s highest priority is maintaining the quality of the postgraduate education program. Most faculty are involved as research supervisors, mentors (formal and informal) and teachers (formal and informal).

The Division has dedicated residents, who ensure that the program remains dynamic by providing regular individual and collective feedback. Trainees are exposed to an enriched environment for clinical education and scholarship. **There is a breadth of unique clinical cases in Toronto, given both the size of the city and the site- specific diversity:**

- tertiary/quaternary care inflammatory bowel disease [Mount Sinai Hospital (MSH)],
- therapeutic endoscopy [St. Michael’s Hospital (SMH), Sunnybrook Health Sciences Centre (SHSC)],
- hepatology/transplant [Toronto General Hospital (TGH)],
- neurogastroenterology [Toronto Western Hospital (TWH)],
- nutrition (TGH, SMH), and
- GI oncology (SHSC, SMH).
- community gastroenterology (multiple U of T affiliated community sites)

Clinical education in both general inpatient and ambulatory gastroenterology is available at all of our sites.

Finally, there are multiple opportunities for clinical education in ambulatory care and community settings. The Clinician Teachers have diverse expertise, covering most aspects of luminal gastroenterology and hepatology. The researchers are involved in translational, quality improvement, clinical and basic research.

During their training, residents rotate through different hospital sites: SMH, University Health Network (UHN), MSH, SHSC and Women’s College Hospital (WCH), with specific CanMEDS objectives that meet the RCPSC requirements. All residents also pass through specialty clinics such as hepatology, nutrition and motility with specific learning objectives. The residents also undertake in-training exams at least twice a year and meet with their PD individually a minimum of three times a year for feedback based on their evaluations and exams. A division manual for trainees on the program and hospital sites, a website with both public and password-protected content, and a CanMEDS training portfolio for each resident are maintained. Every February, the division administered the American Gastroenterology Association in-training examination, providing our trainees with a mid-training assessment of their performance compared to their peers. Feedback from the examination is shared with the RPC to help residents identify areas of strength and those requiring consolidation.

In addition to the core curriculum, trainees have access to many educational opportunities in gastroenterology and hepatology to meet and enhance their learning needs:

- Local: Hepatology Update, IBD Mentorship, Advanced Therapeutic Endoscopy Course,
- National: Gastroenterology Residents-in-Training Course, Canadian Digestive Diseases Week, and
- International: Digestive Diseases Week, The AASLD Liver Conference, American College of Gastroenterology Annual Symposium.

Trainees exhibit a high level of scholarship, as evidenced by their record on the RCPSC subspecialty examination, as well as a sustained track record for publishing and presenting at local and national conferences. (See Research below and Appendix). These achievements are partly attributable to the excellent support by faculty members, including the Research and QIPS Committees as well as the Quality Improvement Project leads, co-directors of research and faculty supervisors.

With the help of the Research Committee, the Division promotes mandatory research training for all residents in the



GI residency training program. Under the mentorship of GI faculty, all residents are required to select a research project to complete by the end of their training, and they present it at the annual academic GI Research Day. The annual Research Day includes two invited keynote speakers and showcases of completed trainee research in the formats of poster or oral presentations. This event provides students with experience in carrying out and presenting research and encourages trainees to consider further opportunities in academic medicine.

GI also holds a city-wide video-conferencing journal club rounds led by GI trainees 30 times per year, and holds a clinical case presentation rounds 10 times per year, where trainees present and critically appraise a peer-reviewed journal in the style of the Journal of the American Medical Association series. Faculty supervisors are assigned to each session. In addition, the program includes, a weekly academic half-day covering various topics of gastroenterology. The division also hosts an in-person rounds 6 times per year across the City, devoting at least one session each to advanced endoscopy, hepatology, Neurogastroenterology, and IBD.

The division has developed a 12-lecture curriculum which is targeted at rotating general internal medicine residents. These lectures are offered three times per week per rotation. General internal medicine residents also have the opportunity to participate in Journal Club Rounds. Since 2020, the Division has hosted an annual Resident Research Mixer targeting General Internal Medicine residents, where residents can attend short presentations from scientists and investigators in the Division to learn more about their research programs and opportunities to participate in research.

At the beginning of the academic year the Division runs an orientation meeting and dinner for new residents. Town hall meetings are also organized three times a year, providing opportunities for residents and staff to discuss program-related issues and brainstorm solutions for improvement. The chief residents are responsible for assuring that any deviations from the Professional Association of Residents of Ontario (PARO) agreement are brought to the attention of the PD and Residency Program Committee. The PD and education

leaders also have an open-door policy for the trainees to meet and discuss issues. In addition, all trainees are invited to meet with the DDD to discuss career development at any time during their training.

Fellowships

The Division offers several fellowship programs in therapeutic endoscopy, hepatology, motility and nutrition. These programs attract fellows who focus on either clinical or research work with specific objectives for each.

The Division has created an International Fellowship Program that attracts physicians who have completed their training in other countries but meet the University Postgraduate Medical Education (PGME) entry criteria. These physicians return to their respective countries once they complete their training. They are ineligible for the RCPSC exam but receive a Certificate of Fellowship in Gastroenterology from U of T.

Fellows are evaluated every six months with constructive feedback. Many of these fellows develop successful careers in academic centres in Canada, the United States and other countries. Some also complete master’s degrees or PhDs in epidemiology, public health, quality improvement, education or science. Over the past five years, the Division has hosted numerous fellows; the funding comes from their home country, peer-reviewed agencies [Canadian Institutes for Health Research (CIHR), Canadian Association of Gastroenterology (CAG), etc.], foundations or educational grants/fellowships from industry.

The Fellowship Director, Dr. Yvonne Tse works with the DDD and the PD to oversee clinical and research fellowship training programs for the Division. Dr. Tse oversees program development including objectives, coordination of application intake and orientation for new fellows. Dr. Tse is also responsible for ensuring regular and timely evaluations for programs, fellows and teachers. To that end, she also liaises with the DoM Fellowship Programs Office.

RESEARCH

The Division of Gastroenterology has national and international research leaders who specialize in IBD, hepatology (viral hepatitis, transplantation and autoimmune liver disease), endoscopy and quality assurance, as well as nutrition (parenteral nutrition, malnutrition and obesity/non-alcoholic fatty liver disease). The productivity of the Division’s grants and publications has been excellent for clinical, translational and basic research.



Research Support

Hospital resources are allocated independently from the University, but Clinician Scientists receive stipends for salary support from the University’s Department of Medicine. During recruitment, the hospital division head and the PIC are responsible for providing financial support, as per the practice plan, as well as office and clinic space. The division head must plan endoscopy space, and discuss it with the endoscopy unit, which is part of the Department of Surgery. The director of the hospital research institute will allocate laboratory resources, or the DDD will negotiate with the TFoM for space at the Medical Sciences Building on the University’s main campus. The DDD and the division head ensure alignment among all constituencies during recruitment.

Research chairs have been created across hospital sites, including the Jenny Heathcote and Frances Family Chair in Liver Disease (\$3 million, endowed, currently vacant, most recently held by Dr. H. Janssen), the McCain Chair in Therapeutic Endoscopy (\$2 million, endowed, search ongoing), the R. Phelan Chair in Translational Liver Research (\$2 million, held by Dr. Jordan Feld), the Lilly and Terry Horner Chair in Autoimmune Liver Disease (\$1 million, term limited, held by Dr. Gideon Hirschfield), (Anonymous)

Professorship in Primary Sclerosing Cholangitis (\$1M, term-limited, held by Dr. Aliya Gulamhusein), the Driscoll Family Chair in Digestive Diseases (\$10 million for chair and foundation, held by Dr. Louis Liu), and the Longo Chair in Liver Cancer (held by Dr. A. Vogel).

In addition, Tier 1 Canada Research Chairs are held by Dr. Kenneth Croitoru (Inflammatory Bowel Diseases) and Dr. Herbert Gaisano (Diseases of the Exocrine Pancreas).

GI Clinician Investigators and Clinician Scientists conduct their research at many laboratory locations, including U of T’s Medical Sciences Building and respective hospital-affiliated research institutes. **A large network of interdepartmental collaborations has led to high research productivity.**

Active major research programs led by U of T Division of Gastroenterology and Hepatology faculty include:

- Dr. Geoff Nguyen – Promoting Access and Care at Centres of Excellence (PACE)
- Dr. Ken Croitoru – Genetics, Environment and Microbiome in IBD (GEM)
- Dr. Jordan Feld – Translational Research in Viral Hepatitis
- Dr. Nazia Selzner – Improving Equity in Liver Transplantation

- Dr. Keyur Patel – Canadian NAFLD Network
- Dr. Elmar Jaeckel – Immune Tolerance Research Group
- Dr. Jill Timmouth – Lead Scientist Colon Cancer Screening Program, CCO
- Dr. Mark Silverberg – Genomic and Immunologic Characterization of Inflammatory Bowel Disease and its Phenotypes
- Dr. Mamatha Bhat – Precision Medicine to Enhance Life after Liver Transplantation
- Dr. Gideon Hirschfield/Dr. Aliya Gulamhusein – Autoimmune Liver Disease
- Dr. Vivian Huang – Improving Preconception and Pregnancy Related Care in IBD
- Dr. Samir Grover – Simulation in GI Education, The Canadian Endoscopy Research Network (CANENDO)
- Dr. Joanne Allard – Canadian Malnutrition Task Force
- Dr. Laura Targownik – Ontario Best Practices Research Initiatives Registry in IBD

In addition, Dr. Kristel Leung and Dr. Paul Tandon are two recent graduates of the Residency program who are currently in the DOM Clinician Scientist Training Program and both hold CIHR fellowships. Dr. Thurarshen Jeyalingam was also a graduate of the Clinician Educator Training Program.

External Research Funding

The Division’s research enterprise is well funded. Collectively, research funding awarded over the reporting period has increased in value, year over year, totaling \$61.845 million. Typically, funds are secured from peer-reviewed grants from national and international sources, including CIHR, the Helmsley Foundation, the Canadian Liver Foundation, Crohn’s and Colitis Canada, and the Canadian Association of Gastroenterology.

Publication Output

Over the five-year review period, Gastroenterology faculty members published 1,818 publications, which generated 41,415 citations, resulting in an average H-index of 28.04. During the past five years, faculty members have had their research published in the New England Journal of Medicine (Dr. Florence Wong, Dr. Jordan Feld and Dr. Mark Silverberg), and JAMA (Dr. Gideon Hirschfield and Dr. Kristel Leung).

FACULTY

Since 2019, we have recruited 9 new full-time faculty to the Division.

Mount Sinai Hospital

- Dr. Laura Targownik (2019, Clinician Scientist, Associate Professor)
- Dr. Zane Gallinger (2019, Clinician Teacher, Assistant Professor)
- Dr. Sun Ho Lee (2023, Clinician Scientist, Assistant Professor)

University Health Network

- Dr. Morven Cunningham (2020, Clinician Teacher, Assistant Professor)
- Dr. Yvonne Tse (2020, Clinician Teacher, Assistant Professor)
- Dr. Cynthia Tsien (2021, Clinician Teacher, Assistant Professor)
- Dr. Elmar Jaeckel (2022, Clinician Scientist, Professor)
- Dr. Colleen Parker (2023, Clinician Investigator, Assistant Professor)
- Dr. Thurarshen Jeyalingam (2023, Clinician Educator, Assistant Professor)

Sunnybrook Health Sciences Centre

- Dr. Nadia Griller (2020, Clinician Teacher, Assistant Professor)

St. Michael’s Hospital

- Dr. Natalia Calo (2023, Clinician Investigator, Assistant Professor)

Promotion, Advancement and Awards

The Division supports and promotes advancement of its team members. Considerations for promotion are discussed either directly with the DDD or during the yearly activity report meetings between divisional members and their division head. CVs are reviewed for eligibility and then forwarded to the hospital Promotion Committee (chaired by the PIC) for consideration. Since 2019, the Division has had 4 successful promotions to Associate Professor (Dr. Hemant Shah, Dr. Adam Weizman, Dr. Mamatha Bhat, and Dr. Vivian Huang), and 2 for full Professor (Dr. Keyur Patel and Dr. Jordan Feld).

Figure 8.1: Academic Position Description of Full-time Gastroenterology Faculty

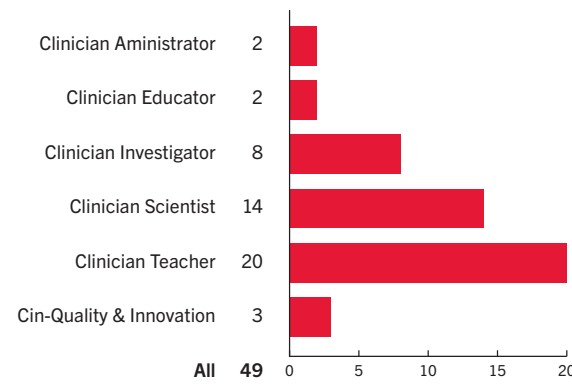


Figure 8.2: Affiliation of Full-time Gastroenterology Faculty

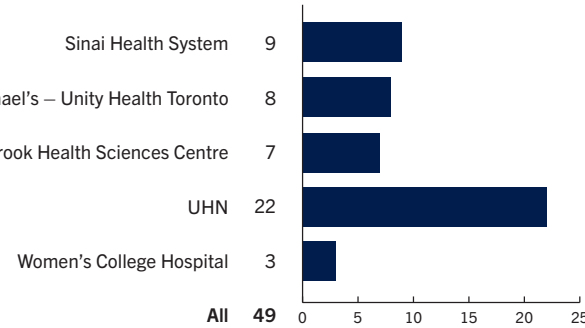


Figure 8.3: Current Rank of Full-time Gastroenterology Faculty

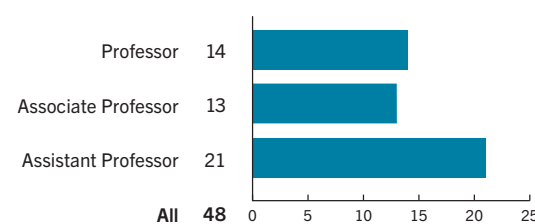
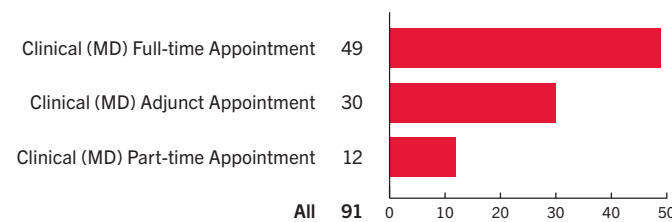


Figure 8.4: Primary Appointment of Gastroenterology Faculty



The Division has also taken a more proactive and organized role in identifying members for consideration of major departmental awards and national recognitions. **As a result, several of our members have been recognized with prestigious awards, including:**

- Dr. Kenneth Croitoru: 2022 Eaton Scholar for Basic Sciences Research
- Dr. Jordan Feld: 2023 Eaton Scholar for Clinical Research
- Dr. Piero Tartaro: 2021 Goldie Prize for Teaching
- Dr. Peter Rossos: 2020 DoM Aware for Quality and Innovation
- Dr. Gideon Hirschfield: 2022 Academy of Master Teachers
- Dr. Gabe Kandel: 2022 Academy of Master Teacher
- Dr. David Wong: 2019 Academy of Master Teachers
- Dr. Scott Fung: 2022 Canadian Association of Liver Disease Education Excellence Award
- Dr. Natasha Bollegala: 2020 Canadian Association of Gastroenterology Young Investigator in Quality Improvement
- Dr. Vivian Huang: 2022 Canadian Association of Gastroenterology Young Investigator in Quality Improvement
- Dr. Nazia Selzner: 2022 Canadian Association of Gastroenterology Award in Quality Improvement; 2022 International Liver Transplantation Society Advancing Equity in Liver Transplantation Distinguished Award
- Dr. Adam Weizman: 2022 Crohn's and Colitis Canada Physician of the Year
- Dr. Mamatha Bhat: 2020 Polanyi Prize in Medicine; 2022 CASL Research Excellence Award
- Dr. Johane Allard: Canadian Nutrition Society Dr. Khush Jeejeebhoy National Award

Communications

The Division communicates primarily through regular emails to faculty, residents, and the emeritus list, as well as through postings on social media. Although we have published a newsletter in the past, it is currently on hiatus due to a lack of staffing and insufficient interest in the Division, which has limited its engagement with readership.

Continuing Medical Education

The Division organizes several annual events for continuing medical education. Hepatology events include the Sheila Sherlock Hepatology Research Day and the Jenny Heathcote Hepatology Update Day. An internationally acclaimed course in advanced therapeutic endoscopy is organized each year through St. Michael's Hospital's therapeutic endoscopy group. The Inflammatory Bowel Disease Program hosts an annual conference focused on interdisciplinary preconception and pregnancy care of persons with IBD, organized by Dr. Vivian Huang. In 2023, The Division will be hosting the inaugural Gastroenterology and Hepatology for the Primary Care Practitioner Conference, with an anticipated attendance of 100 delegates from primary care specialties.

Mentorship

All core residents are assigned a mentor within the division within 2 months of the start of the residency program, and they are expected to meet quarterly with their mentors. The PD and DDD also meet with all residents at least twice a year to mark progress, set goals, and make connections with potential clinical and research supervisors for advanced fellowships.

Recruitment and Transition Planning

To facilitate retirements, the Division has a succession-planning mechanism that reflects other DoM divisions. Individuals who are considering retirement are asked to inform their respective division head two years in advance so that a replacement plan can be developed, although the final decision is at the discretion of the individual faculty member. The DDD maintains active communications and counselling with all residents in the program as well as graduate residents who are completing advanced fellowships to understand their career goals and to advise them on emerging opportunities for recruitment. Quarterly meetings are held with hospital division heads to discuss the progress of prospective faculty and to coordinate recruitment strategies between hospitals in a collaborative and non-competitive manner.

QUALITY AND INNOVATION (QI)/ ADVOCACY

Our QI Committee is in a period of transition due to a change in leadership from Dr. Nguyen to Dr. Adam Weizman, and as we determine how to best integrate QI education and research into the broader curriculum. During the pandemic, the QI committee rapidly developed a novel triage tool to standardize triaging of urgent endoscopy during a period of limited endoscopic supply. The QI committee is now focusing on developing standardized care plans for common GI diseases and presentations, and is partnering with eHealth Ontario to develop a standard referral form for primary care to gastroenterology.

LOOKING FORWARD

The Division Executive committee is currently working to prioritize, operationalize and finalize outputs from strategic planning. Priorities set will inform the next steps of Divisional operation and scholarship with an estimated completion date of October 1, 2023.



GENERAL INTERNAL MEDICINE



OVERVIEW

The Division of General Internal Medicine (GIM) at the University of Toronto (U of T) aims to be a national and international leader in research, education, quality and innovation, and clinical care. GIM plays a central role in providing clinical care to complex patients at the hospitals affiliated with the University. Faculty members of GIM provide clinical care and education in multiple settings including clinical teaching units (CTUs), inpatient hospitalist and resident-independent services, medical consults and perioperative services, short stay units, outpatient clinics, and virtual care. Many GIM faculty have additional training in specific areas of medicine including addictions medicine, clinical pharmacology and toxicology, critical care, hypertension, obstetric and maternal-fetal medicine, osteoporosis, palliative care, perioperative medicine, and thromboembolism. GIM is committed to promoting social accountability, resource stewardship, patient-centred care, and equity and diversity.

The GIM subspecialty training program has a mandate of developing future leaders in GIM in both academic and community settings. Launched in 2013, it is a competitive, highly ranked, fully-accredited program in which trainees benefit from the breadth and depth of clinical experiences, faculty expertise, and mentorship available at the University of Toronto.



Challenges

Challenges over the past five-years have included the COVID-19 pandemic, the loss of several faculty leaders, the workload associated with implementation of Competence by Design, and the effect of the “intent to withdraw” status of the core internal medicine program accreditation. Although GIM was only one of many subspecialties affected, the impact of this accreditation was high for GIM because of the large amount of time that core internal medicine trainees spend rotating through GIM services and because GIM faculty are core internal medicine program directors at most of the hospital sites.

As is the case for other divisions, a major challenge for GIM has been the need to care for increasing numbers of patients in the face of diminishing resident availability. To address this, GIM faculty have implemented solutions including (1) the development of new rapid referral and post-discharge GIM clinics at all sites to provide patient-centred ambulatory care and to reduce admissions and shorten length of stay; (2) development of new models of inpatient care that include resident-independent teams and physician assistants/nurse practitioners; (3) a modification of the clinical teaching unit structure (the “CTU Redesign”) to improve the CTU experience for patients, faculty, and learners. The Division has an ongoing CTU Solutions Working Group that meets regularly to consider new operational and CTU models of care.



GOVERNANCE

Department Division Director (DDD)

Appointed Division Director in 2016, Dr. Moira Kapral is in her second term as DDD. She is a Professor in the Department of Medicine and holds the Mr. Mak Pak Chiu and Mrs. Mak-Soo Lai Hing Chair in General Internal Medicine. She is a staff physician in the Division of General Internal Medicine at the University Health Network/Mount Sinai Hospital (UHN/MSH) where she also holds the Lillian Love Chair in Women’s Health. Her research focuses on stroke health services and on addressing inequities in stroke care and outcomes, and she is a senior scientist at ICES and the Toronto General Hospital Research Institute.

Division Executive Committee

The GIM Executive Committee consists of the DDD, division heads from each fully affiliated hospital site (Women’s College Hospital, St. Michael’s Hospital, University Health Network/Mount Sinai Health Systems, and Sunnybrook Health Sciences Centre), and the GIM subspecialty program director (see Appendix A.1) The executive committee meets monthly and sets a formal agenda. Standing agenda items include divisional recruitment and the GIM subspecialty program. The Division also had subcommittees that focus on research, outpatient medicine, perioperative medicine, quality and innovation, continuing education, CTU redesign, social events, point of care ultrasound, and various award nomination committees (Appendix A.2).

Research Program Committee

The GIM Residency Program Committee is chaired by Dr. Tara O’Brien and includes the DDD, the program leads from each of the fully affiliated academic hospitals, program leads from three community sites, a resident representative, and faculty leads for resident research and wellness. The committee meets at least six times per year and oversees the two-year subspecialty training program as per the requirements of the Royal College of Physicians and Surgeons of Canada (RCPSC).

Strategic Planning

Strategic priorities include advancing research to answer important questions in GIM, developing innovative models of care and patient engagement, providing the highest quality education to trainees at all levels, and supporting the ability of faculty to practice, collaborate, teach, and pursue scholarly activities. The Division will undergo strategic planning review in Fall 2023.

EDUCATION

The Division of GIM plays a substantial role in undergraduate, postgraduate, and graduate education. GIM faculty are frequent recipients of major teaching and education awards and are leaders in medical education research.

Many divisional members also hold educational leadership roles (Appendix B).

Undergraduate Medical Education

GIM faculty are responsible for training all third-year clinical clerks during their eight-week Internal Medicine rotation



on the GIM CTUs, as well as elective rotations for third and fourth-year clerks on GIM services including CTU, hospitalist, medical consults, ambulatory, and obstetrical medicine. Undergraduate education is highly valued and has a high priority within the Division.

Divisional faculty also provide teaching in the following undergraduate medicine courses: Health Sciences Research (HSR); Integrated Clinical Experience (ICE); Toronto Patient Centred Integrated Curriculum (TOPIC) Case-Based Learning; Portfolio self-assessment course; Transition to Clerkship; Transition to Residency; Integration Oral Structured Clinical Examination (OSCE); Introduction to Medicine (ITM); Concepts, Patients and Communities (CPC) 1-3, Life Cycle, Complexity and Chronicity.

Core Internal Medicine Postgraduate Training Program

Divisional members provide a substantial amount of teaching to core internal medicine residents, who, during their first three years of training (PGY1-3), must spend at least 14 months training in GIM. The GIM CTUs have over 350 beds across five downtown hospital sites, and an additional training site at the U of T Mississauga campus. GIM also provides training in ambulatory medicine through rapid referral and post-discharge clinics at all sites and additional innovative ambulatory experiences [Acute Ambulatory Care Unit (AACU), Seamless Care Optimizing the Patient Experience (SCOPE), Virtual Ward, Hypertension Clinic] at several sites.

Finally, the core internal medicine training program offers a fourth year to trainees who choose not to pursue subspecialty training to allow them to fulfill the training requirements for specialty certification in internal medicine. While technically not under the purview of the Division of GIM (it remains under the direction of the core internal medicine program director), a GIM faculty member (Dr. Anna Goulding) oversees this PGY4 training year and ensures that it provides an outstanding educational experience at both academic and community sites. The core internal medicine training program underwent review by the Royal College of Physicians and Surgeons (RCPSC) in 2020, and the result was “notice of intent to withdraw accreditation”. Along with the other divisions in the Department of Medicine affected by this decision, the Division of GIM has reviewed its educational services provided to core internal medicine PGY1-4 residents to ensure any potential deficiencies are addressed in advance of the next review in 2023.



Postgraduate Subspecialty Training Program

In 2013, GIM was recognized by the RCPSC as a subspecialty and a two-year subspecialty training program (PGY4/5) was launched. This program provides enhanced training for residents interested in careers in GIM in both academic and community settings and reflects the learning objectives of the RCPSC. Academic half-days include didactic lectures, high-fidelity simulation-based training, and interactive project work. Toronto's large patient population provides exposure to unique and complex patients as well as opportunities to work in new and innovative models of care. This training environment has shaped clinicians excelling in holistic management of complex patients with undifferentiated conditions in both inpatient and outpatient settings. Trainees also acquire focused expertise in perioperative and obstetrical medicine. There is a robust career development and mentoring program led by Dr. O'Brien and other faculty. The GIM subspecialty program was last reviewed by the RCPSC in 2020 and was fully accredited.

Graduate Education

Division members are very active in all aspects of graduate education, including course instruction and graduate supervision at the Institute of Health Policy, Management and Evaluation (IHPE), the Dalla Lana School of Public Health, the Institute of Medical Sciences, and the Ontario Institute for Studies in Education.

Fellowships

The Division of GIM offers clinical fellowships in hospital medicine, ambulatory medicine, and obstetrical medicine. These fellowships are designed to provide training in the management of patients with acute and chronic multisystem medical conditions.

- **Hospital Medicine:** Hospital medicine fellowships are offered at UHN/MSH, Unity Health, and SHSC. Fellows acquire advanced skills in the management of complex hospitalized medical patients, including emergency department consultations, inpatient management of common acute medical conditions, perioperative management, discharge and transitions planning, teamwork, QI, bedside procedural skills, mobilization of community supports for those experiencing homelessness, culturally sensitive care, and assessment and management of the frail elderly.
- **Ambulatory Medicine:** The program is offered at WCH. It provides individuals trained in internal medicine an opportunity to acquire advanced skills and expertise in the field of ambulatory medicine. The training may focus on any one or more of the following areas: women's health, complex chronic disease management and health-system solutions.
- **Obstetric Medicine:** This program is offered at MSH and provides advanced training in obstetric medicine and/or medical subspecialty outpatient clinics, inpatient consultation service, maternal-fetal medicine outpatient clinics and clinical pharmacology clinics.

The division also offers an educational fellowship through the HoPingKong Centre for Excellence in Education and Practice (CEEP) at TWH. The CEEP fellowship program supports future clinician-scholars in GIM to pursue advanced training.



Continuing Medical Education

Divisional members have held leadership roles in the coordination of national GIM continuing education (CE) events, including the annual meeting of the Canadian Society of Internal Medicine (CSIM); Dr. Steven Shadowitz is the current president of CSIM and Dr. Stephen Hwang is past president. The Division has a CE committee led by Dr. Alison Lai that hosts monthly citywide virtual rounds for both academic and community-based faculty. Dr. Seema Marwaha is the Editor-in-Chief of Healthy Debate (Appendix C.1), which provides articles and information on healthcare issues to the public, practitioners, and policy makers. It also includes a weekly podcast (The Rounds Table) (Appendix C.2) on new research from major medical journals, hosted by Drs. Michael Fralick and John Fralick. Dr. Andreas Laupacis is the former Editor-in-Chief of the Canadian Medical Association Journal. The Centre for Excellence in Education and Practice at TWH, under the leadership of Drs. Rodrigo Cavalcanti and Danny Panisko, hosts rounds related to topics in medical education, as well as an Art of Medicine Lecture Series led by Dr. Nadine Abdullah. Dr. Alison Lai is creator of "The Intern at Work" project (Appendix C.3), which synthesizes existing guidelines, evidence-based research, and practical management into podcasts and other digital resources. Both Healthy Debate and The Intern at Work

involve residents and students developing material for other trainees, and thus they are important platforms for resident training and capacity development in digital media and knowledge translation.

RESEARCH

Research within the Division of GIM focuses on health services research, clinical epidemiology and decision science, medical education, quality improvement, clinical trials, and population and public health. Particular areas of interest include, but are not limited to: economic evaluation, drug safety, traumatic injuries, health policy, osteoporosis, homelessness/inner-city health, artificial intelligence, critical care and global health, heart disease and stroke, obstetrical medicine, transitions in care, diabetes and clinical trials, health equity, medical education, palliative care, patient safety and QI, substance use, thromboembolic disease, and women's health. Many division members also hold research leadership positions and chairs, some of which include: Tier 1 Canada Research Chair's, a Tier 2 Canada Research Chair in Healthcare Data and Analytics and numerous other Chairs and professorships (Appendix D).

Since April 2018, divisional members have held more than \$104.392 million in funding support, have published 2292 peer-reviewed manuscripts, yielding 32,632 citations and an average H-Index of 16.38. Publications have been in high-impact journals including the New England Journal of Medicine, Journal of the American Medical Association, Lancet, and BMJ. Divisional members have received many major international and national research awards, including the Senior Investigator Award from the CSIM (our highest national specialty research award) every year since 2018.

GIM research has had an impact on public policy, including the allocation of federal funding to housing-first initiatives, legislation on the use of cellular phones while driving, decisions by the Ontario Ministry of Health on the funding of interventions, and national policies on the opioid epidemic. Divisional members have provided leadership to Choosing Wisely Canada and have led or contributed to clinical-practice guidelines on osteoporosis, stroke, health-technology assessment, drug safety, thromboembolism, maternal medicine, and other topics. Medical education research led by divisional members has created new knowledge around diverse topics including assessment, communication, supervision, feedback, professionalism, equity and diversity, Indigenous health, and patient engagement.

Members of the Division (Drs. Fahad Razak, Amol Verma, Janice Kwan, Shail Rawal, Lauren Lapointe-Shaw, Terence Tang, Adina Weinerman, later joined by Drs. Michael Fralick, Jessica Liu, and Thomas MacMillan) developed the General Medicine Inpatient Initiative (GEMINI) (Appendix C.4) which is the Canada's largest network for hospital clinical data and analytics. GEMINI collects clinical and administrative data from electronic records for all medical and intensive care hospitalizations at 30 Ontario hospitals. It has supported more than 100 scientists and over 90 students resulting in over 60 peer-reviewed publications and presentations to date. Data on physician-level variations in the quality of GIM care motivated Ontario Health to invest \$5.6M over 6 years to initiate a GIM provincial quality improvement network, with Drs. Razak and Verma hired as Provincial Clinical Leads to establish and lead this network.

A wide range of research opportunities are available for residents, fellows and graduate students under the mentorship and supervision of GIM faculty members. The Division holds an annual GIM Research Day at which trainees present posters and abstracts. Dr. Michael Fralick leads research Work-in-Progress rounds, where trainees and early-career faculty can present research proposals and receive feedback from colleagues.

QUALITY AND INNOVATION (QI)

Divisional members are engaged in QI research in patient safety, medication prescribing, follow-up of test results, language proficiency, clinical informatics, patient-oriented discharge summaries, and transitions in care. Residents in the GIM subspecialty residency training program complete a mandatory research project in QI, ensuring that trainees gain expertise in this area. Finally, the GEMINI patient database serves as a platform for QI activities, including audit and feedback of physician performance, and a variety of specific QI research projects. Many divisional members hold QI leadership positions. Dr. Kaveh Shojania is the Vice-Chair of Quality and Innovation in the DoM at the U of T, and the former editor-in-chief of BMJ Quality and Safety. Dr. Brian Wong is Director of the Centre for Quality Improvement and Patient Safety (C-QuIPS) at the U of T. He and Dr. Shojania lead the QI Co-Learning Curriculum for residents and faculty. Dr. Christine Soong is the Implementation Lead at Choosing Wisely Canada (CWC) and is the Medical Director of Quality and Safety at Sinai Health. Dr. Adina Weinerman is the Medical Director for QI and Patient Safety at Sunnybrook Health Sciences Centre, co-director of the C-QuIPS Certificate Course, and current chair of the Canadian Society of Internal Medicine CWC Committee. Dr. Jessica Liu is Co-Director of the Veterans Affairs Quality Scholars Program at the U of T. Dr. Irfan Dhalla is the former Vice President of Health Quality Ontario, and current Vice President of Physician Quality and Director of the Care Experience Institute at Unity Health. Dr. Trevor Jamieson is Chief Medical Informatics Officer at St. Michael's Hospital. Dr. Howie Abrams leads OpenLab at UHN; Dr. Peter Wu is Chair of the Pharmacy and Therapeutics Committee at UHN, and Drs. Jessica Liu and Peter Wu lead the newly formed Quality and Innovation Hub at Toronto General Hospital. As noted above, Drs. Razak and Verma are physician co-leads of the Ontario Health GIM Quality Improvement Network (GeMQIN).

IMPACT OF THE COVID-19 PANDEMIC

It is estimated that the Division of GIM provided care for over 70% of patients hospitalized with COVID-19. This required the creation of dedicated COVID units staffed by GIM faculty (including a tent-based mobile hospital unit at SHSC), and

a substantial amount of additional clinical work, typically in the form of direct patient care including in-hospital overnight coverage. As a result, it was difficult for divisional members to engage in research or other scholarly activities to their usual extent.

Despite these increased clinical commitments, divisional members provided leadership in many areas of the pandemic response, including serving as director of the Ontario Science Table (Appendix C.5) (Dr. Fahad Razak); consulting to the World Health Organization (Dr. Robert Fowler); coordinating GIM transfers through the Greater Toronto Area COVID-19 Incident Management System (Dr. Moira Kapral and all of the hospital division heads); optimizing the care of patients experiencing homelessness and COVID-19 (Dr. Stephen Hwang); improving vaccination in hospital staff (Dr. Adina Weinerman) and Indigenous communities (Dr. Lisa Richardson); strengthening partnerships with South Asian communities (Appendix C.6) (Drs. Seema Marwaha and Amol Verma); advocating for migrant workers (Dr. Shail Rawal); creating a hotline (Appendix C.7) to support community-dwelling elders (Dr. Howie Abrams); developing virtual care training resources (Dr. Brian Wong); leading clinical trials and other research on COVID-19 [Drs. Angela Cheung (PI of CANCOV (Appendix C.8); a national CIHR-funded project on long COVID)]; Robert Fowler (PI of the COVID-19 Network of Clinical Trials Networks); Michael Fralick, Lauren Lapointe-Shaw, Kieran Quinn, Fahad Razak, Amol Verma, Jonathan Zipursky, developing technologies to communicate with isolated hospitalized patients (Dr. Trevor Jamieson); and serving on the Ontario COVID-19 Drugs and Biologics Clinical Practice Guidelines Working Group (Dr. Peter Wu); and developing practice guidelines for the ward-based management of COVID-19.

Under the leadership of divisional members Drs. Tara O'Brien, Brian Wong, and Fahad Razak, the LTC+ initiative (Appendix C.9) was launched to provide virtual consultations and supports to nursing home residents and physicians during COVID-19. This collaborative care model has since been expanded and sustained beyond the pandemic.



Figure 9.1: Academic Position Description of Full-time General Internal Medicine Faculty

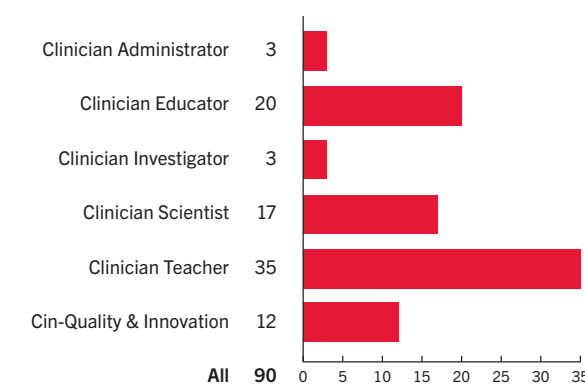


Figure 9.2: Affiliation of Full-time General Internal Medicine Faculty

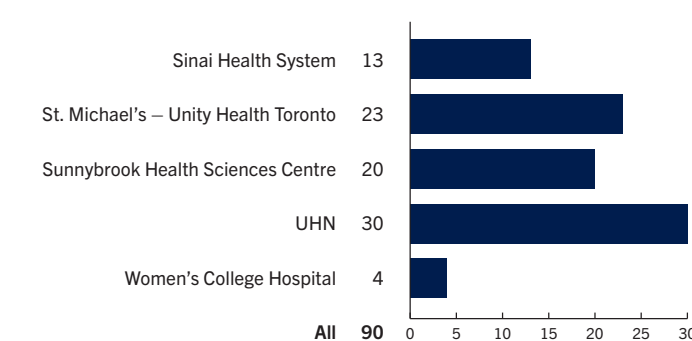


Figure 9.3: Current Rank of Full-time General Internal Medicine Faculty

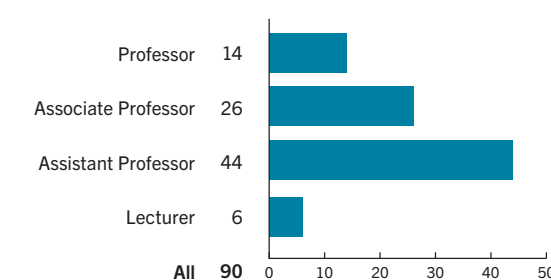
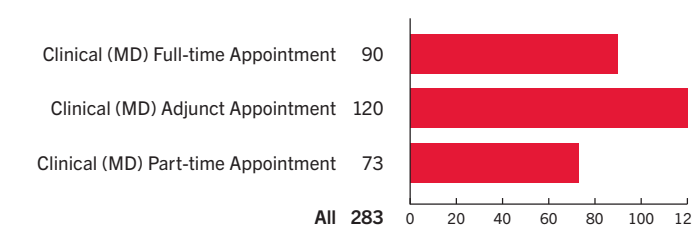


Figure 9.4: Primary Appointment of General Internal Medicine Faculty



FACULTY

The Division of GIM consists of 90 full-time faculty based at the fully affiliated hospital sites and over 150 part-time and adjunct faculty at partially affiliated and community sites. Over the past five years, GIM has recruited 28 new full-time faculty, and half of all current full-time faculty have been recruited within the past ten years. Almost all (>95%) of GIM faculty have advanced training at the master's or doctoral level.

Promotion and Awards

In the past five years, the Division has had 12 faculty promoted to full professor and 16 faculty promoted to associate professor. The success rate has been 100 percent at the time of review by the Decanal Promotions Committee.

The Division of GIM holds an endowed chair from the Mak family, and this funding is essential to the support of faculty activities. Most funds are used for the annual Mak Investigator Award in GIM, which provides salary support to a faculty member engaged in research. The chair also funds a citywide faculty continuing education program, faculty retreats, and GIM Research Day, and supports trainees supervised by GIM faculty to present abstracts at conferences. To ensure that divisional members have opportunities to be nominated for awards and other recognitions, the divisional executive keeps a running list of deadlines for major awards, and the DDD coordinates nominations of divisional members where appropriate. The Division also recognizes excellence with annual citywide GIM awards for teaching and mentorship, with a new award on quality and innovation launched in 2023.

Divisional accomplishments and events are celebrated and communicated through a monthly newsletter that is distributed electronically to faculty as well as to trainees and graduates of the U of T GIM and core internal medicine training programs. (Appendix E – Newsletter)

Wellness

Divisional strategies to improve wellbeing revolve around increasing joy in work and ensuring faculty feel valued. The end of the pandemic presents opportunities to “think big” again and find joy in work through activities related to research, quality and innovation, and education. Divisional members also collaborate to address operational challenges related to patient volumes and reduced resident availability,



with the goal of improving the experience not only for trainees and patients but also for faculty. Finally, the Division hosts regular social events that provide opportunities for the Division to enjoy time together.

Mentorship

Every new faculty member has an identified mentor, and the university and hospital division directors review mentorship assignments and provide additional support to both mentors and mentees. Faculty members meet annually with their site division director and/or physician-in-chief.

Equity, Diversity and Inclusion

Equity, diversity, and inclusion (EDI) are priorities for the Division of GIM. Currently, approximately 40% of divisional members (and 50% of those recruited over the past 5 years) identify as female. The division follows the Department of Medicine guidelines on recruitment aimed at identifying diverse candidates, and all divisional panels, invited speakers, committees, and working groups are reviewed to ensure diverse representation. Divisional members with leadership positions related to EDI include the Associate Dean, Inclusion and Diversity, Temerty Faculty of Medicine at the University of Toronto (Dr. Lisa Richardson, also Strategic Advisor on Indigenous Health), Vice-Chair for Culture and Inclusion in the DoM (Dr. Umberin Najeeb), Equity Lead in the DoM (Dr. Christine Soong), and Co-Chair of the Anti-Racism Special Task Force of the Society for Medical Decision-Making (Dr. Ahmed Bayoumi).



In Memoriam

The Division lost faculty members Drs. Murray Krahn, Robert Sargeant, and Jack Tu to death due to unexpected illness. Their loss has been felt by the Division as they were not only close colleagues and friends but were also leaders who served as mentors to many faculty and trainees. The Division and its faculty are profoundly grateful to each for their contributions and impact on leading the Division to excellence.

LOOKING FORWARD

The current DDD, Dr. Moira Kapral, will complete her term in 2026, and the GIM program director, Dr. Tara O'Brien, will complete her term in 2025. Planning is in place to identify potential successors. Divisional strategic planning has been limited over the past few years due to the pandemic workload and meeting restrictions. A mini retreat was held in 2022 and a full retreat to review divisional strategic priorities is scheduled for the fall of 2023. The GIM subspecialty program was fully accredited at the time of its last review in 2020. Currently, the program has positions for 7-8 trainees per year. This is a relatively low number compared to other universities across Canada and should be increased given the need across Canada for GIM specialists to care for an aging population with increasing medical complexity.

The Division has benefited greatly from the chair endowed by the Mak family, but additional external funding will be required to sustain all of the Division's citywide activities. At the hospital level, dedicated fundraising by a retired faculty member, Dr. Herbert HoPingKong, has led to several endowed chairs in GIM at UHN, as well as funding to support a large GIM ambulatory clinic. A fund to support GIM has also been established at SMH in memory of Dr. Robert Sargeant. The division does not receive funding from pharmaceutical companies.

The division's greatest strength remains its incredibly accomplished faculty, which has been bolstered by robust recruitment over the past 5 years. The Division looks forward to continuing to lead and contribute to excellence in medical education, research, quality and innovation, and clinical care.



GERIATRIC MEDICINE



OVERVIEW

The University of Toronto's (U of T) Division of Geriatric Medicine is the largest division of geriatrics and the largest geriatrics training program in Canada. The division focuses on excellent patient care and draws from the expertise of its faculty members in education and clinical epidemiology across a network of community and University-affiliated hospitals and private practices. Faculty researchers also hold prestigious national and international grants that support investigations in older women's health, geriatric oncology, optimization of drug prescribing in the elderly, program development and evaluation, as well as the quality of life in chronically ill or frail elderly.

In alignment with the Department of Medicine's (DoM) guiding principles, the division has endeavoured to prioritize collaboration across academic sites. It is committed to promoting a high-quality educational experience in a collegial and supportive environment. Division members contribute substantively to scholarship in various areas that impact clinical care, education, research and policy.

ADMINISTRATION

Department Division Director (DDD)

The division is led by Dr. Barbra Liu, who is an internist, geriatrician, clinical pharmacologist, and Professor of Medicine. She is a clinician-administrator with over 20 years of experience as a healthcare leader. Before becoming Departmental Division Director (DDD) in 2019, she was the program director for the residency training program for nine years. She is known for her collaborative style of leadership and has been recognized with awards such as the Canadian Geriatric Society Dr. Lynn Beattie Clinical Leadership Award (2023), Sarita Verma Award for Advocacy and Mentorship in Postgraduate Medicine (2019), Temerty Faculty of Medicine, and the Leo Steven Award for Leadership (2014) Sunnybrook Health Sciences Centre.

Dr. Liu is also the Executive Director of the Regional Geriatric Program of Toronto (RGP) and leads a network of 23 hospitals in the delivery of specialized geriatric services. In Ontario, she has led the implementation of senior-friendly hospital and care framework in collaboration with decision-makers, hospitals and front-line providers. She is able to leverage her leadership role to connect the academic community with service implementation in the healthcare system.

Executive Committee

The Executive Committee (EC) comprises the DDD, Program Director (PD), and the division heads of Baycrest, Unity Health, Sunnybrook Health Sciences Centre and University Health Network /Sinai Health System; Mentorship and Awards Lead, Education Lead, Research Lead, an early career representative, and a community-affiliated representative. The EC meets at least six times per year and discusses issues arising at each site and across the division regarding clinical care, education, mentorship, faculty development, research (i.e., to identify collaborative projects) and recruitment. (Appendix A)

The mandate of the EC is:

- To work with the Division Director in the planning and execution of the divisional strategic goals
- To ensure that all sites are equitably engaged in divisional affairs
- To provide a standardized and coordinated approach to faculty affairs, including recruitment, promotion, professionalism, and wellness

- To support the implementation of educational activities across the division, including undergraduate, postgraduate, fellowship programs and continuing faculty education
- To promote research and scholarly collaboration across sites
- To review a summary of financial statements twice yearly
- To advise the DDD as needed

Residency Program Committee (RPC)

Dr. Dov Gandell is the Subspecialty Program Director (PD). He is an assistant professor and clinician teacher who has completed the Master Teacher program and has a certificate in Patient Safety and Quality Improvement. Dr. Gandell's excellence in teaching has been recognized with numerous awards. He chairs the Residency Program Committee (RPC), which includes the education coordinators from affiliated academic hospitals, the Fellowship Coordinator, the Undergraduate Education Coordinator, the Research and Scientific Committee Chair, a community geriatrician, a geriatric psychiatrist and an ombudsperson. There is also one appointed and one elected resident representative, typically a first- and a second-year trainee. The DDD is a non-voting member of the RPC. The RPC meets at least six times per year, and its main task is to oversee the two-year subspecialty training program as per the requirements of the Royal College of Physicians and Surgeons of Canada (RCPSC). There are also subcommittees on resident safety, on-call requirements, and social and networking committee. During COVID, the social and networking committee supported resident wellness and created much-needed opportunities for residents to forge relationships outside of work despite not meeting in person for much of their training.

Strategic Planning

In fall of 2020 the division began strategic planning with the support of the Department of Medicine and an external facilitator. Through stakeholder engagement and support of the executive committee, the division defined its vision as "A society in which every older adult is valued, thrives and receives the best quality care and support." Our mission is to "Improve the health and quality of life of older adults through the provision of world-class education, discovery and care delivery and by collaboratively advancing and advocating for health and social care reform."

As part of the Education priority, we will:

1. optimize education and training experience and
2. expand health professional education in geriatric medicine principles.

Our focus on discovery aims to minimize negative impacts, improve collaboration and enhance discovery capacity. Under the health system and service delivery priorities, we will develop and promote new models of care and advocate for improvements to the health system and equitable service delivery. (Appendix B – Divisional Strategic Plan Report)

EDUCATION

The education initiatives of the division emphasize community engagement at local, national and international levels to align physician training better to meet growing population needs. Further, the division has developed meaningful new collaborations with other groups, both internal and external to U of T, including at the site level (oncology, trauma, burns, perioperative care), specialties and subspecialties (behavioural neurology, psychiatry) and community partners (McMaster University, Western University, U of T, University of Waterloo). GeriMedRisk (Kitchener) is an innovative model of geriatric pharmacology, medicine and psychiatry consultation which is delivered virtually. It is led by Dr. J. Ho,

a graduate of our program, and several residents have participated in electives with GeriMedRisk. Over the past five years, the program has consistently received an average of 16 applicants per year. Each year, four trainees and up to four fellows, and one additional trainee who arrives through the non-Canadian Resident Matching Service (CaRMS) routes are accepted.

The division successfully and quickly transitioned its clinical services and associated education to virtual platforms during COVID. To address the pressures, we coordinated city-wide teaching sessions for learners. Our Program Director met with residents each week to provide support and address any concerns. Resident appreciation was articulated frequently and purposefully at rounds, in newsletters, and in other formal and informal communications. To support resident wellness and reduce anxiety during uncertainty, resident presentations were paused during the height of the pandemic.

In 2016, Toronto led a new multi-site collaboration between the U of T, McMaster University, Western University, and the University of Ottawa to administer a joint practice written examination for geriatric medicine trainees. In 2019, the collaboration expanded to include all academic sites in Canada offering geriatric medicine residency programs. Toronto remains the lead for this successful national initiative. An inter-university program agreement with the University of Manitoba remains in place to support their program



training requirements related to outreach and ACE unit experience. Geriatric Medicine has a strong collaboration with Behavioural Neurology, with a two-block elective, which is routine for all learners. This collaboration includes a dedicated two-day bootcamp that, in 2018–19, is expanding to include additional learners from other programs and potentially other universities. Care of the Elderly residents from the Department of Family and Community Medicine participate in our academic half-day program.

In 2019-20, the program successfully implemented Competence by Design (CBD). Evolving from Medsquares to Elenra evaluation platforms and working through improvements in reporting summaries with PGME and DoM, the competency committee operations are running smoothly, and the review of resident data is efficient. Our divisional EPA completion rate is at or above the departmental average (80%). In the Royal College on-site accreditation, geriatric medicine was accredited with no identified areas for improvement.

Undergraduate Medical Education

Until 2020, Dr. T. Yogaparan was the Undergraduate Lead for geriatrics at the Temerty Faculty of Medicine. The role transitioned to Dr. Michelle Hart, Care of the Elderly. Our divisional Undergraduate Lead is Dr. Jillian Alston. She provided divisional leadership in developing the geriatric component for the new undergraduate curriculum, including a longitudinal patient panel. Together with Dr. Hart, they solicited support for a mandatory clerkship rotation from our division, family medicine, geriatric psychiatry, and emergency medicine, including community and post-acute sites. As a team, they successfully secured a commitment to pilot a new rotation in the academic year 2023-24 and the full mandatory two-week rotation in 2024-25. This achievement has been years in the making, and we are incredibly proud that the rotation will finally come to fruition. Dr. T. Yogaparan, the former Undergraduate Education Lead for geriatrics, led the national undergraduate medicine competencies working group for the Canadian Geriatrics Society. There are now nationally agreed-upon competencies in geriatrics for graduates of medical programs. Dr. Jillian Alston is the Faculty Lead for the Geriatrics Interest Group (GIG). This group meets regularly and nurtures an interest in the care of older adults and exposes students to role models and mentors.

Division faculty also teach at the undergraduate level. They teach the Year 2 Art and Science of Clinical Medicine

(Integrated Clinical Experience course), which includes 16 hours of small group teaching on history-taking and physical examination of older adults. Faculty also deliver lectures and seminars in the undergraduate MD curriculum and supervise undergraduate students who work to complete scholarly projects.

Postgraduate Medical Education

The subspecialty training program consists of four PGY4 and four PGY5 trainees annually. Each year the division applies to the University's postgraduate program for additional training spots to meet societal needs.

Dr. Dov Gandell, the PD, reviews the applications to the training program, along with the DDD, one divisional member and one of the co-lead residents. This group also interviews appropriate candidates and ranks applications. As part of the division's commitment to promoting equity, the interview panel is gender-balanced and aligned with Postgraduate Medical Education (PGME) Best Practices in Application and Selection. Post-interview, the 2nd co-lead resident meets with the applicants to answer any questions in camera.

The curriculum for the subspecialty training program includes a longitudinal ambulatory clinic over two years of training. Very few subspecialty programs offer a longitudinal clinic experience with the same supervisor over the full two years of training. This provides an opportunity for residents to witness the progression of chronic diseases in their patients. The faculty supervisor for the longitudinal clinic is the designated primary mentor for the trainee. In addition, the DDD and PD each meet with the trainees twice yearly. Linkage to additional mentors is provided as needed, including mentors from outside the division, depending on the resident's needs.

Using evidence-informed strategies to teach professionalism and engaging geriatric medicine postgraduate trainees in a needs assessment, Dr. A. Berger has developed and implemented a longitudinal curriculum entitled Professionalism Plus. Each workshop addresses a specific CanMEDS role. Topics addressed include professional identity, health policy, and age-inclusive care, managing difficult relationships, advanced communication skills training, among others. This curriculum has spread to other academic centres and has been recognized with Wellness Champion Award from the American College of Physicians (2019).

Drs. K. Ng and V. Chau have developed an orthogeriatrics rotation through which all orthopedic surgery PGY1 residents rotate.

The Royal College subspecialty examination committee has included and continues to include several division members.

Resident awards include the Esther and Saul Baker Award (Sinai Health System/UHN), and the Resident Award for Geriatric Medicine (Sunnybrook). The Esther and Saul Baker Award recognizes excellent and outstanding contributions to the care of older patients across the Sinai Health System and the UHN hospitals. The Sunnybrook Award for Geriatric Medicine recognizes a resident who has rotated on the geriatric medicine service and demonstrated excellence in clinical knowledge, skills, compassion, and collaborative teamwork. Residents are eligible for the Dr. Sharon Straus Award for best research presentation at our annual Research Day.

In 2021, the residency program received the coveted PARO Residency Program Excellence Award.

Fellowships

Geriatric clinical fellowships allow a physician to obtain advanced training and/or acquire more specialized expertise that complements residency training. Clinical fellows must be recognized specialists. Training may involve both clinical and research activities. The division hosts up to four fellows each year in general geriatrics, geriatric rehabilitation, and geriatric oncology.

Continuing Medical Education

The division hosts a monthly journal club. The sessions are resident-led and faculty-facilitated. Each session includes a short and a long critical appraisal of a research article. Dr. Shabbir Alibhai provides faculty oversight of the article selection and guidance on the critical appraisal. On occasion, faculty present at these sessions, providing primers on research methods or interpretation of statistics. Faculty from all academic sites regularly attend these CPD-accredited educational events. The journal club is broadcast on Zoom, and sessions are recorded. The Geriatric Medicine Journal Club has expanded its attendance from an average 15 attendees to 51 (range 40-71) in 2022. Participants join from local, national, and international locations, including affiliated community sites and other academic institutions.

Many graduates of our program continue to attend the journal club. On several occasions, the author of the paper being reviewed has participated in the journal club session.

Division members and sites host accredited and non-accredited continuing education including: Baycrest Geriatric Medicine Rounds, Toronto Geriatrics Update Course, Sinai Health/UHN Geriatrics Institute Education Day.

In 2020, the division established City-wide Geriatric Medicine Grand Rounds. The planning committee included division members and a trainee. The objectives of our City-wide Grand Rounds are to:

1. Provide updates on medical research
2. Provide state-of-the-art updates on clinical topics
3. Showcase expertise in the division
4. Promote collegiality and a sense of community within the division
5. Provide a venue to foster connections with experts in the field from around the world

The City-wide Grand Rounds also hosts the annual Dr. Rory Fisher Lecture, supported by the Regional Geriatric Program of Toronto. This lecture showcases a speaker with an international reputation to stimulate scholarly discussion and collaborative networking opportunities.

Electives

The division offers elective opportunities for family medicine and internal medicine residents. There has been a substantial increase in demand for these experiences. Most of the elective residents come from across Canada. Elective opportunities were temporarily paused during COVID.

RESEARCH

Researchers in the Division focus on clinical epidemiology and health-services research. Particular areas of interest include geriatric oncology, quality of life and driving issues in persons with mild cognitive impairment and dementia, medication use in older people, women's health, models of care for older patients, and knowledge translation. Geriatric Medicine has considerable methodological expertise in quantitative research methods such as randomized controlled trials, observational studies and knowledge syntheses, among others.

The division has three endowed research chairs (Mary Trimmer Chair, Gordon Hunt Chair and the Retired Teachers of Ontario/ERO Chair). Five faculty members are clinician scientists. Three are professors and senior career faculty members. Two of our clinician scientists are recent recruits, and junior career faculty members. One faculty member is now designated as a clinician administrator, previously a clinician scientist. Many additional faculty participate in various research initiatives focused on clinical and health-services research.

Over the past five years, the division has published more than 937 articles in journals, including the Lancet, Journal of the American Medical Association and the BMJ, among others. These articles are also highly cited and have received 21,161 citations, resulting in an average H-index of 16. Division research funding over the reporting period totalled \$36.211 million. These funds were secured from a large variety of public and privately supported sources, including granting agencies, foundations and other government agencies.

Geriatric Medicine's clinician scientists hold leadership roles in national and international research initiatives. Four division members (S. Straus, P Rochon, S. Alibhai & G. Naglie) were included in the world's top 2% of scientists as listed by Stanford University.

Dr. Naglie led a national study to optimize driving safety for seniors. Dr. Rochon is the inaugural director of the Women's Age Lab, leading work on gender and aging. Dr. Straus is the principal investigator for many projects, including a nationally-funded team grant in network meta-analysis, a pan-Canadian initiative entitled the SPOR Evidence Alliance, and a World Health Organization partnership to implement guidelines in low- and middle-income countries. Dr. Alibhai is leading the Canadian Network on Aging and Cancer. Dr. Watt leads several projects evaluating the efficacy of therapies in older adults, including network meta-analyses on the Comparative Efficacy of Pharmacological and Non-Pharmacological Interventions for Aggressive and Agitated Behaviours in Dementia. Dr. Watt received the Outstanding Junior Research Manuscript Award from the American Geriatrics Society for this paper. She has won a national drug safety and effectiveness cross-disciplinary program award and a CIHR award of excellence for the highest-ranked project in the spring 2021 competition. Dr. Nathan Stall is our other new clinician scientist recruit. He has a national reputation as a researcher and opinion leader. He was a key member of the province's COVID Scientific Table. He received the Royal College Leadership Award for Early-Career Leadership in Health Policy and the Canadian Institutes of Health Research CIHR-IHSPR Rising Star Award.

Recent multi-site research projects include "Reducing unnecessary sedative-hypnotic use among hospitalized patients" in five hospitals. Funded through the AFP innovation fund, the study was led by C. Soong (GIM) with B. Liu as senior author. Other division members were collaborators. Dr. E. Wong led a multisite study "Identifying atypical presentations of COVID-19 in older adults and their association with adverse outcomes" involving Sunnybrook, Unity Health, Sinai Health System/UHN, and Baycrest. Education scholarship was advanced by J. Alston's two-site study measuring the impact of resident goal-setting on geriatric medicine rotations.

The division holds an annual resident research day showcasing scholarly projects with resident and medical student presentations. Some graduate students also present. The best presentation by a geriatrics resident is recognized with the Dr. Sharon Straus Award for Research. The best presentation by a medical student is recognized with the Dr. Sim Fai Liu Award.

With the support of the Yuen Family Foundation, the division established the Summer Older Adult Research (SOAR) Experience Award. These awards allow undergraduate medical students from the U of T to work on a scholarly project with a supervisor from our division. The award provides competitive compensation for the work involved and supports equitable access to this research and scholarly opportunity. Each year, nine awards are distributed across the division, with two at each core site and one at Women's College. Applications and selection are coordinated centrally. There is a city-wide seminar series and networking opportunities. Students present their work at the end of the summer showcase and are encouraged to submit it to other research events and conferences.

Prior to COVID, the division participated in the Combined University Resident Research Day with McMaster, Western, and Waterloo. With the growth of our program, we decided to hold our own Resident Research Day starting in 2020. In November 2022, we launched the faculty research showcase to complement the event for learner research projects. The first session showcased the work of Drs. S. Straus, S. Alibhai, C. Reppas-Rindlishbacher, and J. Watt and researchers highlighted the theme of equity in their research.

FACULTY

The Division of Geriatric Medicine comprises 31 full-time, 12 part-time and 21 adjunct faculty members. In the last 5 years, we have recruited 11 new full-time faculty members.



Candidates must have completed advanced training to be eligible for full-time faculty positions. The specific training requirements are unique to each of the six current position descriptions that the DoM appoints its faculty (Appendix C.1).

Distribution of full-time faculty according to job description includes five clinician scientists, 16 clinician teachers, six clinician quality innovators, two clinician educators, and two clinician administrators. The distribution of full-time faculty is spread across sites: Baycrest (6), Sinai Health System (5), St. Michael's Hospital (SMH) (8), Sunnybrook (5), University Health Network (UHN) (6) and Women's College Hospital (1).

The division has successfully recruited several new faculty in the past five-years. There are, however, relatively few mid-career faculty who are able to take on leadership positions. As a result, recruiting leaders within the division is a challenge. Despite advertising for research chairs and clinical/education positions, the division has been unsuccessful in its attempts to recruit faculty from outside Canada. This challenge reflects the ongoing shortage of geriatricians worldwide. The current DDD and PD were appointed in late 2019.

Division members have many leadership roles, locally and nationally. For example, Dr. M. Norris leads the CGS choosing wisely committee. Dr. Wong is a member of the examination board for the RCPSC for geriatric medicine, and Dr. Straus is on the examination board for the RCPSC for internal medicine. Dr. Straus led the Royal Society Report on COVID in LTC and is a recipient of the Order of Canada. She is the Physician-in-Chief at Unity Health. Dr. Sinha was named to the National Committee for Dementia Strategy and led the working group for Health Standards Organization Long-Term Care National standards. Dr. Sinha is on the board of the Toronto Metropolitan University and an advisor

to the National Institute on Aging. Dr. Rochon is chair of the board of the CIHR Institute of Ageing and inaugural director of the Women's Age Lab, past VP of research at Women's College Hospital. Dr. Naglie is Vice President of medical services, and Chief of Staff, at Baycrest. In 2020, Dr. M Zorzitto received the highest recognition from our national society, The Ronald Cape Distinguished Service Award.

Mentorship

All faculty and learners have a mentor. The DDD meets annually with division members and twice yearly with residents. DoM tools to support the mentorship interaction have been circulated. Our division has an ombudsperson who provides support and an arm's length sounding board for concerns for both residents and faculty members.

Wellness

We hold an annual welcome BBQ for incoming residents, to congratulate our graduates and to present teaching awards. These events shifted to a virtual format in 2020-2021. In 2022 we returned to an in-person format with our biggest attendance ever.

The program supports a resident social and networking committee which organizes events for residents and faculty. Fun and engaging activities outside of work have included a Blue Jays game, afternoon tea, dinners, dumpling making, celebrity chef cooking lesson, AGO and dementia tour, alzheimers walk, ice skating, obstacle course, axe throwing, an escape room and other creative group activities.

Figure 10.1: Academic Position Description of Full-time Geriatric Medicine Faculty

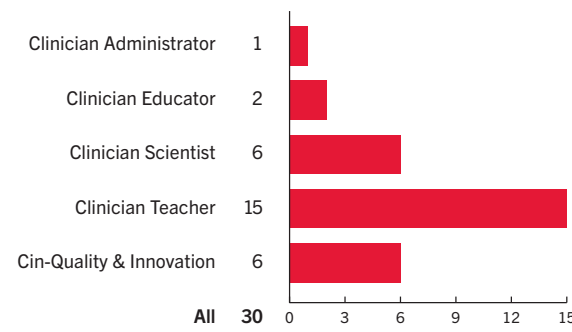


Figure 10.2: Affiliation of Full-time Geriatric Medicine Faculty

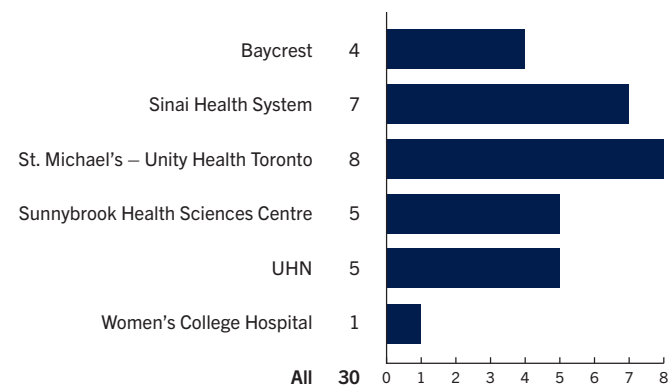


Figure 10.3: Current Rank of Full-time Geriatric Medicine Faculty

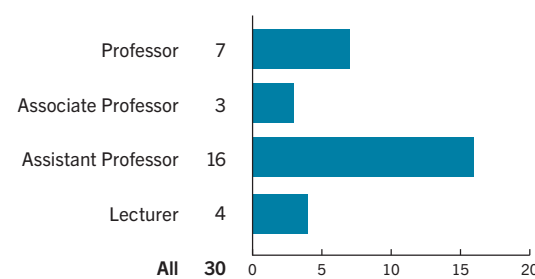
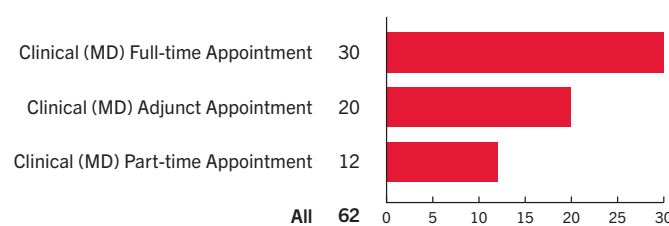


Figure 10.4: Primary Appointment of Geriatric Medicine Faculty



Equity, Diversity and Inclusion

A lead for the DoM EDI initiative is from our division, Dr. M. Norris. As the inaugural Department of Medicine Lead for Black and Indigenous learners, Dr. Norris authored a guideline for an equity-, diversity- and inclusion-based approach to the CARMS file review and interview process. The notion of “journey travelled” and accomplishments in the domain of advocacy have been formally incorporated into the CaRMS evaluation rubric for Internal Medicine and Geriatric Medicine. Her efforts have increased the number of Black medical students being offered residency positions in medicine.

Dr. M. Norris co-founded the Sunnybrook Program to Access Research Knowledge for Black and Indigenous Medical Students (SPARK). The program provides Black and Indigenous medical students with an opportunity to engage in meaningful and fairly-paid research externships supported by a diverse group of mentors. The success of this program is driving its rapid spread and attracting interest from psychiatry, surgery, and emergency medicine. Program evaluation has shown that the rich mentorship provided by SPARK helps mitigate epistemic injustice whereby Black and Indigenous medical learners have felt excluded from learning opportunities to advance their careers. In the qualitative analysis of interview transcripts, Dr. Norris is mentioned repeatedly as a leader and mentor influencing the experience of SPARK participants.

A multi-site collaborative QI project that includes TAHSN-RGP Senior Friendly Community of Practice partners focuses on promoting person-centred language in the acute care of patient with responsive behaviours. The goal is to promote objective, specific and respectful language, thereby reducing stigma and bias associated with dementia. Over 3,000 staff have received training through this initiative. Additionally, many division members have also completed the Sanyas Indigenous Cultural Safety training.

Communications

Our divisional newsletter includes regular columns – “Grey Matters” that showcase a site or partner division, the Research Showcase that provides highlights from a publication authored by a division member, “Keeping up with...” that provides an update on a graduate from our program. We highlight significant milestones such as awards, promotions, publications, media coverage, the arrival of babies, and weddings.

Awards and Recognition

The division celebrates faculty members’ contributions to teaching and compassionate patient care in geriatric medicine with two annual awards: the Barry J. Goldlist Teacher of the Year Award (University division) and the Citizenship Award. The Barry J. Goldlist Teacher of the Year Award is presented to a Division member who has demonstrated excellence in teaching in the postgraduate program by the current year’s resident cohort. From 2018 to present, recipients were K. D’Silva, C. Wong, K. Ng, and T. Izukawa. The Divisional Citizenship Award recognizes a faculty member with a sustained record in serving the division through varied administrative contributions, the supervision of trainees, and promoting collaboration.

The division established an “Awards Lead”, held by Dr. C. Wong. As a result, division members are being nominated for and recognized with many more awards than in the past. This reflects the high caliber of the work being done by our division as well as the proactive identification of award opportunities and coordination of applications.

Division members provide leadership at the national level in the Canadian Geriatric Society. Dr. S. Marr co-chaired the Annual Scientific meeting in 2022 and stayed on the organizing committee in 2023. Toronto division members figured prominently on the agenda in plenary sessions and concurrent workshops.

Partnership and Relations

Prior to the COVID-19 pandemic, the division held annual workshops and retreats. On May 30, 2018, the division held a workshop on writing multiple-choice questions and preparing for CBD in Geriatrics (Katina Tzaentos, Marla Nayler, Scott Berry, Sue Glover-Takahashi). Another retreat was held December 5, 2018 with a focus on Wellness (Julie Maggi) and OHIP billing. The event was also an opportunity to recognize donors who have supported the division – Ms. S. Martin and Mr. M. Cipriano. Due to COVID, the retreats were paused. Instead, the division has held online networking events and a workshop on OHIP billing (February 23, 2023).

A key partner is the Regional Geriatric Program of Toronto; Dr. Barbara Liu leads as its Executive Director. The program is the clinical arm for specialized geriatric services and supports the interprofessional teams upon which the division’s clinical and teaching environments are based.

The RGP in turn partners with TAHSN to co-host the TAHSN-RGP senior-friendly community of Practice. Several division members participate in the TAHSN QUIP Community of Practice, which has a subgroup focused on delirium.

The division also partners with colleagues in the Department of Family and Community Medicine; several Geriatric Medicine faculty members conduct clinics within family health teams and provide opportunities for discussion about complex clinical issues. Additionally, family medicine residents participating in the care of the elderly training program attend the academic half-days with geriatric medicine residents. Many faculty are also cross-appointed to General Internal Medicine and contribute to clinical and teaching activities in that division. For example, Drs. N. Stall, R. Norman, R. Mehta, D. Gandell, and M. Norris also attend as staff physicians on the medicine clinical teaching units at their respective hospitals.

Geriatric Medicine is engaged in multiple clinical collaborations. Some of these initiatives involve colleagues from other clinical areas such as Oncology, General Surgery/Trauma, Orthopedics, and Burns. The division also provides regular teaching sessions for residents from other training programs, including General Internal Medicine, General Surgery and Orthopedic Surgery.

There are tremendous opportunities to grow clinical programs at each of the academic-hospital sites, but the availability of geriatricians is rate-limiting. There has been a substantial interest for geriatricians to engage in shared care with primary care, oncology, trauma, general surgery, hematology, rehabilitation, palliative care, and other areas. Additional clinical opportunities can arise in ambulatory, inpatient, and telehealth settings. Our division must weigh these opportunities while considering the strain on faculty members and their clinical services.



QUALITY AND INNOVATION (QI)/ ADVOCACY

Quality improvement is a growing priority for the division. Subspecialty trainees participate in the quality improvement (QI) curriculum, and several faculty members have also participated in the co-learning aspect of the curriculum. We recently transitioned the faculty liaison role to two early career QI division members (Drs. Katrina Piggott and Richard Norman). We completed certificate training in quality improvement. Trainees have been involved with QI initiatives such as promoting the use of person-centred language related to behaviours in dementia, loneliness, and vaccination updates. In 2020, the resident-led QI project on screening for loneliness and social isolation was ranked as a top 10 finalist in the NEJM QI 360 challenge.

QI initiatives being led by division members include:

- Surgical ACE program: develop an intervention to proactively address the medical needs of older adults undergoing urgent general surgery, inspired by the Acute Care for Elders (ACE) model employed in the general medical population (Sinai Health System) (R. Norman)
- Opioid deprescribing in older adults undergoing musculoskeletal rehabilitation (Bridgepoint) (R. Norman)
- Centralized intake hub at Sinai/UHN and wait time reduction (L. Romanovsky)
- Centralized intake for referrals to SGS in the Toronto Region (B. Liu)
- Improving care and reducing harm in the Veteran's Centre long-term care unit (K. Piggott)
- Supporting Sunnybrook's LTC+ team (K. Piggott)

- Collaboration with Sunnybrook's perioperative brain health team (K. Piggott)
- Working with the North Toronto Ontario Health Team and LOFT Community Services to improve and develop transitional models of care (K. Piggott)
- Delirium Quality Standards (Appendix C.2) Ontario Health Quality – Expert Panel Co-chairs – Drs. C. Wong and B. Liu
- HSO Standards for Long-term care (Appendix C.3) Chair – S. Sinha
- Key contributor to ALC best practice guidelines, OHA and implementation support
- Participation in OHA Care of Older Adults Provincial Summit 2022
- COVID responses
 - COVID scientific table, N. Stall, P. Rochon
 - Leading waste water testing initiative, S. Straus
 - IPAC+ Resource Library (Appendix C.4) – collaboration between Knowledge Translation Program at St. Michael's Hospital, Unity Health Toronto, in partnership with 20 organizations including the Ontario Ministry of Health and Long-Term Care and the Regional Geriatric Program of Toronto
 - Multiple resources developed in early days of pandemic to support care of older adults in the context of isolation (behaviours, communication strategies, housekeeping, preventing delirium, mobilizing to prevent deconditioning), RGP and B. Liu
 - Strengthening Health Care in Canada Post COVID-19 Pandemic (Appendix C.5), Royal Society of Canada
 - Restoring Trust: COVID-19 and the Future of Long-Term Care (Appendix C.6), Royal Society of Canada, Dr. S. Straus



LOOKING FORWARD

There has been substantial growth in the division over the past five years. However, a tremendous need remains for geriatricians to be able to meet clinical and education demands.

The goals of the division are to promote a safe learning culture for trainees and to continue nurturing our geriatricians. Geriatric Medicine is committed to identifying additional sources of funding for additional residency training spots and graduate training for those interested in academic careers. There is a particular need to create capacity in education to help meet needs associated with undergraduate and postgraduate curriculums. Divisional goals also include advancing research to optimize the quality of care for older adults and having an impact both nationally and internationally in this area.

To meet the population demand for clinical services, the division will need to recruit more clinician teachers. We will need to be strategic about the clinical work we undertake to leverage our unique expertise and continue to lead in knowledge generation, quality improvement and education. In the future, our clinical models will involve more community-based activities and preventive strategies as the future of clinical care for older adults will need to shift away from hospital-based care.

The division has responded to the challenges of the COVID-19 pandemic while undergoing a successful accreditation review. Division members have supported each other and our learners. While we paused some of our strategic initiatives, we also achieved several impressive milestones. We are proud of the resilience and nimbleness of our division members.



HEMATOLOGY



OVERVIEW

The creation of a combined Division of Adult and Pediatric Hematology is bold and innovative that both recognizes and responds to the fast-changing needs and advancements in the care of patients with inherited and chronic hematological disorders—malignant and benign. The Division brings together a rich and talented pool of clinician teachers, clinician educators and clinician scientists. It creates exciting opportunities to build the academic enterprise, stimulating interest in the Division’s training programs, creating new partnerships, increasing collaborations and investing in quality improvement and patient safety (QIPS) to tackle new and emerging challenges facing patients with hematological disorders across the entire age spectrum.

The extraordinary breadth of talent in Toronto and the formidable size of clinical programs, unique in Canada, demonstrate tremendous capacity in the Division across virtually all aspects of hematology. For example, its members manage among the largest programs in leukemia and hematopoietic cell transplantation in North America. The Division operates one of the largest programs in hemoglobinopathies in North America, making notable academic contributions. Practitioners of hemostasis-thrombosis continue to make an impact internationally in clinical trials. The training program, under the direction of Dr. Martina Trinkaus (and past directors Drs. Chris Chen and Eugenia Pilotis), is flourishing and continues to attract the best residents in the country. Toronto trainees have had a remarkable impact at the American Society of Hematology (ASH), especially in leadership roles on the ASH Trainee Council and as participants in the ASH Clinical Research Training Institute.

In alignment with the strategic direction of the Department of Medicine (DoM), the Division seeks to reinforce commitment and contribution to cutting-edge research in hematology at the basic, translational and clinical levels. The Division works to develop its strong training program to meet changing needs and align with innovations in the practice of hematology. The Division continues to develop a focus on quality improvement and advance new models of patient-centred care for patients with hematological disorders. This goal is achieved by supporting, sustaining and valuing Hematology faculty and ensuring that they receive appropriate ongoing mentorship and advice about career development.

The combined Division of Adult and Pediatric Hematology has extraordinary opportunities to discover, apply and communicate new knowledge in the field of hematology internationally, while actively training the next generation of leaders in academic hematology. Specifically, the Division is now better able to look at hematological disorders across the entire lifespan, from birth to end of life; this ability enables Hematology faculty to overcome limitations and create new care models that deliver quality healthcare to our patients.



GOVERNANCE

Department Division Director (DDD)

Dr. Isaac Odame is a staff physician in the Division of Hematology/Oncology and the Centre for Global Child Health at the Hospital for Sick Children. First appointed as Department Division Director in 2012, he is a Professor and Director of the combined Division of Adult and Pediatric Hematology in the Departments of Medicine and Pediatrics, Temerty Faculty of Medicine, U of T, and holds the Alexandra Yeo Chair in Hematology at the U of T. Dr. Odame will complete his second term as DDD in December 2023.

Dr. Odame's academic and clinical work has focused on sickle cell disease, and thalassemias and other hematological disorders. Currently, Dr. Odame is the Director of the Global Sickle Cell Disease Network based at the Hospital for Sick Children and Centre for Global Child Health that is committed to building enduring collaborations between clinicians and scientists worldwide. Under his leadership, sickle cell disease clinicians and scientists across Africa, the Middle East, India, Europe and North and South America are working more collaboratively in research initiatives aimed at delivering interventions that are evidence-based, cost-effective and sustainable over the long-term, particularly in low-income countries with the highest disease burden.

Executive Committee

Chaired by the DDD, Dr. Isaac Odame, the Executive Committee consists of the chairs of the committees on Research, Quality, Residency and Fellowship programs. It includes the heads of Hematology at the Toronto teaching hospitals—University Health Network (UHN), St. Michael's Hospital (SMH), Sunnybrook and the Hospital for Sick Children—and two chief residents (Appendix A).

Residency Program Committee

The Residency Program Committee, led by the DDD, consists of key faculty members who focus on education and a broad representation of PGY4 and PGY5 hematology residents. All the major training sites are represented on the Committee to help foster an engaging learning environment at all sites. (Appendix B)

Strategic Planning

The Division has held two strategic-planning retreats focused on defining strategy for aligning divisional goals with those of the DoM. The first, held in 2014, laid out a three year plan that was revisited in 2017 in accordance with the revised DoM strategic plan. Invitations were sent to all Hematology faculty, both full- and part-time, as well as the Chair, Vice Chairs and leading administrative staff in the DoM.

In alignment with Department of Medicine's 2020 strategic priorities, the Division strives to accomplish the following tasks:

Create a clinical and academic environment that promotes mutual respect, compassion, integrity and inclusion, and thus fosters the wellbeing of our faculty and learners. The division prioritizes mentorship and career planning for both faculty and trainees. We encourage and support faculty to pursue promotion and enhance support for junior faculty for greater success at three-year review. We continue, with the support of the DoM, to promote equity, diversity and inclusion (EDI) in our programs and administration, professional behavior and conduct of our educators and learners, humanism in medicine and, more recently, physician wellness and job satisfaction.

Innovate in models of learning and care to promote a sustainable, person-centred health care system that meets current and future population needs. We provide trainees with outstanding clinical and laboratory exposure and present them with cutting-edge research opportunities in hematology. The Division provides exposure to world class ambulatory and inpatient clinical care and state-of-the-art laboratory and diagnostic techniques. We also continue to explore opportunities that will further improve resident exposure to translational research. Ultimately, the Division's training program aims to provide residents, fellows and faculty with the tools they need to excel in scholarship and providing the highest quality of care to patients. <https://deptmedicine.utoronto.ca/vision-strategic-priorities>

Promote, sustain and amplify our international status as scholars in basic and clinical research, education, quality improvement and healthcare provision, ensuring that discoveries and new knowledge get to the patients and providers who need them. We continue to nurture and build relations to enhance and promote research activity amongst trainees and faculty in the Division, expand participation in both research and education, and to increase the number of trainees pursuing careers in academic hematology. Further, we continue to support working groups that promote quality and innovation. The Division strives to promote the scholarship of these contributions to further encourage interest and participation in broader citywide projects. Lastly, we promote recognition of scholarship across all position descriptions and academic activities that generate new knowledge that impact population health and healthcare.

External Review

In September 2022 the DoM commissioned an external review of the Division to inform recruitment considerations of the next DDD; the results of which were positive. The review was conducted virtually by Dr. Stephanie Lee from the Fred Hutchinson Cancer Research Center, Seattle WA USA and by Dr. Mark Crowther from McMaster University, Ontario Canada. The review was positive and provided strong recommendations that will be considered by the next Division Director along with the executive committee. The review included a broad range of faculty participants at different career stages and position descriptions. Review findings articulated praise for the Division faculty's scholarly outputs and to overall contributions to the discipline, education and population care. Areas for opportunity included continued work to advance equity between classical and non-classical hematology, addressing recruitment needs, particularly of clinician teachers and overall recommendations for enhancing community and citywide relationship building (Appendix E).

EDUCATION

The Division is training the next generation of academic hematologists who will be world leaders in research, education and teaching. Hematology residents are encouraged and expected to conduct scholarly activity during their training and to present their works in international forums. The mandate of the program

is to provide trainees with outstanding clinical and laboratory exposure and present them with cutting-edge research opportunities in hematology. The Division provides exposure to world-class ambulatory and inpatient clinical care and state-of-the-art laboratory and diagnostic techniques, but more can be done to expose residents to translational research.

The program offers a one-month research methodology course and actively encourages residents to engage in research. The Division of Hematology tailors training according to resident needs and future patient needs. It is the only school in Canada to offer an international rotation in Ethiopia through the Toronto Addis Ababa Academic Collaboration (TAAAC). Four hematology residents and two faculty embark on one-month rotations in Addis Ababa to teach Ethiopian hematology fellows and other postgraduate learners. This program is currently on hold due to the COVID-19 pandemic.

It should be stressed that COVID-19 has posed considerable challenges to Division programming which were immediately addressed by the program in the following ways:

1. The DoM requested PGY4/5s to be seconded to GIM CTUs during 4 of the 7 waves thus far. While we have had some residents volunteer for one-week GIM daytime rotations, the DoM recognized the high priority needs of our complex hematology population and we pivoted our rotation blocks to place trainees in high volume acute care hematology-based settings (i.e. malignant hematology, consults). This prevented a loss of teaching time from the program and enabled our trainees to serve our most vulnerable hematology patient populations.
2. Our heme-path curriculum was transitioned from in-person to virtual settings. The Toronto PD created an online virtual HP teaching portfolio running weekly with contributions from all Ontario hematology programs (and including all hematology Ontario based trainees).
3. All academic half-days were transitioned to virtual events, with novel opportunities for learning introduced. Examples include practical workshops in chemotherapy, transfusion medicine, and daily practice (i.e. billing, drug access navigation etc). The program has also started bi-weekly community-based rounds to mitigate against the possible loss of in-person care learning and the inability for trainees to travel to community sites.

- Certain rotations have instituted greater protected time for resident wellness.
- All after-hours scholarly events have been suspended to support resident wellness.

Postgraduate Medical Education

The Department of Medicine (DoM) Hematology Residency Training Program is the largest in Canada, currently with eight PGY5, and six PGY4. It has a robust teaching faculty (83 members) spread across six fully affiliated teaching hospital sites and 11 community centres. With the largest malignant-hematology site in Canada, the largest red blood cell disorders site in Canada, and the largest hemophiliac population in Canada, the program has tremendous strength and provides excellent opportunity for resident training. Unique learning opportunities exist in additional clinical settings such as the centres of excellence in Systemic Mastocytosis, HIV Lymphoma, and Cardio-Oncology.

Training programs run two-years. Upon the two-year training completion, 60% of trainees will enter a fellowship program with the remaining 40% entering a community practice. The residency program has increased exposure to research and encourages residents to explore formal research training.

Among the Division's priorities is mentorship. Residents would benefit from mentorship at the PGY1, 2 and 3 levels. Since 2013, there has been a dramatic increase of interest in Hematology among junior trainees. As an example, in 2008, only nine trainees across Canada applied to Hematology. In 2018 to 2020, over 35 highly competitive applicants applied to the Toronto program. All applicants had outstanding portfolios, with many having completed PhDs (i.e. the 2021 group had four residents with post-PhD completion) or having focused their training on education and teaching (with many of our trainees being past chief medical residents and completing Masters of Education).

Continuing Medical Education

A new quality improvement (QI) curriculum was added in 2013, and the academic half-day has continued to grow. Workshops in ethics and communications commenced in 2014, and the program now offers journal clubs, laboratory-based teaching and generous academic financial support including access to ASH conferences and educational resources. Specific improvements in mentorship and career planning for residents have focused on greater coordination

and flexibility of resident elective experiences. With the dedicated career counselling provided in our program, every trainee has entered their fellowship with subsequent academic position of choice or top ranked community position since 2013.

Competence by Design (CBD)

A key focus of the hematology training program over the next 18 to 24 months will be exploring the development of milestones and competencies in keeping with the Royal College of Physicians and Surgeons of Canada's thrust toward competency-based medicine. The Division is actively engaged in preparatory discussions with the Temerty Faculty of Medicine Office of Postgraduate Medical Education (PGME). A key goal is to determine how the program can improve the competency of trainees and enable them to function autonomously at the end of the 24-month training period. Changes to the longitudinal clinic structure are being implemented; they will affect some rotations and increase resident exposure to ward attending. Revisions to the goals and objectives of the training program were implemented in July 2014 and re-reviewed prior to our accreditation in 2019. Program evaluations were also revised to reflect the new objectives of the training program and facilitate constructive feedback provided to residents to improve their performance and fulfill their academic potential.

CBD launched with residents in 2022 and included residents participating in EPA evaluations. The objective is to enhance supervision of resident performance and to provide immediate and constructive feedback at the point of care. Additional opportunities for learning have been created in line with our EPA development including the addition of St. Michael's Hospital Consults to the home call portfolio, increasing transition to practice clinics in the PGY5 year and opening more procedure-based clinics early in the PGY4 year.



Rotation Evaluation and Virtual Support Tool

Historically, end-of-rotation evaluations have informed performance, but no systematic assessment existed. A brief survey with questions on program structure, resources, and identifiable strengths and weaknesses was recently released and followed up with one-on-one meetings with rotation coordinators. A surprising key theme was inconsistent levels of resources. In many instances, it was not clear where the residents would go on day one of a rotation or whether anyone would review the learning objectives with them. This process has since been updated as a year-end review with immediate implementation of changes based on feedback. The PD reviews ITERs and RESs monthly, then makes changes accordingly. Residents function as excellent advocates for flagging necessary changes to rotations, teaching schedules and call-schedules. These further respect learning and wellness for which the program strives to be accommodating when improvements are requested.

Following the lead of Undergraduate Medical Education (UGME) and Core Internal Medicine, we have created a virtual learning environment to support hematology programs via the U of T-supported student portal, Blackboard/Quercus. A repository is now available, and each rotation has its own section where residents and teachers can refer to learning objectives, timetable information (including where to go on the first day and whom to report to) and recommended reading lists (with library links and learning videos). The portal is used to promote journal clubs, fellowship opportunities and other information relevant to the program.

Fellowships

The DoM offers more than 120+ fellowships across our affiliated hospital sites. 14 of those fellowships are offered through the Division of Hematology (Appendix C).

The Division has made meaningful attempts to integrate Hematology fellows into the Division and include them in all events. Opportunities are being explored to enrich fellowship training through citywide disease-specific opportunities, but funding remains a key issue. Over the last four years, Hematology has made strides in developing the Alexandria Yeo Fellowship in Hemostasis-Thrombosis through funds accruing from the endowed chair held by the Division Director. With support from the DoM Development Office, Hematology has secured funding to create fellowships

in hemoglobinopathies and maternal-fetal hematology. The Division launched an endowed fellowship program in cell therapy and regenerative medicine in 2017 and a fellowship in complement-mediated disorders in 2020. Four recent faculty recruits in non-malignant hematology have been graduates from these fellowship programs. Through these steps, Hematology aims to create opportunities to train the next generation of leaders in academic and community hematology.

RESEARCH

Research programs in Hematology include fundamental discovery, translational research, and clinical trials run by world-class research teams in both benign and malignant hematology. Landmark lab-based discoveries have been made at U of T relating to mechanisms of hematopoiesis, the biology of malignant and normal stem cells, platelet function, and mechanisms of drug sensitivity and resistance. In addition, practice-changing clinical trials have been led by Hematology clinician investigators.

Hospital research institutes have historically held resources and driven the research agenda within our environment. The Division has addressed this challenge by aligning hematology research questions within the framework of the sites' specific areas of priority. This approach has helped to distinguish the Division and increase its funding success.

The Division has a prodigious and impactful track record of publications; they have a significant transformational effect on the field. The Armand Keating Award, named in honour of the previous Division Director, was created to recognize a Hematology faculty member's publication adjudged to have had the most impact every year. (Appendix D for the four most recent recipients.) In addition, top abstracts from Hematology faculty and trainees in the fields of basic science, clinical, quality improvement and education are recognized. A web-based tool has been introduced to provide a weekly email of peer-reviewed publications by Hematology faculty. It helps increase the awareness of ongoing research in the Division and promotes collaboration across the hospital sites.

The breadth of this research excellence is reflected in the Division's publication outputs and funding success. Between 2018-2023, the Division of Hematology (not including publications from Department of Pediatrics faculty) published 2,039 publications, generating 38,353

citations and an average H-index of 23.48. The Division reported research funding for the reporting period totaling \$127 Million across Division sites (UHN, SMH, SINIA and Sunnybrook). Funds were secured from a wide variety of sources including peer-reviewed granting agencies, industrial partners, and hospital foundations.

To encourage and support research initiatives in benign hematology, the Alexandria Yeo Chair Grants Competition was established four years ago. This grant provides seed funds every year to pilot two to three ideas related to benign hematology. An internal grant-review club led by Dr. Aaron Schimmer provides feedback on the grant applications using an internal peer-reviewed system.

The future of hematology research at U of T is continuously evolving; collegiality and collaboration are emphasized across various hospital sites as well as adult and pediatric hematology. In the future, increased emphasis must be placed on the meaningful integration of discoveries of basic science in routine clinical care to improve outcomes. Dedicated focus and research efforts will be needed on the applications of big data. Several investigators from within Hematology are using rich, administrative datasets from the Institute for Clinical Evaluative Sciences (ICES), which has the potential to reveal new insights to further new models of care and affect health-policy decisions.

Through the establishment of fellowship programs in thrombosis, maternal-fetal hematology, cell therapy and regenerative medicine, the Division is nurturing collaborations and partnerships with other divisions in the Departments of Medicine and Surgery and the Faculty of Applied Science and Engineering.

FACULTY

The Division of Hematology consists of 61 full-time, seven part-time and 21 adjunct faculty members. An additional nine members have status-only or emeritus appointments with the Division. Distribution of full-time Division of Hematology faculty according to job description includes nine clinician scientists, 15 clinician teachers, 30 clinician investigators, two clinician educators, four clinicians in quality and innovation, and one clinician administrator.

Lastly, the distribution of faculty varies across sites with the highest distributions at UHN (46), Sunnybrook Health Sciences Centre (9) and SMH (8). For faculty members,

Figure 11.1: Academic Position Description of Full-time Hematology Faculty

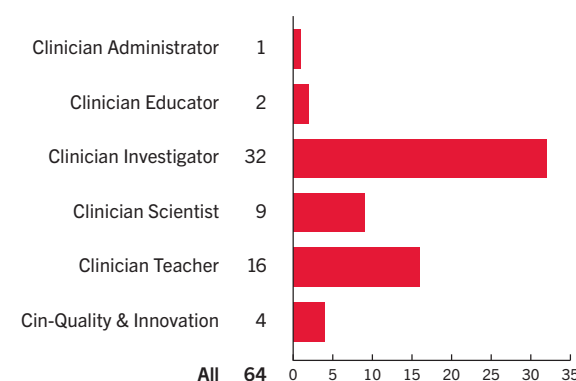


Figure 11.2: Affiliation of Full-time Hematology Faculty

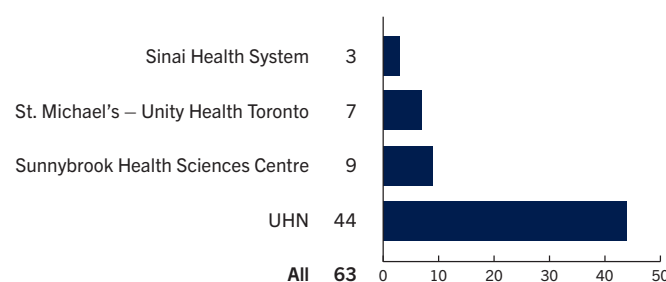


Figure 11.3: Current Rank of Full-time Hematology Faculty

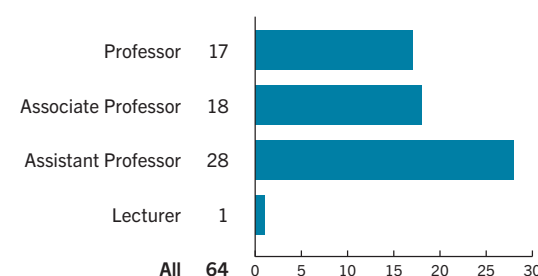
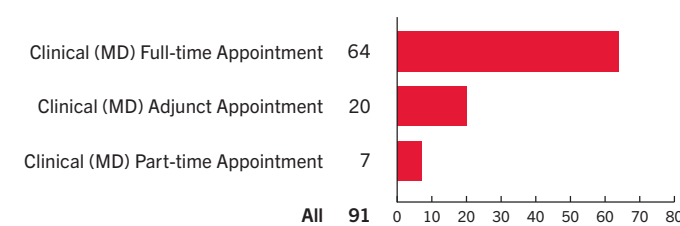


Figure 11.4: Primary Appointment of Hematology Faculty



the Division offers support, guidance and mentorship in establishing and maintaining an active research program. Hematology aims to foster multidisciplinary research that will advance the field of hematology. In the 2017 Faculty Survey, 84.6 percent of Hematology respondents stated they were satisfied with their careers. The DoM average was 86.3 percent. In response to questions addressing satisfaction with work in their hospitals and research institutes, 76.9 percent of Hematology faculty were satisfied. The DoM average was 60.8 percent. The DoM will again survey the Division Fall 2022/winter 2023.

While 69.2 percent of Hematology faculty had a formal mentor (DoM average: 45.9 percent), only 58.3 percent of Hematology faculty were satisfied with their mentors (DoM average: 67.1 percent). In the survey, 46.2 percent of Hematology respondents reported a feeling of burnout. The DoM average was 25.6 percent. The Division plans to address burnout and faculty wellness by expanding its mentorship program to both faculty and trainees, under the direction of Dr. Ian Quirt as mentorship facilitator. To meet teaching demands while launching competency-based education, the Division will also need to recruit more clinician teachers while strengthening capacity and resources to support clinician scientists. The DoM is working to support this, but we continue to face challenges posed by physician extenders, such as increasing resident numbers, retirement etc.

Continuing Education and Citywide Initiatives

Annual Academic Day

Formerly named Research Day, the annual Academic Day showcases academic and scholarly work across the Division. Participants include adult hematology, pediatric hematology and hemato-pathology faculty, residents and fellows, as well as medical students who have undertaken hematology-related research through the Comprehensive Research Experience for Medical Students program. Since March 2020, the Division has hosted annual day virtually due to the COVID-19 pandemic. Attendance continues to be excellent, and both content and opportunity for networking remains present.

City Wide Grand Rounds

Each hospital site has regular hematology rounds. The goal of City Wide Grand Rounds is not to replicate what happens in each site, but to stimulate cross-hospital participation in Division-wide academic discourse. These are held quarterly and feature international and local speakers at the frontiers of their fields. The visiting professors from across Canada, the United States and Europe interact with our trainees during Academic Half Days, deliver rounds on engaging topics and allow time for cross-divisional social interaction in external venues. During the COVID-19 pandemic, the citywide rounds have continued virtually, attracting international authorities in hematology without incurring travel expenses.

Other divisional activities include the following:

- community-wide journal club; suspended during COVID
- workshops covering topics such as diagnostic tools and/or techniques and community engagement;
- fireside chats with residents and practicing hematologists, including those who address burnout rates, career choices, anxieties about jobs (such as high demand for non-malignant hematology); suspended during COVID
- Canadian Hematology National Retreat includes an online HP exam, written exam OSCE, workshops and didactic lectures over 3 days coordinated and managed by the U of T program. This accredited training weekend provides sought-after continuing medical education for hematology trainees across Canada; it has been held virtually since 2020 due to COVID-19.

Awards and Recognition

In addition to the Armand Keating Award, the Division recognizes faculty with awards for the best and runner-up abstracts in education, quality and research: (Appendix C)

- The Jerry Scott Award recognizes the most outstanding teacher in the academic year (nominated by trainees).
- The DoM Pantalony Award recognizes an adult, pediatric or hematopathology subspecialty trainee who has exemplified excellence in the realms of clinical care, research, education and support of fellow trainees.
- The Michael A Baker Mentorship Award recognizes mentorship excellence as determined by Divisional faculty and staff.

Communication and Engagement

A quarterly newsletter shares Hematology Division news with faculty across teaching hospitals and community hospitals in Toronto. Messages from the Division Director and Program Director as well as news of awards and recognition of faculty and trainees are shared. The goal is to keep all faculty and trainees engaged in advancing the mission of the Division (Appendix D).

Wellness

The COVID-19 pandemic has posed significant challenges to the well-being of faculty and trainees. University and hospital-based resources for promoting well-being have been partly helpful, as have divisional efforts to deploy virtual platforms for learning and ambulatory clinical care.

Mentorship

The Division is working to strengthen and formalize its mentorship program. In 2017, Dr. Ian Quirt, Professor Emeritus and an accomplished mentor, was appointed the Mentorship Facilitator for the Division to oversee and ensure the mentorship of faculty and trainees. Specifically, the goal is to better support prospective promotions, career development and overall career satisfaction. To raise the profile of mentorship as a highly valued activity within the division, the Michael Baker Award for Mentorship was

launched in 2018. Each year since then, the award recipient is chosen through a survey of faculty in early or middle career.

Equity, Diversity and Inclusion

The Division is also conscious of gender and diversity balance within the Division. Beginning with entry into the UGME program, the Division hopes to recruit more people from diverse backgrounds into medical school. The Division continues to be diligent and promote better practices that enable inclusion and diversity amongst its faculty.

QUALITY AND INNOVATION/ ADVOCACY

Hematology is deeply invested in QI and patient care. To support the U of T Centre for Patient Safety, formal training programs have been introduced for faculty and trainees. Importantly, a new faculty job description was created in 2014 to recognize and align academic contributions to this new field with the University promotion process. Since then, five hematologists have faculty appointments with the job description of clinician quality and innovation (CQI). While QIPS is a fairly new focus for Hematology, encouraging advances are being made, especially in education through the Co-Learning Curriculum.



Through a working group, the Division has created informal networks with strategic investment to connect with members of the Division and trainees known to have interest in this area. The work being performed in the community often lacks exposure within the Division, resulting in its frequent lack of recognition. Promoting the scholarship of these contributors acknowledges their work and foster interest and participation in broader citywide projects.

Some quality initiatives include addressing consult wait times for hematologists, aligning pediatric and adult care/transition of care, and addressing the social needs of residents and trainees. The Hematology Institute, which aims to facilitate non-malignant hematology referrals and consults for patients from primary care across the Greater Toronto Area, is nearing its launch in the pilot phase.

LOOKING FORWARD

The next cycle of strategic planning will begin in 2023 to review current progress toward objectives and to develop the vision for the next five years. There has been much progress made over the last five years in faculty recruitment and development, academic advancement, mentorship, scholarly activities and academic collaboration in education and research, and EDI. There will need to be renewed focus on trainee and faculty wellness as well as quality and innovative processes to address the increasing demands for hematology services and need for recruitment. Strategies will need to be put into place to better promote the health and wellness of our learners and faculty in collaboration with hospital leadership. Further, as the current DDD is finishing his second five year term in 2023, recruitment and transition planning will be necessary. The DoM has launched a formal international search for the next DDD and will work to align the recruitment with the articulated needs of the Division mentioned earlier.

INFECTIOUS DISEASES



OVERVIEW

The Division of Infectious Diseases (ID) in the Department of Medicine (DoM) comprises 35 full-time and 24 cross-appointed and or part-time faculty members. Many of these faculty members are internationally renowned researchers and educators, and all of whom serve a population of more than six million people in the Greater Toronto Area. Our mission: we seek, identify, and respond to infectious disease issues of local, national and international relevance using a thriving academic enterprise of teaching, scholarship, health research and clinical-care provision.

The mandates carried forward by ID faculty are broader than those of many other DoM divisions, and our work can be summarized as follows:

We provide clinical infectious disease consultation services for both inpatients and outpatients, under the care of our colleagues in Internal Medicine, Surgery, Obstetrics and Gynecology (OB/GYN) and many other medical specialties:

- We offer specialized consultation services for:
 - post-travel and tropical medicine patients, through the tropical disease unit,
 - immunocompromised and transplant infectious disease inpatients and outpatients through dedicated clinical teams, and
 - people living with or at risk for HIV, through specialized HIV outpatient care and prevention clinics at each of the three downtown academic hospitals.
- Recently our clinical division fills key roles in local, provincial and international levels, including membership on provincial COVID-19 advisory tables (Drs. Johnstone, Morris, Bogoch, Andany, Gold, Ren, Zabokritsky and Hota), at the Provincial Infectious Disease Advisory Committee on Infection Prevention and Control (PIDAC-IPC; Drs. Hota and Muller), at the Ontario Advisory Committee on HIV/AIDS (OACHA; Dr. Kaul), presidency of the American Society of Transplantation (Dr. Kumar), at the International AIDS Society (IAS; Dr. Tan) and others.
- World-leading translational and basic research is performed in several areas, including transplant and immunocompromised infectious diseases, global health and emerging infectious threats, and HIV; this research involves a network of collaborative sites across Canada and in Africa, Asia, South America and Europe.
- Our Division proudly includes locally and nationally recognized leaders in medical education and quality, at both the undergraduate and graduate level.

Infection Prevention and Control (IPAC) teams teach at the downtown academic sites and enhance the safety and clinical outcomes of patients across the spectrum of clinical services. They provide training on outbreak planning and management, lead IPAC services at an extensive network of long-term care facilities, and conduct active and passive infectious disease surveillance.

- At each of our University’s academic sites, our antimicrobial stewardship teams provide guidelines and monitoring for the appropriate use of antibiotics. They aim to enhance patient outcomes, reduce the spread of antibiotic-resistant organisms, and rationalize healthcare costs.

Both our research and our training programs have a true global reach: more than 300 publications are published in high-impact peer-reviewed journals each year, and 6-10 subspecialty residents and 4-6 fellows are enrolled in our programs at any given time. The COVID-19 pandemic has better positioned our Division to be more agile in responding to changing environments and seizing new opportunities. This is assisted by the establishment of (1) a dedicated Chair in Emerging Infectious Diseases established at UHN (inaugural holder is Dr. Sharon Walmsley) and (2) the Emerging and Pandemic Pandemics Consortium (EPIC) at the University of Toronto, which has been instrumental in rapidly providing funds for a clinical and research divisional response to monkeypox in the summer of 2022.

Our increasing faculty ties to the Dalla Lana School of Public Health offer great promise, particularly for our trainees. The relocation of the Public Health Ontario (PHO) laboratory adjacent to the Toronto General Hospital site, which was until recently led by one of our former trainees, also provides unique opportunities for research and public health.

GOVERNANCE

Department Division Director (DDD)

Dr. Jennie Johnstone (June 1, 2023-May 31, 2028)
Appointed Division Director June 1, 2023, Dr. Jennie Johnstone is an Associate Professor and Infectious Diseases physician at University Health Network (UHN) – Sinai Health in Toronto and Medical Director of Infection Prevention and Control (IPAC) at Sinai Health. Dr. Johnstone shifted her primary appointment to the Department of Medicine effective July 1, with

a cross-appointment to the Department of Laboratory Medicine and Pathobiology.

Dr. Johnstone obtained her medical degree from Dalhousie University and completed her Internal Medicine and Infectious Disease training at the University of Alberta. Following her residency, she completed a clinical research fellowship in Edmonton and a PhD in Health Research Methodology (Epidemiology) at McMaster University. After her PhD she launched her program of research as an IPAC Physician at Public Health Ontario, practiced Infectious Diseases at St. Joseph’s Health Centre, and served as the IPAC Medical Director.

As she steps into this role, as the largest Infectious Diseases division in Canada, Dr. Johnstone aims to continue raising the profile of the division, enhancing cross-collaboration between hospital sites, developing a competitive recruitment and retention strategy, and applying a lens towards equity, diversity and inclusion.

Rupert Kaul (2013-July 1, 2023) Dr. Rupert Kaul was appointed as DDD of the Division of Infectious Diseases in 2013 and has served two terms in this position. He is a full professor and division head of Infectious Diseases at the University Health Network/Mount Sinai Hospital. Dr. Kaul became interested in HIV research soon after completing his infectious disease clinical training. For his initial research exposure, Dr. Kaul travelled to Nairobi where he studied a population of HIV resistant sex workers in Nairobi under the supervision of Dr. Frank Plummer from Winnipeg. He also worked with Dr. Stephen Moses to investigate the linkage between sexually transmitted disease prevention and HIV in a separate cohort. Today, Dr. Kaul’s research investigates the immune correlates of HIV susceptibility and transmission in cohorts of people from Canada, Uganda and Kenya.

In response to Dr. Kaul’s second term ending in June 2023, the Department of Medicine launched a formal external review in December 2022. Division faculty were engaged broadly across all levels of career and position description. Review findings were positive and highlighted divisional strengths, opportunities, funding and recruitment considerations for the next DDD. In February 2023, a formal national search for the next DDD was launched. Several exceptional applications were received and after careful review by the Search Committee, Dr. Jennie Johnstone was appointed as incoming DDD, starting June 1, 2023.

Division Executive Committee

The ID Executive Committee was established by Dr. Kaul after his appointment as DDD in 2013, and currently comprises the hospital division heads Dr. Rupert Kaul [DDD and division head, University Health Network (UHN/Sinai)], Dr. Linda Taggart (SMH), Dr. Nick Daneman [Sunnybrook Health Sciences Centre (SHSC)], Dr. Mona Loutfy (Women’s College Hospital), in addition to Education Lead Dr. Nisha Andany (Residency Training Program Director), Research Lead Dr. Sharmistha Mishra, and Mentorship Lead Dr. Sharon Walmsley. This Committee meets quarterly and on an ad hoc basis as needed to guide our full-time faculty in the vibrant and fast-moving subspecialty of infectious diseases.

Residency Training Program Committee

Training the next generation of infectious disease specialists is a priority for all faculty members. Our ID Residency Training Program Committee (RTPC) is headed by educator Dr. Nisha Andany and has representatives from the fields of ID education, research, community infectious disease, infection control and antibiotic stewardship.

Mentorship Facilitator

Dr. Sharon Walmsley, recent recipient of both the Order of Canada and outstanding mentorship awards from both the University of Toronto Department of Medicine and the Association of Medical Microbiology and Infectious Disease Canada, serves as our faculty divisional mentorship facilitator.

Strategic Planning

The Division’s most recent strategic plan was developed in 2015. The 2015 strategic plan has informed recruitment and fundraising strategies, enhanced citywide interactions, and clarified opportunities that align with individual hospital priorities.

Our specific goals were mapped into five core strategic priorities for the ID Division:

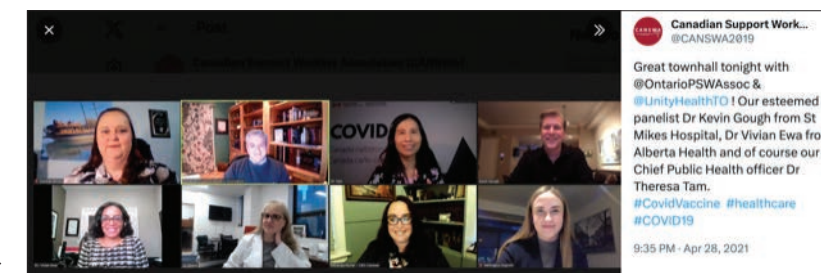
1. education and scholarship—we value teaching and learning, teachers and learners;

2. integration and translation of innovative research—we value a culture of discovery, including the development and sharing of new knowledge;
3. improved patient outcomes and best practices inpatient care and delivery—we value excellence and quality in the care and services we provide and advocate for partnership and collaboration;
4. partnership and collaboration—we value working within and beyond our own community to achieve our mission and vision; and
5. social responsibility and global accountability as academic responsibilities—we value integrity, commitment and the just use of our resources.

Review of priorities has not been conducted due to transition in leadership within the Division, along with reduced clinical burden resulting from the COVID-19 pandemic. It is expected the Division will undergo strategic planning in the summer 2024.

External Review

In December 2022 the DoM commissioned an external review of the Division to inform recruitment considerations of the next DDD; the results of which were very positive. Review was conducted by Dr. Dr. Jeanne Marrazzo, University of Alabama Birmingham, and Dr. Ted Steiner Head, UBC Division of Infectious Diseases. The review was conducted virtually and well attended by Division faculty. Participants included a broad range of faculty and partners at different career stages and position descriptions. Reviewers praised the Divisions for their scholarly outputs and overall contributions to the discipline, education, and population care. Recommendations and opportunities included: leadership exploring opportunities for fellowship and postgraduate medical education, and the need for fundraising and strategic planning. Specifically, planning should focus on talent pipeline, retention, city-wide networks and recruitment. (Appendix A)



EDUCATION

Undergraduate Medical Education

Several Division faculty members, particularly Dr. Susan Poutanen, ensure that excellent teaching in medical microbiology and antibiotic use are delivered through the undergraduate medical curriculum. Dr. Poutanen oversaw the development and continues to lead the delivery of the two-week curriculum on microbiology and infectious diseases that is taught to first-year medical students during weeks 12/13 of the Foundations Curriculum. Content includes an introduction to microbiology, common infectious diseases syndromes, antimicrobial stewardship, infection control and public health.

Subspecialty Graduate Trainees (Infectious Diseases)

The Division has proactively ensured a balanced clinical and educational experience among our three primary academic sites (UHN/Sinai, SMH and SHSC) as well as access to community-based hospital and office-based sites and programs through our part-time faculty.

Under the leadership of Dr. Nisha Andany, the RTPC continuously assesses community and academic ID job opportunities to determine the optimal subspecialty ID trainee allotment, and the ID residency training program passed Royal College accreditation with flying colours in 2021, with the final report simply stating that “In summary, this is an exceptional program”. Having successfully implemented a formal combined curriculum for IPAC and antibiotic stewardship recently, an important upcoming focus for the RTPC will be the development of milestones and competencies in keeping with the upcoming shift to a competency-based training program approach as mandated by the Royal College of Physicians and Surgeons of Canada (RCPSC).

The former Program Director Dr. Gold was highly esteemed by our specialty trainees, as evidenced by his receipt of the 2018 Canadian Foundation for Infectious Diseases Dr. John M. Embil Mentorship Award in Infectious Diseases and his nomination to the RCPSC for Program Director of the Year in both 2018 and 2021. It is already clear that his successor Dr. Nisha Andany will have the same success and impact.

However, while the ID subspecialty clinical training program is superb, sustainable funding platforms for our ID subspecialty trainees to complete further training in education and/or research have not been established; this is a key gap and is in contrast to many ID training programs in the US. Given the growing interest of our ID subspecialty trainees in postgraduate training (see below), the establishment of funding mechanisms to guarantee support for postgraduate training at the time of program admission should be a key priority going forward.

National Infectious Disease Residents Retreat

A highlight of the year is the Canada-wide Infectious Disease Residents Retreat, organized every summer by the subspecialty ID trainees. The agenda is set independently by the trainees based on current ID clinical trends, and clinical speakers are invited from all over the country. This has been tremendously successful: the average attendance is around 60 trainees and included approximately 80 percent of all ID/microbiology trainees across Canada. This retreat is largely financially supported through the annual ID divisional budget from the DoM.

Subspecialty Graduate Trainees (General Internal Medicine and Others)

Hospital-based rotations in clinical Infectious Disease are consistently some of the highest rated rotations for internal medicine residents around the city. We are proud of our excellent educational opportunities and teachers, who frequently win the top U of T teaching awards: these include the 2018 Wightman Berris Academy John W. Bradley Award for Educational Administration (Dr. Andrea Page), the 2016 Allan Knight Lifetime Achievement in Teaching Award (Dr. Anita Rachlis), and many others. Balancing the increasing demands of patient care with didactic sessions and ward rounds is an ongoing challenge, particularly given the reduced number of rotating trainees and the time requirements of the competency-based curriculum. However, to date, our Division has successfully maintained excellence in both patient care and teaching.

RESEARCH

Infectious Diseases is a very research-intensive division: 20/34 full-time faculty (59 percent) are appointed as clinician scientists or clinician investigators, and several of our Clinicians in Quality and Innovation also have very strong research portfolios. Division members collaborate with a broad range of stakeholders and have a strong focus on translational research. Interests span the spectrum from population-based ID epidemiology studies, which assess the impact of antibiotic use and antimicrobial resistance through clinical research, to state-of-the-art monitoring and modelling of emerging infectious diseases, to development of novel therapies and diagnostics, to fundamental research that understands ID pathogenesis at a molecular level.

Global health is an important aspect of research for many of our faculty who run internationally recognized programs around the world. **They study emerging and neglected pathogens such as malaria, schistosomiasis, leishmaniasis, HIV, Ebola, SARS-CoV-2, monkeypox and Zika virus.**

Research programs include the following:

- translational studies of the impact of maternal infections on neonatal brain development and childhood neurocognitive function (Kain);
- a cohort of Ebola infection survivors in Sierra Leone to assess long-term complications of this devastating infection (Chan, Mishra);
- clinical trials of novel treatments for malaria in Uganda and Malawi (Kain);
- clinical trials of novel HIV prevention approaches in Uganda and Kenya (Kaul);
- monitoring and modelling the epidemic spread of emerging infections such as SARS-CoV-2, highly antibiotic-resistant bacteria, Ebola, Zika and plague (Bogoch, Khan);
- programmatic interventions to reduce HIV risk among vulnerable communities in Ontario, Kenya, India and Ukraine (Tan, Mishra);
- Canada-wide cohorts of women living with HIV (Loutfy) and people aging with HIV (Walmsley and Zhabokritsky);
- an international, multicentre trial to assess optimal duration of antimicrobial therapy for severe bloodstream infections (Daneman);

- novel diagnostics and interventions for leishmaniasis in Peru (Boggild); and
- big data platforms to monitor the emergence of antibiotic resistance (Daneman);
- the Canada-Africa Monkeypox Partnership (CAMP) to characterize monkeypox transmission dynamics and control (Tan and others);
- multisite randomized clinical trial of TPoxx for monkeypox (Walmsley).

For the reporting period the Division totaled \$64.688 million in funding support, of which funds supported operations, fellowships, clinical work, scientist salary support and re-research funding from CRC-Scientist-Tier 1. These grants were secured primarily through peer-reviewed grants and hospital foundations, with some additional support from industry partnerships and or not for profit agencies.

During this time, the Division also produced more than 1,793 publications, of which 1,723 were peer-reviewed journal publications, totaling 32,046 citations, and an average H-index of 30.31. Three of the DoM-supported research networks have an infectious-disease focus, including the HIV Research Network, the Toronto Antimicrobial Resistance Research Network (TARRN) and the Emerging Infectious Disease Research Network. In addition, we intermittently offer a seed-grant program for faculty within their first five years of appointment; these Early ID Researcher Awards are adjudicated by our ID Executive and awarded annually in amounts between \$10,000 and \$20,000. We also provide support for summer students on a competitive basis.

Hands-on exposure to research is part of the training experience for all ID subspecialty trainees. Over the past few years, our trainees have completed research projects in Canada, Kenya, India and Peru. These experiences have led several to consider research careers; three ID trainees have enrolled in postgraduate studies at the Universities of Toronto and Oregon, with formal support through the U of T DoM Clinician Scientist Training Program. While one of these trainees is taking a Clinician Investigator position at UHN in January 2023, there are critical gaps in salary support for ID faculty researchers that pose a substantial barrier to expanding – or even to maintaining – ID faculty research.

The research and creative professional activity has had substantial impact at the national and international level. For instance, the antimicrobial stewardship resources established by Dr. Andrew Morris—including YouTube videos, webinars for Accreditation Canada and the stewardship website www.antimicrobialstewardship.com—are among the highest accessed stewardship resources internationally. He also led the Ontario COVID-19 clinical guidelines group. Dr. Kamran Khan established BlueDot, a Certified B Corporation for social benefit, to translate and implement his research platform, which tracks emerging ID epidemics using big data and web and mobile technology. Using seed investment from Medical and Related Sciences (MaRS) Innovation and Sir Li Ka-Shing in Hong Kong, BlueDot has grown to more than 60 employees and has national and international clients such as the Public Health Agency of Canada, the U.S. Centers for Disease Control and Prevention and the White House. In early 2018, BlueDot received the Canadian Innovation Award for best company in the category of health, and Dr. Khan was the inaugural recipient of the Temerty Health Nexus Chair in Health Innovation and Technology. Drs. Khan and Bogoch have used these tools to generate high-impact work on SARS-CoV-2, Ebola, Zika, plague and other emerging infections, including the very first published report of the emerging coronavirus infection that became the COVID-19 pandemic. In addition, Dr. Samira Mubareka was the first researcher in Canada to isolate and characterize the virus, resulting in an invaluable national resource for research.

FACULTY

Recognizing our faculty achievements is very important, even more so in the era of COVID-19 due to high levels of stress and burnout among ID faculty. At present, the DDD sends a quasi-monthly email blast to ID faculty around the city, updating them on recent accomplishments and upcoming events. In addition, in 2016 we established annual Division of Infectious Diseases awards for mentorship, and separate awards for both early and late faculty teaching and research; these awards are independent of existing awards at the hospital and University level. At our most recent ID Executive meeting (Sept 2022) it was agreed that additional awards will be generated from 2023 forward for (1) leadership and impact; (2) advocacy and social responsibility; and (3) community-based infectious disease education.

Gender and equity have been important areas of focus for the ID Division. The Division is predominantly male (21/34 full-time DoM-appointed faculty; 62%) and all ID division heads up to the present time have been male. There has been positive change over the 2018-23 period. Specifically, there have been 14 new full-time DoM-appointed ID faculty recruited of whom 8 (57%) are female. The establishment of an ID Executive provides an opportunity for equity in ID divisional leadership, with 5/7 (71%) of the current ID Executive being female.

Continuing Education and Citywide Initiatives

Division-wide events that bring people together include weekly citywide ID rounds, a summer “meet and greet” when faculty are introduced to new trainees and have three-minute opportunities to showcase their research interests, and annual summer and winter social get-togethers; unfortunately, the latter get-togethers have been on hold since 2020 due to COVID-19. In addition, the new DoM research networks have spun off three ID collaborative groups—in the fields of HIV, antimicrobial resistance and emerging infections—that have really helped to catalyze citywide interaction both within our Division and with other departments and institutions.

Up until 2020, a highlight of the year had been the annual Infectious Disease and Microbiology Research Day, which is co-organized by Dr. Kaul (DDD) and Professor Scott Gray-Owen from the Division of Molecular Genetics. The first day of this 2-day event is a “trainee day” that features oral presentations from more than 20 trainees and spins off many collaborations.



Figure 12.1: Academic Position Description of Full-time Infectious Diseases Faculty

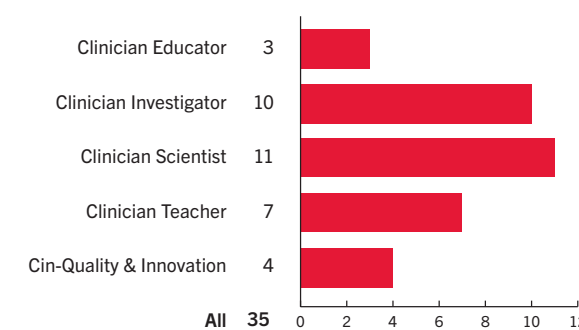


Figure 12.2: Affiliation of Full-time Infectious Diseases Faculty

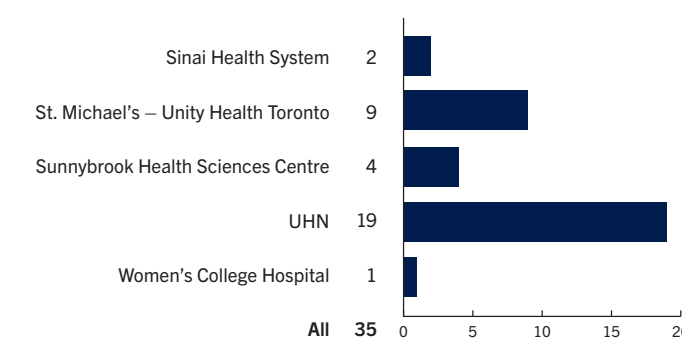


Figure 12.3: Current Rank of Full-time Infectious Diseases Faculty

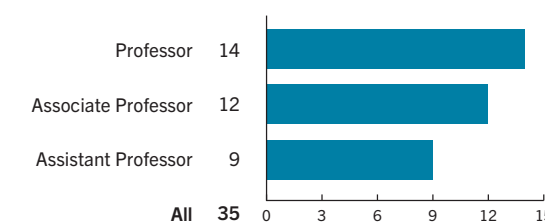
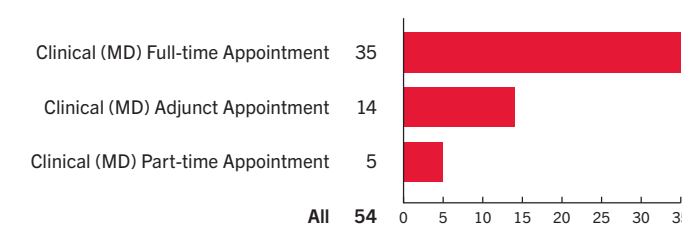


Figure 12.4: Primary Appointment of Infectious Diseases Faculty



This second day is a combined faculty/trainee event that showcases:

- newly recruited ID investigators from around the city,
- one or two external keynote speakers, and
- poster presentations from ID-focused primary investigators (PIs) and trainees across many University departments, including Medicine, Pharmacy, Public Health, Molecular Genetics, Laboratory Medicine and Pathobiology, Biochemistry, Structural Biology and other organizations including PHO.

The Research Day has been on hold since 2020 due to COVID-19 but will resume June of 2023. This is particularly important for the division because the Research Day serves as a citywide opportunity for ID researchers to network since the dissolution of the U of T Department of Microbiology almost 20 years ago.

Equity, Diversity and Inclusion

The Division continues to work towards enhancing and advocating for diversity and balanced representation of faculty. The Division has seen gender balance in ID divisional awards since 2016, with 11/24 (45%) awarded to female faculty, and a predominance of female faculty being nominated for and receiving external awards. Diversity within the Division remains limited, as within the overall DoM faculty, and in particular ID, there are currently no African, Caribbean or other Black (ACB) full-time DoM-appointed ID faculty.

Wellness

Faculty well-being and satisfaction are challenges on account of the balance of clinical, academic and growing population needs. Reductions in trainee support and increased demands on faculty time for service and teaching have contributed to these challenges. This situation will be exacerbated by the new RCPSC-mandated competency-based curriculum, increased patient numbers and patient care demands, and a reduced ability to recruit additional ID clinical staff. Addressing dwindling salary support for “non-clinical, non-remunerative” activities such as research and education will be particularly important. The COVID-19 pandemic especially challenged the Division. Faculty face spending more time on clinical activities and less time on career goals associated with those of the clinician investigator, clinician scientist, clinician educator, and clinician in quality and innovation. Engagement of the academic hospitals will continue to be important for recruitment to lessen these gaps.

The next DDD will be encouraged to continue working with hospitals and or affiliated research institutes to identify infectious diseases as part of their strategic plans to further increase recruitment opportunity to address faculty and physician shortages.

Mentorship

Faculty collegiality, wellness and quality of life are major focuses for the ID Division. Supporting our early faculty is particularly important, and it is critical that they be well prepared for their continuing academic appointment review (CFAR). Both formal and informal efforts have been made to support and nurture faculty and to recognize the important role of mentorship—both to support new faculty and ensure that the experience of more senior faculty can be most efficiently shared with the rest of the Division.

We have a formal system of assigning appropriate mentors to all new faculty; the DDD holds annual meetings with all faculty and ensures mentorship is active. Dr. Sharon Walmsley was appointed the Divisional Mentorship Lead in June 2018 as part of a DoM-wide mentorship initiative. In addition, she will formally assess the mentorship needs and wants of more senior faculty members. The great success of our Division mentorship is highlighted by the national mentorship awards that have been received by Drs. McGeer, Walmsley and Gold.

LOOKING FORWARD

Research: A key opportunity we will leverage is the proximity of our faculty to the NEW PHO laboratory in the MaRS building. The Division intended to do this in 2020 but was delayed in part because of the “all hands-on deck” approach that overtook both PHO and our academic ID faculty due to COVID-19. Importantly, the pandemic has facilitated productive collaboration. Specifically, DoM ID faculty (Daneman, Coburn, Chan and others) have initiated collaborations with PHO (Brown, Schwartz). In addition, Sinai Health IPAC Director Dr. Jennie Johnstone has a 50 percent co-commitment to PHO and going forward this will enhance the Ontario-wide research opportunities. If sufficient support is obtained, we plan to recruit clinician scientists who can make the most of big data opportunities afforded by PHO and generate significant academic outputs that can have a meaningful impact on policy and public health.

Another crucial opportunity is the UHN Tropical Disease Unit, led by clinician scientist Dr. Andrea Boggild. Its infrastructure is ideal to expand our research (particularly into emerging infectious threats) and reach. Furthermore, the new Toronto Antimicrobial Resistance Research Network, headed by Dr. Nick Daneman, has brought together ID faculty with ID epidemiologists and microbiologists from across Ontario, providing the opportunity to lead at both national and international levels in this field.

Advancement: Clinical divisions are increasingly expected to fund their activities with external financial sources. However, this poses a great challenge for the ID division because of the short-term nature of many infections, the fact that ID clinicians serve more as consultants than most responsible physicians, and the disparate nature of our activities (IPAC, ASP, microbiology, research, education, etc.). We work with the fundraising teams at both the University and hospital level, but successes have been few, and novel approaches are needed. The COVID-19 pandemic has highlighted the crucial role of the clinical ID division, and despite the challenges, we have successfully raised funds for only one ID-specific chair – the Speck Family Chair in Emerging Infectious Diseases at UHN – which has been awarded to Dr. Sharon Walmsley as the first recipient. Much more work and advocacy are needed in this area going forward to better support the critical “non-billing” academic activities of our clinical faculty.



Scholarship: Equally important, is improving opportunity for scholarly outputs of our cross-appointed faculty. Although they have access to a more stable salary funding model through Laboratory Medicine, reduced staffing levels and increased workloads of our cross-appointed Medical Microbiology colleagues have reduced their own clinical and research interactions with DoM-appointed ID faculty in the division. The consequences are clearly negative for research outputs and potentially for positive patient outcomes. Reversing this trend will require careful planning and advocacy at several levels.

MEDICAL ONCOLOGY



OVERVIEW

The University of Toronto's Division of Medical Oncology is a dynamic and rapidly evolving specialty that provides ample opportunities in research, teaching and creative professional activity. While one of the newest subspecialties within the Department of Medicine (DoM), the Division has quickly expanded to 102 members. With 64 full-time members, it is one of the largest divisions in the Department. Full-time faculty are based at Mount Sinai Hospital (MSH), St. Michael's Hospital (SMH), Sunnybrook Health Sciences Centre (SHSC) and Princess Margaret Cancer Centre (PM)/University Health Network (UHN). There are 38 part-time or adjunct faculty members located at affiliated hospitals (Women's College Hospital, Trillium Health Partners, Michael Garron Hospital, North York General Hospital, St. Joseph's Health Centre, William Osler Health Centre) and community affiliates (Royal Victoria Hospital, Markham Stouffville Hospital, Southlake Regional Health Centre, Lakeridge Health Network, Scarborough Hospital, Rouge Valley Health System). The Division also includes six medical genetics faculty based at Mount Sinai and UHN. While clinical research plays a large role within the Division, approximately 50 percent of the faculty hold the role of clinician investigator or scientist. A substantial growth is seen over the last several years in faculty whose academic focus is education or quality. Many members hold leadership roles in provincial, national and international oncology organizations such as Cancer Care Ontario, Canadian Clinical Trials Group and the American Society for Clinical Oncology (ASCO).

The Division aligns with DoM strategic priorities in many ways. We created a new committee to support faculty and trainee wellness in 2022. A key priority is fostering a sense of community by revising existing Division-wide events such as research day to increase engagement and launching new community building events. During COVID, we held virtual roundtable discussions to facilitate engagement among medical oncologists from across the Greater Toronto Area to discuss ways to deliver care during the pandemic and support each other. The Division actively implements policies and practices to enhance equity, diversity, and inclusion, ensuring all faculty recruitment adhere to best practices. Our division is globally renowned in cancer research and education, attracting trainees worldwide interested in a career in academic medicine.



The Executive Committee meets nine times per year via Zoom. During the pandemic, meetings changed from in-person to virtual. The continuity of these meetings throughout the pandemic provided a crucial platform to ensure the Division continued to voice and address the needs of its learners, faculty, and patients during the global pandemic. In 2020 and 2021, the Executive Committee elected to proceed with the annual grant competition, trainee abstract competition, and annual Research Day, which were held virtually and achieved the highest attendance records at the peak of the pandemic.

GOVERNANCE

Department Division Director (DDD)

Dr. Monika Krzyzanowska was appointed DDD on September 1, 2018, for a five-year term. Dr. Krzyzanowska is a medical oncologist and health services researcher at the Princess Margaret Cancer Centre within the University Health Network and a Professor of Medicine at U of T. In her first term, her key goals included ensuring high-quality education across the learning continuum, supporting rewarding careers in academic medicine for the Division's trainees and faculty, increasing engagement in divisional activities and creating a sense of community. However, the pandemic, health human resource (HHR) challenges and physician wellness were key unexpected challenges.

Division Executive Committee

The Division of Medical Oncology Executive Committee consists of a diverse and dedicated group of mainly volunteer physician leaders. The members represent each academic site, lend specific expertise to critical administration and governance decisions, and participate in Executive subcommittees. Several members hold leadership positions on committees at Cancer Care Ontario, the Toronto Academic Health Science Network (TASHN), and the American Society of Clinical Oncology. The Executive Committee members report site-specific opportunities to enhance the learner experience and foster faculty wellness. Additionally, the Executive Committee reports on site-specific recruitment, reviews and approves the annual budget, secures philanthropic funding, adjudicates the local grant competition and divisional awards, and communicates DoM policies, initiatives, and opportunities at their local sites. The two appointed roles, Mentorship Lead and Wellness Lead, align with the Department of Medicine Strategic Plan. The Executive Committee and its subcommittees maintain a gender distribution of nearly 50 percent gender balance.

Strategic Planning

In 2021, the Division of Medical Oncology embarked on a strategic planning refresh at the height of the global pandemic. This process consisted of several focus groups, 1:1 interviews, and reflection materials. It engaged faculty members across all academic position descriptions, clinical sites and levels, including genetics faculty members. Common themes identified were heavy clinical and administrative workloads while managing increasingly complex oncology patient care. This further reduced the already compromised protected time for research and teaching. Faculty wellness was compromised due to the sacrifice of personal time to meet these conflicting demands. The pandemic further exacerbated these imbalances.

Collectively, the Division of Medical Oncology and Genetics faculty committed to creating “an inclusive division that delivers excellence in education, research and patient care while promoting wellness amongst its staff and learners.”



Three strategic priorities were articulated to translate this vision into practice:

1. Promote and actively support our faculty with their careers;
2. Create a clinical and academic culture that is built on faculty wellness, collaboration and connection;
3. Drive academic innovation and excellence in our education, research and patient care

The Division of Medical Oncology has started implementing these priorities, focusing first on Wellness and Education goals.

A review of priorities has not been conducted due to transition in leadership within the Division, along with increased clinical burden resulting from the COVID-19 pandemic. It is expected the Division will undergo strategic planning summer 2024.

EDUCATION

The Division has 38 faculty members identified as clinician teachers, clinician educators or lecturers across multiple hospital sites. Key features of the Division are the Medical Oncology Training Program (MOTP) and the fellowship opportunities. The University of Toronto (U of T) is the largest of the 13 accredited training programs in medical oncology in Canada and received a high distinction accreditation rating in 2020. Under the leadership of MOTP Program Director Raymond Jang, and the fellowship directors Eitan Amir (PM/MSH), Lisa Chodirker (OCC), and Yooj Ko/Ronita Lee (SMH), the medical oncology formal training programs are in high demand. Collaboration between the Division of Medical Oncology and the Division of Hematology is particularly evident in the education program as the divisions are combined at the hospital-site level.

There are more than 50 accredited Medical Oncology postgraduate fellows working at Princess Margaret, MSH, the Odette Cancer Centre (at SHSC), and SMH. The Division of Medical Oncology education programs are dedicated to developing trainees for academic positions as clinician scientists, investigators, teachers and clinicians in quality and innovation both nationally and internationally.

As articulated by the 2021 strategic plan, education priorities seek to drive academic innovation and excellence in Medical Oncology education, research and patient care. It also prioritizes to improve oncology education for oncologists and non-oncologists. This advocacy will advance the overall



academic mission by engaging community partners, increasing transparency, and strengthening Division-wide collaboration in clinical trials/research. Together, this will support models of patient-centred care that can be applied at any site. To achieve these goals, the Division is planning an education strategy refresh under the leadership of Dr. Susanna Cheng which will be launching in September 2023.

Undergraduate Medical Education

The Division plays a significant role in the pre-clerkship portion of the Undergraduate Medical Education (UGME) curriculum, delivering lectures and seminars; facilitating problem-based learning tutorials, portfolio programs, Enriching Educational Experiences (EEE) and Determinants of Community Health projects; as well as participating in Integrated Clinical Experience (ICE) 1 and 2. In the clerkship portion, the Division is active in the preceptorship program, ambulatory clinic component and integrated objective structured clinical examination (OSCE).

Dr. Susanna Cheng is the Divisional Lead for undergraduate medical oncology. She has won numerous teaching awards and has been site supervisor for the undergraduate medical oncology program at the Sunnybrook Odette Cancer Centre for the past 18 years. She has been involved in the development of national medical oncology objectives for medical students. She co-leads with Dr. Derek Tseng (a radiation oncologist) and Dr. Jordan Goodridge (a Foundations director) in Complexity and Chronicity (CNC) Year 2 Oncology week for the last five years. As a co-lead, she is responsible for delivering cancer week lectures, creating and conducting large group CBL as well as cancer week MCQ exam preparation. She also chairs the Medical Oncology Undergraduate Education Subcommittee; its mission is to “inspire and foster interest in medical oncology through role models and mentors; observerships and electives; and research opportunities”.

CREMS Program

Dr. Geoff Liu, the Division Research Lead, oversees the divisional support of the Comprehensive Research Experience for Medical Students (CREMS) program. The program originally provided medical students in Years 1 and 2 an opportunity to do research within a 20-month program or through a summer program originally, but recently CREMS has focused only on summer studentships. The Division has utilized the CREMS program to identify promising young trainees, through faculty involvement in oncology interest groups and through the increased engagement of faculty role models in the undergraduate curriculum. There has been a median of two summer students in the CREMS program (range 0-4) per summer in the past 5 years. Medical Oncology Faculty across all sites apply for students through the program by describing a project, and the program selects only certain applications for co-funding. If a project is approved, then the position is posted, and the faculty selects the U of T medical student. In terms of track record of success, examples of former CREMS students who have now gone into Medical Oncology include Dr. Lawson Eng (PM faculty); Dr. Yuchen Li (medical oncology resident, McMaster; soon to be medical oncology fellow, PM starting July 1, 2023); and Samuel Chan (incoming medical oncology resident, McMaster; July 1, 2023). There is now at least one more former CREMS student who will be an upcoming applicant for 2024 Medical Oncology residency, who is a Chief Medical Resident for 2023-2024. Members of the Executive Committee meet with undergraduate medical students interested in oncology, and provide information about research and clinical opportunities. In addition, the Oncology Interest Group has annual presentation evenings where medical oncologists from academia and the community provide a Q&A session; Dr. Liu has attended as the clinician-scientist representative, along with other community oncologists, clinician-investigators, clinician-educators, and clinician-quality improvement oncologists.

Clerkship

The Division receives both national and international Year 3 and 4 clerks to participate in electives and selective in medical oncology. Observerships are offered for Year 1 and 2 medical students at U of T. Many of these students go on to careers in medical oncology or associated fields.

The Division is active in shaping the education and fostering students' interest in medical oncology from Year 1 to Year 4.

Postgraduate Medical Education

The Medical Oncology residency training program (MOTP) is designed to foster clinical and academic excellence while providing an advanced understanding of our field and its central role in cancer care. In our supportive academic community, residents thrive and graduate fully equipped to embark on their career as Medical Oncologists.

The Medical Oncology Program at U of T collaborates with undergraduate medical education in many ways. Our faculty are involved in all aspects of teaching and mentorship of medical students. These wonderful mentors, teachers, researchers and clinicians are passionate about education and committed to the highest quality of patient care.

Medical Oncology is a popular elective among medical students and many residents in our program “discovered” oncology while doing clinical or research electives as medical students. At the pre-clerkship level, our faculty deliver lectures, teach clinical skills courses, offer clinical observerships, and lead small group seminars. At the clerkship level, our program hosts clerks for 2-4 week electives in medical oncology.

Our MOTP residents play a key role in the teaching of medical students both in clinic and inpatient consultation review. For residents who are interested in teaching, plenty of opportunities exist to be involved in UGME such as serving as a clinical skills tutor or being a mentor in a longitudinal academic mentorship program for medical students.

Additionally, many MOTP residents are involved in research projects supervised by world-renowned oncologists. This sharpens research skills while fostering early 1:1 mentorship relationship with faculty. Resident projects stemming from this opportunity have led to publications in high-impact medical journals and invitations to present posters at international and local conferences – including our own Medical Oncology Annual Research Day held in June each year.

The MOTP trains residents in the clinical and scientific aspects of diagnosing and comprehensively managing patients with neoplastic diseases. The program's primary purpose is to produce well-trained medical oncologists who are knowledgeable in all aspects of cancer care but with specific skills in using systemic therapies

for treating patients with cancer. The training program strives to recruit the best candidates and train them to be the future leaders in oncology, both in Canada and globally.

The two-year training program offers a comprehensive experience with a core that consists of five medical oncology rotations at MSH (3 blocks), Princess Margaret (6 blocks), Odette Cancer Centre (6 blocks), Trillium Health Partners (3 blocks) [previously Credit Valley Hospital CVH]), and St. Michaels Hospital (1 block). The program offers a wide variety of clinical experiences at major academic comprehensive cancer centres, a general hospital and a community comprehensive cancer centre. Notably, Trillium Health Partners offers the only mandatory community medical oncology experience in any MOTP in Canada.

As part of the core rotations during PGY4, all residents gain experience in malignant hematology, radiation oncology, and palliative care. The MOTP trains 5-6 residents a year, making it the largest training program in Canada.

The structure and program highlights of MOTP are available at Appendix A.

Fellowships

SHSC and PMCC both have vibrant fellowship programs. In addition, there are currently fellows at MSH (4) and SMH (1). Traditionally these fellowship programs have been coordinated by individual hospitals. Many fellows undertake research projects and complete additional formal training in research, quality improvement or education. They often present at major academic meetings and receive awards for scholarly activity (e.g., ASCO Merit Awards) and publish in high impact journals. The fellows go on to take up senior positions at both U of T affiliated institutions as well as other academic institutions in Canada (e.g., BC Cancer Agency or Ottawa Hospital Cancer Centre) and worldwide (e.g., Peter MacCallum Cancer Centre, Melbourne, Australia, The Christie, Manchester, UK).

Sunnybrook Health Sciences Centre

The strong fellowship program at SHSC has been running for more than 20 years. Fellows are accepted each year from all over the world and are encouraged to stay for at least a two-year period and undertake a master's program in clinical epidemiology, medical education or basic science. There are fellows in a variety of sites, including breast cancer (2), hematology (2), melanoma (1), gastrointestinal

(1), neuroendocrine (1) and lung (1). A Fellows Committee, consisting of Drs. Lisa Chodirker (Chair), Urban Emmenegger, Simron Singh, Anthony Lott, Katarzyna Jerzak, Rossanna Pezo and Lee Mozessohn, selects and supervises these fellows.

Princess Margaret Cancer Centre

The Princess Margaret Cancer Centre (PM) Medical Oncology Fellowship program has continued to expand. In 2022, there was a total of 53 fellows in the U of T Division of Medical Oncology across numerous disease sites, including Acute Oncology (4), Breast (11), Cancer Genetics (1), Gastrointestinal (9), Genitourinary (8), Gynecological/Drug Development (4), Head & Neck (1), Lung/Thoracic (4), Melanoma/Skin (6), Neuro-Oncology (2), Phase 1 (6), Sarcoma (4), Geriatric Oncology (2), and Endocrine Oncology (2). Fellows are accepted throughout the year and encouraged to seek formal postgraduate training through the U of T SGS program. Some fellows complete a fellowship in more than one disease site. There is a strong Medical Oncology representation on the Fellowship Committee consisting of Drs. Eitan Amir (Director), Anna Spreafico and Sam Saibil. Looking forward, a new Director will be appointed in June 2023.

The PM Fellowship program aligns training with population needs on cancer-related clinical and research. Fellows are supervised by one or more full-time staff medical oncologists or hematologists, and gain exposure to diverse areas of clinical and research expertise, including Basic and Translational Research, Experimental Therapeutics, Clinical Trials, Health Services Research, Trial Methodology, Quality and Innovation, Research Ethics, Medical Education and Supportive Care.

Competence by Design (CBD)

As one of the first specialties to launch Competence by Design (CBD), our program fully meets or exceeds the Royal College requirements for CBD curriculum.



RESEARCH

The Division is a driving force in cancer research in Canada, with 48 percent of the divisional faculty belonging to clinician investigator or clinician scientist streams. In addition, some faculty in the quality improvement stream also perform research. The faculty have diverse research expertise, ranging from molecular biological laboratory research to clinical trials and health-services research. Many individuals have key roles provincially (Cancer Care Ontario), nationally (Canadian Cancer Trials Group) and internationally (ASCO).

Division faculty secured grants amounting to \$258.218 million over the report period. The Division has produced 3,543 publications, generating 100,817 citations and an average H-index of 28.81. Internationally, the Division is also known for its specialty clinics and programs. They range across all disease sites and are a source of a robust patient base that supports clinical and translational research.

Division excels in collaborations and partnerships at local, national and international levels. Locally, this includes the Cardio-Oncology Research Network aimed at improving the prevention, early recognition and management of cardiovascular toxicity from cancer treatment, especially in breast cancer. The Lusi Wong Early Detection of Lung Cancer Program has become the cornerstone of national and international lung cancer screening tools. Division faculty are active members and leaders in many co-operative clinical trial groups such as the Canadian Clinical Trials Group and the National Cancer Institute.

Strategic Innovation Grants

The Division and its Executive Committee have two primary missions: fostering citywide research collaboration, and strengthening research capacity within the Division through enhanced networking, sharing and collaboration among researchers and trainees. This collaboration is integrated into the Division's Strategic Innovation Research Grants. These grants were established in 2011 by Dr. Kathy Pritchard, Professor Emeritus and former DDD for our Division. These grants (\$30,000 over two years) have grown to become a premier source of seed funding for innovative research projects that has had lasting impact on clinical and translational research, knowledge translation, and clinical impact on our patients with cancer. In the early years, there was time-limited funding from a donor family, leveraged with Faculty funding, with matched funds from multiple sources. To date 24 grants

have been awarded, covering projects on both common cancer sites (lung, breast, prostate, ovarian) and rare cancer sites (sarcoma, head and neck cancer), as well as topics relevant across cancer sites (viral hepatitis, smoking cessation). Funded studies include translational and basic research, health services, clinical trials, quality of care, and quality improvement. In addition to our Division members, funded teams have included faculty from other DoM Divisions, Radiation Oncology and Department of Surgery. The U of T Medical Oncology includes over 100 investigators and clinicians from across The Greater Toronto Area (Appendix B).

Since 2018, higher prioritization has been given to projects led by junior faculty members in key leadership roles with mentorship from senior Co-Principal Investigators of the Oncology faculty. Additionally, projects must illustrate cross-institutional collaboration across multiple institutions, and applicants are encouraged to also seek cross-divisional collaboration. Prioritization has been given to those projects that could be scaled up to compete effectively for peer-reviewed or Ministry of Health and Long-Term Care grants; projects involving quality improvement and knowledge translation applications; and projects aligned with the Division of Medical Oncology Strategic Plan priorities.

Led by the Strategic Innovation Fund Grant Competition Co-Chairs, Drs. Eitan Amir and Kelvin Chan, the grants are peer-reviewed by a Review Panel with representation from several affiliated institutions. Membership of the Review Panel has evolved over time to include previous recipients of the grants. Between 3-7 applications per year have been received, with 1-4 grants funded annually, depending on funds available and quality of applications.

Research Opportunities for Undergraduates, Residents & Fellows

There are a variety of research opportunities available for undergraduates, residents, fellows and graduate students under the mentorship and supervision of Medical Oncology faculty. These opportunities include participation in the Comprehensive Research Experience for Medical Students (CREMS), led by Dr. Geoff Liu, many fellowship opportunities at our academic sites, and graduate research as outlined in the section on Fellowships. The Division also holds an annual competitive trainee abstract competition open to all learners supervised by Medical Oncology faculty. Successful candidates are invited

Figure 13.1: Academic Position Description of Full-time Medical Oncology Faculty

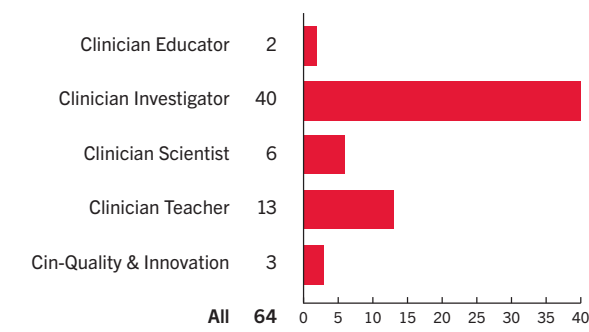


Figure 13.2: Affiliation of Full-time Medical Oncology Faculty

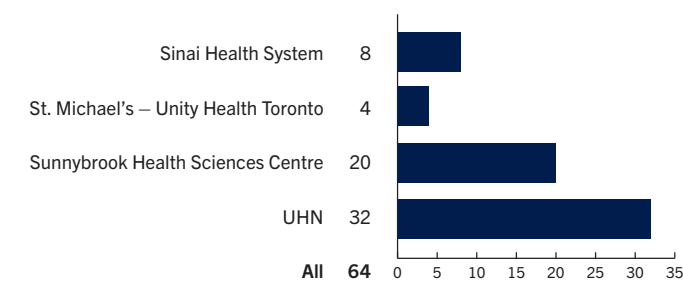


Figure 13.3: Current Rank of Full-time Medical Oncology Faculty

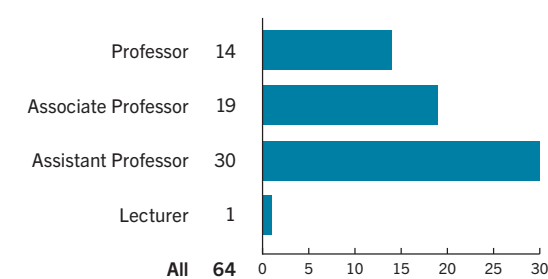
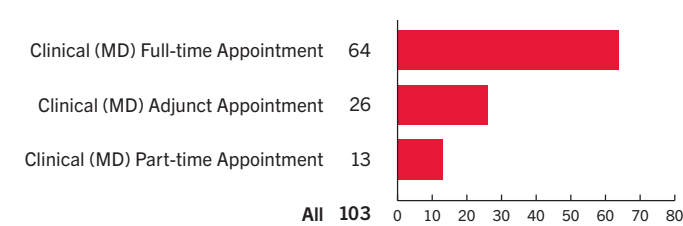


Figure 13.4: Primary Appointment of Medical Oncology Faculty



to participate in oral and poster presentations at the annual Medical Oncology Research Day. These opportunities ensure Medical Oncology trainees have access to a wide variety of experiences, including wet/dry lab experience, research and grant writing, and the development of skillset to showcase their research at conferences.

Continuing Education

The Division hosts an annual Research Day that is integral to our faculty and trainee community. This event allows us to celebrate our colleagues and trainees and support rewarding careers in academic medical oncology. The event includes a competitive trainee abstract competition, an oral and poster presentation session, and an award ceremony. These awards recognize faculty division members and trainees who have demonstrated excellence and made outstanding contributions to the Division. We have faculty awards in Education, Research, Young Investigator, and Quality Improvement. The trainee-nominated MOTP Teaching Awards recognize exceptional and dedicated educators who embody the aspects of exemplary teaching and educational leadership. The Donald Sutherland Award recognizes a Medical Oncology Training Program trainee who has demonstrated exceptional dedication and performance, high-quality, and compassionate clinical care.

FACULTY

The Division of Medical Oncology attracts outstanding candidates for faculty positions. Traditionally, recruitment was coordinated entirely by individual hospitals. Over the last several years, there has been increased engagement of the University Division in recruitment. The DDD participates in all searches. Potential opportunities are discussed at the Division Exec and circulated to all trainees. As part of the 2021 Strategic Plan, establishing a formal Human Health Resources (HHR) working group, inclusive of all Medical Oncology Division Heads, was identified as a key opportunity, to focus on transitioning to a university-wide recruitment model and long-term HHR planning. The impact of the pandemic on medical oncology HHR cannot be understated as it relates to faculty attrition due to early retirement and physician burnout. The HHR Working Group will also identify recruitment strategies to ensure faculty have adequate protected time for research and teaching and can access their full vacation allotment.

The Division utilizes several methods to engage promising young trainees, such as division-wide abstract competitions, oral presentations, research collaboration, and annual and informal mentorship meetings with the Division Director. In addition, as part of the 2021 Strategic Plan priorities, the newly formed Education Group, led by Susanna Cheng, will identify promising young trainees via CREMS through faculty involvement in oncology interest groups, and through the increased engagement of faculty role models in the undergraduate curriculum

Wellness

As the 2021 Strategic Plan articulates, the Division is committed to creating a clinical and academic culture built on faculty wellness, collaboration, and connection. Since 2018, the Division of Medical Oncology has established a quarterly newsletter welcoming new faculty

and trainees, celebrating local, national, and international distinctions such as the Gardiner awards, Division events, funding opportunities, and DoM communications. Dr. Ron Burkes, Mentorship Lead, meets with junior faculty annually to ensure a supportive mentorship. Dr. Kala Sridhar, the newly appointed Wellness Lead, has quickly implemented several wellness initiatives to ensure faculty and trainees feel appreciated and foster connections among them, which was crucial to counter isolation caused by the pandemic. Additionally, the SIF Co-Chair Leads, Drs. Eitan Amir and Kelvin Chan have hosted information sessions to encourage junior faculty to apply for local seed funding. Finally, the annual Research Day concludes with an informal social event, enabling them to develop cross-institutional relationships further.

Looking forward, the Executive and its subcommittees will continue to integrate wellness in all Division initiatives.



QUALITY AND INNOVATION (QI)/ ADVOCACY

Quality improvement (QI) and innovation have been established as a track at the DoM and Division of Medical Oncology. Faculty in the Division are exemplary leaders who are invested in Quality Improvement in clinical practice and support trainees and faculty in QI research and academic careers. There are six Clinician in Quality and Innovation faculty members, spanning each academic site and with representation at community hospitals (William Osler). Several other faculty members not formally in that job description conduct research or hold leadership roles related to quality at local, national and international levels (Appendix C).

Quality Improvement Retreats

In November 2019, under the leadership of Drs. Monika Krzyzanowska and Sonal Gandhi, the Division hosted Canada's first American Society of Clinical Oncology (ASCO) Quality Improvement Training Day (QTP). This one-day workshop featured ASCO faculty with expertise in quality improvement (QI) training, who have facilitated these workshops globally. The concepts and skills covered in this program help encourage participants to conceptualize and implement a QI project in their local practice settings. This day also serves as a primer for potential involvement in the more rigorous ASCO 6-month QTP program. The day was a huge success. A broad range of healthcare professionals affiliated with the Division at various academic clinical sites participated, including physicians, trainees, nurses, radiation therapists, QI performance specialists, and managers in patient care departments. The ASCO faculty were impressed with the level of engagement and enthusiasm of the attendees. This event aimed to establish an ongoing partnership between ASCO and the University of Toronto as joint global leaders in oncology quality improvement.

LOOKING FORWARD

In July 2023, Dr. Krzyzanowska will enter her second term as Department Division Director. Key priorities for the next five-years will include refreshing division-wide education strategies, post-pandemic HHR planning, ongoing wellness initiatives, and development of citywide networks. Drawing on the expertise and support of the Executive Committee, Dr. Krzyzanowska will work to identify funding opportunities that support and value careers in academic Medical Oncology, such as through the Strategic Innovation Fund Grant and fellowships.



NEPHROLOGY



OVERVIEW

The Division of Nephrology is an accomplished community of academic nephrologists, with 42 full-time members across the University of Toronto at leading hospitals including University Health Network (Toronto Western Hospital and Toronto General Hospital and Princess Margaret Hospital), Unity Health Toronto (St. Michael's Hospital and St. Joseph's Health Centre), Mt. Sinai Hospital, Women's College Hospital and Sunnybrook Health Sciences Centre. The division consists of many diverse subspecialties including home dialysis therapies, kidney/kidney-pancreas transplantation, glomerular disease, hereditary kidney disease, geriatric and palliative renal medicine, and onco-nephrology.

The Division has trained over 400 international fellows from over 40 countries. We have one of the largest nephrology training programs with core nephrology training and diverse fellowships in glomerulonephritis, heritable kidney disease, home dialysis, palliative care, onconephrology and more.

The Division has significantly influenced the evolution of nephrology in both Canada and abroad. Knowledge translation includes the formation of innovative clinical programs (e.g., peritoneal dialysis, home dialysis, glomerulonephritis, fluid/electrolyte disturbances), internationally respected research and the development of formalized academic training programs. This Division provides general nephrology services at the affiliated teaching hospitals and transplantation at two of these locations. The Division has a strong relationship with its community nephrology colleagues and has many adjunct and part-time faculty located across community partner sites. Strong ties also exist between the Adult Nephrology program and the Pediatric Nephrology program at the Hospital for Sick Children.

GOVERNANCE

Department Division Director (DDD)

Appointed Division Director in July 2022, Dr. Heather Reich is a nephrologist at University Health Network, Toronto General Hospital and a senior scientist at the Toronto General Hospital Research Institute. She is an Associate Professor at the University of Toronto and holds the Gabor Zellerman Chair in nephrology research. Dr. Reich is an internationally recognized clinician and researcher in glomerulonephritis (GN), with a focus on IgA nephropathy and the mechanisms associated with disease progression. Her work has been consistently supported by peer-reviewed funding from agencies including the Kidney Foundation, the CIHR and NIH.

Dr. Reich co-directs the Toronto GN Registry, and established the first national network to study GN. She has contributed to more than 120 peer-reviewed publications, including the International Society of Nephrology guidelines for treatment of GN. She is passionate about educating the next generation of clinicians and researchers and she served as co-director of the American Society of Nephrology annual GN course. She is most proud of the cohort of post-graduate trainees she has mentored to establish independent careers as expert clinicians and researchers across Canada, the US and in international centres including India, Thailand and Australia. She served for 10 years on the University of Toronto Residency Program Committee.

Past Division Directors for this reporting period included Dr. Phil Marsden, who completed his second term June 2018, and Dr. Rulan Parekh, who was appointed January 2020 until June 2022.



Executive Committee

The Executive Committee is responsible for the overall academic mission of the Division and meets approximately six to ten times per year. Chaired by the Department Division Director (DDD), Dr. Heather Reich, the Committee has responsibility for faculty, setting and implementing overall academic policy, and fundraising to support the Division's academic activities. The executive is broadly representative of geographical locations and both academic and clinical interests of the Division's membership. The committee members include the site division heads, the residency program director, the fellowship director and divisional administrator. The equity, diversity and inclusion committee and research committees report to the Executive to provide a fulsome overview of the citywide activities. Terms of reference are defined by the terms of the individual positions on the committee (i.e., Hospital terms of reference for the site division head, RPC terms). Topics discussed include reporting on work and education ratios, learner and faculty wellness, and recruitment.

Educational Executive Committee

This Committee meets two to three times per year, and it consists of the DDD, the Program Director (PD) and additional student and program representatives. The Committee identifies issues relevant to career choices in nephrology and future Nephrology trainees.

To enhance renal education training across all levels of education, committee members are selected based on relevant interest and expertise. Together members function as the Department's Renal Education Executive Committee and will identify any subcommittees as required. Membership term is three years renewable by agreement.

The mandate of the committee is to ensure the following:

- Develop and execute a long term, comprehensive kidney education strategy across the continuum of learners across the full spectrum of learning, from the undergraduate level, through academic training, including the PGY4 and PGY5 years, and PGY6 years and beyond, including Continuing Medical Education and Knowledge Translation
- Examine, evaluate, and strategize the streamlining and enhancement of the delivery of kidney education

- Address mentorship programs for core nephrology trainees
- Address QI training for learners
- Address EDI issues for all learners in nephrology

Strategic Planning

The COVID-19 pandemic has highlighted vulnerabilities in our healthcare system that impact patient care and outcomes, and many aspects of our academic mission. The Division will undergo a full strategic planning process; the first meeting will occur in June 2023. Supported by an external consultant, we will focus initial planning on the postgraduate nephrology education program. The goal of this meeting will be to establish a collective vision for the international fellowship program. We will discuss how the Division can best align the program with educational needs of international and ministry-funded learners, and hospital-specific service requirements.

EDUCATION

The Division of Nephrology supports education of undergraduate and postgraduate trainees and fellows, as well as the continuing education of its faculty. The Division is particularly recognized for its various subspecialty programs and enthusiastic educators; they attract nephrology trainees from other programs (Year 2) to join rotations in transplant, glomerulonephritis and hereditary nephritis.

Undergraduate Medical Education

The Division has a rich history in undergraduate medical education. Prior to 2018, undergraduate nephrology education was delivered in two components, as part of the first year MNU and second year MMMD courses. These two courses were highly rated with the MMMD renal week regularly ranking amongst the top 3 weeks of second year. As part of the new Foundations curriculum, in 2018, Dr. Rory McQuillan was able to transition these successful courses into a consolidated two-week renal block. Dr. Gemini Tanna and Dr. Alireza Zahirieh transitioned to the renal week co-leads from 2019 and with the help of a number of faculty members the foundation renal weeks deliver the core nephrology education for all U of T medical students. The success of the curriculum is highlighted by the frequent student requests for enriching educational experiences (EEE) in nephrology.

In April of 2022, Dr. Tanna and Dr. Zahirieh were selected as the Peters-Boyd Academy Co-Directors. As Academy Directors, they act as the Dean's representative and are responsible for all academic and administrative matters pertaining to the Academy and its educational programs. The Academy Directors, in collaboration with the VP Education, are responsible for the appropriate use of hospital resources provided to support the Academy and for ensuring alignment with the MD Program's Goals and Competency Framework and corporate strategic plans of Sunnybrook Health Sciences Centre, Women's College Hospital and North York General Hospital. In the role, they work collaboratively with Directors of the other three Academies, Foundations Directors, Clerkship Directors, Director of Clinical Skills, Director of Faculty Development, Director of Student Assessment, Director of Program Evaluation, and Director of Enrolment Services and Faculty Registrar in the MD Program. In total, they serve the needs of over 240 Peters-Boyd Academy students.

Faculty members across sites also contribute to core undergraduate activities such as serving as clinical preceptors, structured clinical oral examiners, and OSCE examiners.



Postgraduate Medical Education

There are 3-4 postgraduate learners accepted to the 2-year MOH-funded postgraduate program each year. In addition, our program also considers applications from internationally sponsored (IFT) trainees and we will often have 1-2 trainees in our postgraduate training program after careful review that their prior training is commensurate with that of our PGY1-3 graduates. This creates a vibrant and supportive core learning environment. The program development and operation are led by our Program Director, Dr. Jeffrey Schiff.

The program has a large and varied patient population, giving residents excellent exposure to all areas of Nephrology. There are dedicated rotations that include outpatient clinics in highly subspecialized areas, such as transplant, glomerulonephritis, complex hypertension, hereditary renal disease, and others. The faculty are dedicated and enthusiastic teachers and educational administrators, who support a large number of teaching activities, including a citywide Academic Half-Day, site- and rotation-specific teaching, Journal Clubs, and career development events. The large number of researchers and clinicians with a broad variety of interests serves as a valuable resource to guide residents' decisions and support their chosen career paths.

Annual citywide half and full-day workshops are a highlight of the postgraduate teaching program. Topics include vascular access training with simulation resources, a workshop on technical aspects of hemodialysis, ultrasound techniques, and a peritoneal dialysis workshop. There are half-day sessions dedicated to career development, an annual trainee research day, and a half-day program dedicated to trainee continuing quality initiative projects across the city. Sessions dedicated to learner wellness and EDI have also been incorporated into the citywide curriculum.

The Division has supported a number of residents who have gone on to additional training through the Clinician-Scientist and Clinician-Investigator programs of the Department of Medicine, in order to foster their academic careers. Many postgraduate learners will also stay for a third year of focused subspecialty training (ex. Home dialysis fellowship, GN fellowship). These fellowships have become increasingly citywide initiatives, supporting multi-site educational programs and rotations (see below).

The Division takes pride in noting that its PGY4s and PGY5s typically score in the top 10 percent of training programs when sitting the American Society of Nephrology training exams.

Competence by Design (CBD)

Nephrology Residency Programs across the country were among the first programs to adopt Competence by Design (CBD), launching in 2018. This was preceded by development of the CBD framework of Entrustable Professional Activities (EPAs), Training Experiences, Curriculum and Rotation Plans and In-Training Assessment Reports (ITARs). Education of faculty members and incoming residents took place in order

to make the transition smoother for all participants. Faculty have been very responsive to the change, with high completion rates of requested assessments. Challenges have included providing in-person, as opposed to written feedback in the assessment; this was further impaired by the COVID-19 pandemic, which reduced face-to-face contact. Face-to-face feedback is being encouraged throughout the Division. Education on CBD and support for the Competence Committee are facilitated by Postgraduate Medical Education (PGME), which has developed the Elentra system, enabling requesting and documentation of EPAs, along with tools for generating individual resident and faculty as well as program-level reports.



Fellowships

The Division Fellowship Director provides leadership and direction for program development, including:

- setting program and curriculum objectives for core nephrology international fellowship training
- coordinating the application intake process and orientation for new fellows
- ensuring regular and timely evaluations for fellows, programs and teachers
- coordinating the subspecialty fellowships for domestic and internationally trained learners

The Fellowship Director works in partnership with the DoM Fellowship Programs Office to oversee the educational experience for our domestic and international communities. For over 30 years Dr. Bargman dedicated her time to creating a successful and highly regarded Fellowship Program for the division. Dr. Bargman stepped down from this position in 2019 and Dr. Sheldon Tobe has been in the position since the fall of 2019.

Under Dr. Tobe's leadership the international fellowship program has expanded in size and scope. Typically, there are 21-25 international clinical fellows training in core nephrology across the city. The core nephrology international fellowship program encompasses extensive exposure to all aspects of clinical nephrology, dialysis, transplantation and home dialysis throughout the teaching hospitals in Toronto. Outpatient rotations are incorporated into the training, and the fellows are fully integrated into the postgraduate teaching curriculum.

The Fellowship program also includes 11 Advanced Nephrology Fellowships, which are 1-2 year subspecialty fellowships. These span highly competitive fellowships including transplantation, glomerular disease, home-dialysis, hereditary kidney disease, multidisciplinary diabetes care, and onconephrology supervised by international leaders in the relevant domain. Over the past five years these programs have evolved to include citywide rotations and educational activities. The transplantation fellowship is accredited by the American Society of Transplantation.

RESEARCH

The Division of Nephrology is recognized as a national and international leader in many research arenas. An analysis of the number of papers and citations per paper compares favourably with other top nephrology divisions. The members published 1,685 publications, which generated 42,748 citations and resulted in an average H-index of 28.74. The Division has a comparative advantage in its faculty's diverse research expertise, unique prospective patient cohorts and administrative links between clinical cohorts and the Institute for Clinical and Evaluative Sciences.

Nephrology CS and CI faculty have leadership roles in national and international research cohorts. These include Dialysis Outcomes and Practice Patterns Study (DOPPS), NEPTUNE (National Institutes of Health), and SPOR in Nephrology [Canadian Institutes of Health Research (CIHR)/Kidney Foundation of Canada (KFC)] among others. These have led to important publications in their field. Many collaborate with basic scientists to collect genetic and biomarker material. The Division's research enterprise is well funded. The total value over the five-year period was \$42.313 million. Typically, 27-48 percent represents peer-reviewed grants from national and international sources: CIHR, KFC, NIH, Heart and Stroke Foundation (HSF) and Diabetes Canada (CDA).

The Division has committed resources to support its faculty. For instance, small seed grants of \$20 thousand offer support for innovative research projects that lead to new knowledge in the cause, prevention and treatment of kidney disease. The goal of this peer-reviewed competition is timely generation of preliminary data that can be used to develop a mature research project that can be later submitted to a larger peer-reviewed competition, such as one sponsored by CIHR or KFC. All areas of research are eligible (e.g., home dialysis, transplantation, educational research and quality initiatives).

These small but critical funding initiatives have had incredible impact. For example, a new faculty member Dr. Bourne Auguste was awarded an Oreopoulos/Baxter Home Dialysis Grant "Optimizing Patient Recruitment for Home Dialysis with Early Modality Education: A Quality Improvement Initiative". This provided essential support during the first 3 years of appointment, a vulnerable period in academic career development. Support from this grant has contributed to three peer-reviewed publications, and provided a strong foundation for Dr. Auguste to design an intervention study to improve education around dialysis selection and to launch future QI initiatives.

FACULTY

The Division consists of over 40 full-time, nine part-time and 15 adjunct faculty members. Distribution of faculty according to job description includes 12 clinician scientists (CS), seven clinician teachers (CT), 16 CI, one clinician educator (CE), two clinicians in quality and innovation (CQI) and two clinician administrators (CA).

Lastly, the distribution of faculty varies across sites.

The highest concentration occurs at:

- University Health Network (UHN): 24
- St. Michael's Hospital: 13, and
- Sunnybrook Health Sciences Centre: 7

Considering previous strategic planning exercises, the Division over the past 10 years has emphasized research in its recruitment efforts. As a result, 70 percent of Nephrology faculty have a major research focus (CS or CI). However, over the last 5 years, including the pandemic period, the increasing clinical demand has put significant pressure on sites to meet clinical mandates and placed increasing demands on research-focused individuals to expand clinical activities.

Over the past five-years, all three core teaching sites have recruited additional outstanding faculty. Faculty involved in the recruitment process are all required to have training in implicit bias, and the composition of recruitment committees follows guidelines for diversity laid out by the University of Toronto. All recent full-time faculty recruits are female and/or members of underrepresented racial groups in medicine. The most recent recruits within the past 5 years have been CT or CI's.

Part-time and adjunct numbers are gradually increasing. This trend is largely attributable to the expansion of the U of T Undergraduate Medical School class size and the Mississauga Campus. Recruitment of part-time and adjunct faculty, led by the Temerty Faculty of Medicine, enables undergraduate teaching expansion at above site.

Mentorship

Under the leadership of Drs. Tanna, Tobe, and Schiff, both the Nephrology PGY4/5 and international clinical fellows are now enrolled in a structured mentorship program. Participation is voluntary but has been universally subscribed. The program begins with formal education sessions for both mentors and mentee with subsequent matching of mentor-mentee pairs. This is formalized with a mentorship contract, to ensure that both mentors and mentee will have clearly defined roles, responsibilities, goals and training. Mentors are essential resources for advice and guidance in areas, such as research, career planning, networking, work-life balance, and transition into practice. Feedback regarding the first year of this program (2022-2023) has been extremely positive both from faculty and learner perspectives.

Wellness

Resident Wellness

We recognize that the increasing clinical demands invariably impact learners' wellness. Dr. Tushar Malavade became the Wellness Lead for all of the trainees in December 2020. Since his appointment he has met with the trainees throughout COVID to ensure they are aware of wellness resources available to them. He arranged for Dr. Darani from the OLA office to present at AHD, to expand their knowledge on the services available through the OLA office. Dr. Malavade is a member of the RPC committee and reports any overarching wellness issues to the committee during the meetings.

During the orientation session at the beginning of the academic year, specific discussion of wellness policies, the various channels to bring up concerns (PD, Wellness lead, hospital Site Directors, PGME/OLA) and PGME supports (OLA) are now included in the orientation. This session is mandatory for all PGY4 residents and optional for PGY5 residents. On December 7, 2022, Dr. Dr. Shaheen Darani from the OLA gave a talk to residents during Academic Half Day. This talk introduced the residents to the OLA as the new wellness branch of the PGME. Finally, the Division website has undergone a redesign, and it now includes a complete guide with comprehensive links to wellness resources. A special guest presentation by Dr. Jillian Horton was a highlight of City Wide Rounds (2022); she highlighted the challenges of being a learner in our current healthcare system and the importance of maintaining open communication with colleagues and mentors to express challenges faced as a physician.

Faculty Wellness

Clinical and personal demands of the pandemic continue to weigh on faculty. The impact of these demands is evident daily as clinical volumes remain high without showing signs of abatement. The situation has been exacerbated by shortages in nursing staff, and implementation of new EMRs. Comments from CS, CI and CT within the Nephrology survey highlight these challenges, particularly in balancing work and family demands. Creative approaches to staffing (ex. nurse practitioners, physician assistants) are being explored at all sites to improve faculty wellness and help achieve our academic mission while balancing clinical demand.

Equity, Diversity and Inclusion (EDI)

The Division of Nephrology is proud to note that learners and division members reflect the diversity of the Canadian population and patients served by our program. Faculty promotion and recruitment demographics over the past 5 years reflect this trend. Two female Nephrology Division members are Physician-in-Chief at their respective hospital, and our former DDD is now the only woman of colour leading research at one of Canada's top research hospitals as the Vice President of Academics at Women's College. While there are still gaps in representation, such as faculty from the Philippines, our recent faculty recruits represent the diversity of the Toronto population who are at the highest risk of kidney disease; these include faculty of South Asian, Black and Pacific Asian descent. All faculty members who participate in learner or faculty selection committees are required to complete implicit bias training.

Figure 14.1: Academic Position Description of Full-time Nephrology Faculty

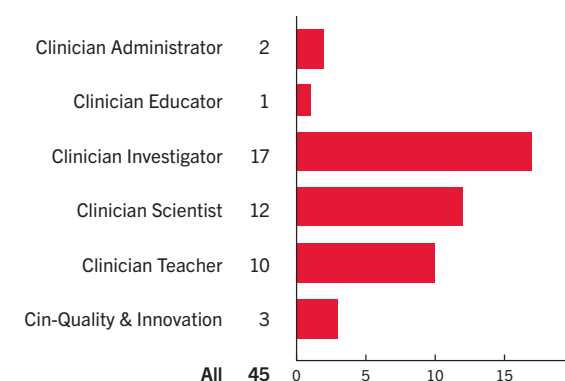


Figure 14.2: Affiliation of Full-time Nephrology Faculty

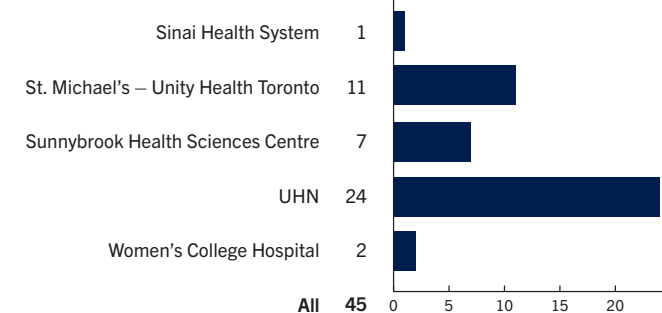


Figure 14.3: Current Rank of Full-time Nephrology Faculty

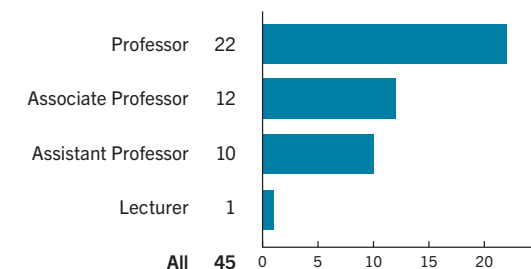
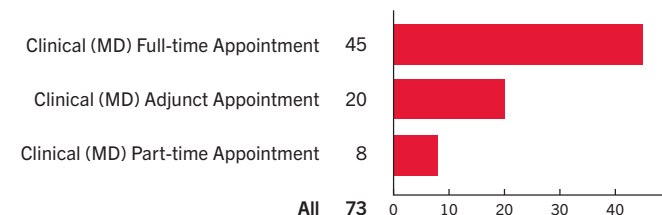


Figure 14.4: Primary Appointment of Nephrology Faculty



The Division has been working with the Black Health Alliance, spearheaded by Dr. Auguste, to create and present important EDI issues to the faculty and trainees. These workshops have become an integral part of our City Wide Rounds. The Division has maintained gender equity for the past 3 years at the weekly Divisional City Wide Rounds, both in speaker representation and equitable honorarium payments. The topics of our Divisional Provincial and City Wide rounds have been intentionally selected to highlight significance around equitable access to care. Topics covered include national initiatives to improve the kidney health of Indigenous populations, equitable access to dialysis, transplant and nephrology care, and critical discussions around race-based calculations of kidney function.

QUALITY AND INNOVATION (QI)/ ADVOCACY

Over the past five-years, the Division has supported many quality improvement initiatives that align with the guiding principles of Department of Medicine. These initiatives have profoundly influenced the local and national delivery of health care for chronic kidney disease.

All PGY5 trainees now participate in the CCQI program, contributing to projects that have successfully produced output including process change, and scholarly abstracts submitted to the American Society of Nephrology. Within the past 5 years we have hired two CQI experts. Dr. Bourne August is the CQI lead for the Division of Nephrology, and he sits on the nephrology executive education committee. He and a new faculty member, Dr. Lisa Dubrovsky, have fostered development of the annual CQI workshops, and have created a central repository for the Division, collating CQI project ideas and opportunities available to learners and faculty.

Dr. Bourne Auguste was the inaugural winner of Oreopoulos/Baxter Home Dialysis Grant for the 2019-2020 year, and this is a QI project targeting improving adoption of home dialysis. Dr. Auguste's project "Optimizing Patient Recruitment for Home Dialysis with Early Modality Education: A Quality Improvement Initiative" aims to 1) Increase the proportion of prevalent MCKC patients with a KFRE2 ≥ 40% receiving modality education and 2) Increase the home dialysis choice rate by 50% amongst prevalent MCKC patients with a KFRE

of >40% by June 2022. This will reduce the variation related to the timing of modality education in MCKC and standardizing the process.



Pandemic Recovery – Challenges to Fulfill our Academic Mission

The clinical demands introduced by COVID have been unprecedented. Earlier in the pandemic, the Nephrology services were required to support kidney complications of COVID in very high volumes of critically ill patients receiving care in the inpatient and ICU setting. While the number of patients admitted to hospital with kidney complications related to COVID has fallen with the introduction of immunization, the volume and acuity of referrals has continued to grow. Kidney failure is a complication of serious multi-system illness. Late presentation of serious conditions such as cancer and heart disease, a backlog of multi-organ transplant procedures, and lack of access to primary care have all contributed to an ever-increasing volume of inpatient and outpatient demands on the Nephrology service.

To ensure that we can continue to deliver optimal teaching and maintain focus on fundamental research, novel approaches to structuring the delivery of care will be essential. This requires ongoing collaboration between hospitals and the University, and joint advocacy by hospital and university leaders to appeal to healthcare funders.

Strategic Planning

Due to both the pandemic and turnover of Directorship of the Division of Nephrology, overdue strategic planning is underway to address each facet of our academic meeting, starting with our education vision. **The themes to be addressed at the upcoming strategic planning session in June 2023 include:**

- The international fellowship: Given the size of the international fellowship program, additional administrative support and oversight is required. Efforts have already been made to improve the vetting and admission process. Learners coming to Toronto in our International Fellowship program have diverse needs and expectations. We need to ensure that these align with the curriculum and our supports, so that we can maintain the rich exchange of ideas and teaching offered by this program.
- The PGY4/5 Nephrology Training Program: The increasing workload can lead to shifts in service-to-education ratio.

- Feedback and evaluation: Education initiatives focusing on delivering constructive feedback would be valuable to both our faculty and our learners – who will ultimately be the teachers and clinicians of our future. Strategies to address a need for education in this realm will be addressed.

Academic versus Community Careers

We maintain strong relationships between academic and community colleagues. The reasons include convenient geographic distributions of patient catchment areas, joint educational CME initiatives and trainee placement for community electives. The Division is especially proud that adjunct and part-time faculty are progressing through the ranks of promotion. The job market is variable, and it is now increasingly acknowledged that trainees who complete an additional year of subspecialty training are far better positioned for employment in the community. However, there is no funding available for this third year; the training is typically supported by fundraising, industry partners, or Division practice plans



LOOKING FORWARD

Pandemic Recovery – Opportunities Emerging from the Pandemic

During the height of the pandemic, the Division of Nephrology developed innovative approaches to teaching that have fostered the citywide community engagement. For example, the virtual delivery of City Wide Rounds and addition of virtual Provincial Rounds organized by the Division have resulted in improved faculty and learner attendance, and community engagement with attendees from sites outside of the core nephrology teaching hospitals. Members of the Division have pioneered novel systems of delivery of care (ex. Virtual Pharmacy and Virtual Clinic structure at UHN). Our faculty and learners have both engaged in impactful multi-site COVID research. Our faculty have successfully secured national funding awards and produced international publications relating to the unique impacts of COVID immunization and infection in patients with chronic kidney disease and receiving dialysis. These valuable networks will hopefully serve as foundations for future Division-wide collaborative research beyond COVID.



NEUROLOGY



OVERVIEW

The Division of Neurology is committed to two priorities: (1) training future physicians to become leaders in clinical care, research, education, and quality improvement, and (2) improving neurological health of individuals and populations locally and globally through discovery, application and dissemination of knowledge related to nervous system diseases. The Division has the largest neurology residency training program in Canada and serves a complex population within the city and at tertiary referral centres throughout the province of Ontario.

The Division consists of a vibrant community of staff neurologists, residents and fellows working at six primary teaching hospitals located throughout the city of Toronto: Baycrest, Sinai Health System, Sunnybrook Health Sciences Centre, University Health Network, Unity Health Toronto and Women's College Hospital. The Division has 15 subspecialty programs – with many faculty considered national and international leaders in their respective subspecialty – and include Autoimmune Encephalitis, Behavioural Neurology/Cognitive, Concussion, Epilepsy, General Neurology (with dedicated clinics for marginalized populations, the elderly, and LGTBQ2), Headache, Movement Disorders and Deep Brain Stimulation, Multiple Sclerosis, Neuromuscular/Peripheral Nerve, Neuro-oncology, Neuro-ophthalmology, Sleep Neurology, Stroke/Neurovascular Neurology, Transitional Neurology (graduation of pediatric patients with chronic neurological disorder to adulthood), and Women's Neurology (Neurology: Clinical Programs) (Appendix A.1). This range of expertise aligns with departmental strategic priorities, including advancing education, diversity, and research programming in quality improvement of patient care, city-wide training opportunities in subspecialty fields and meaningful knowledge translation in education and research.

GOVERNANCE

Organizational chart is available via Appendix B.

Department Division Director (DDD)

Appointed as DDD in 2021, Dr. David Tang-Wai is a Professor in neurology and geriatric medicine at the University of Toronto. He received his MD degree from McGill University and completed his neurology residency and behavioral neurology fellowship at the Mayo Clinic. He is the co-director of the University Health Network Memory Clinic, former Program Director of the adult neurology residency program at U of T, and currently the DDD for the Division of Neurology. He is also an active member of the Toronto Dementia Research Alliance. Dr. Tang-Wai has received multiple local and international teaching awards and nominations from undergraduate and postgraduate trainees. Dr. Tang-Wai's research interests include the atypical presentations of Alzheimer's disease – especially posterior cortical atrophy, normal pressure hydrocephalus, and autoimmune encephalitis.



The former DDD, Dr. Xavier Montalban (appointed July 1, 2017 – May 14, 2020), accomplished the creation of the *Barlo Multiple Sclerosis Centre* at Unity Health, a one-stop care, bringing together neurologists, nurses, social workers, neuropsychologists, physiotherapists, occupational therapists and speech therapists in a world-leading treatment and research centre for multiple sclerosis. In addition, he re-established the necessary funding for junior researchers to develop pilot projects that will allow them to submit successfully a grant submission. With the Research Committee, he established annual awards for the best clinical research paper and basic science paper among the faculty in the Division (collectively known as the Faculty Publication Awards). These awards are presented at the annual McEwan Jones Lectureship and Faculty Research Day in December. For learners, he organized the PGY 1 welcome event (at his house) for the first-year residents to

meet with DDD, Division Coordinator, Program Director, Program Coordinator, and Fellowship Director. Prior to COVID, he organized the faculty holiday dinner and Resident & Fellows holiday dinner as a means of team building.

Division Executive Committee

The Executive Committee meets approximately 10 times per year. The Committee, which receives advice from the Research Committee, Quality Improvement Committee, and the Education Committee, meets to discuss strategy, planning, recruitment, research, quality improvement, major academic events and educational programs of the Division. As of 2023, the Division has expanded its membership to include a faculty member representing Equity, Diversity and Inclusion. The membership of the committees is listed separately (Appendix C).

Research Committee

The Committee meets twice per year to discuss research-related matters relevant to the Division: funding, efficiencies and/or potential collaborations. The Committee also supports the annual Neurology Research Day, the annual new initiatives project for junior faculty, the annual faculty publication awards, and mentorship for junior clinician-scientist and clinician-investigator faculty.

Education Committee

The Neurology Education Committee (NEC) meets formally five times a year and focuses on both residency and fellowship educational issues. The Committee reports to the Executive Committee of the Division through the Residency and Fellowship Program Directors (PDs). Its main task is to oversee the Royal College of Physicians and Surgeons of Canada's five-year training program in neurology and to oversee the individual subspecialty fellowship programs in neurology.

There is an annual program improvement retreat. Through the use of an anonymous survey, the program solicits feedback on all aspects of residency training. The results are used to identify specific themes related to continuous quality improvement of the residency program, which will then be discussed by faculty and residents at the retreat, with the aim of formulating action items to improve the training experience.

Strategic Planning

Past Divisional strategic planning articulated a collective divisional mission: The Division of Neurology is committed to the priorities of preparing future physician leaders, contributing to our communities, and improving the neurological health of individuals and populations locally and globally through the discovery, application and communication of knowledge of nervous system diseases. Shared priorities of focus included: a review and update of subspecialties, recruitment needs for new academic/research directions and infrastructural needs, a city-wide initiative to link the adult subspecialty program to its paediatric neurology subspecialty counterpart (to ease patient transition from paediatric to adult care), and the Division in general. The Division should begin coordinating plans to update and refresh its strategic plan for the academic year 2025-2026, with implementation scheduled for 2026.

EDUCATION

The educational initiatives of the Division focus on point-of-care and team-based care learning in both the inpatient and ambulatory settings. Our unique learning opportunities in Neurology have helped us establish one of the largest residency training programs in the country. It must also be acknowledged that our faculty has also been locally, nationally, and internationally recognized as excellent educators (Neurology awards; Neurology: Honors and Awards) and master clinicians (Department of Medicine Prizes & Awards (Master Clinicians) (Appendix A.2-A.4)

Because of the residency program's size, the Division's size and distribution can be a challenge; however, there is strength in the numbers and the diversity of the individual learners' background and interests. The Division addresses these challenges by maintaining trainee engagement through city-wide rounds, legacy mentorship series, collaborative city-wide subspecialty programs and management by PDs and neurology hospital division directors across sites. During the COVID pandemic, these sessions were conducted virtually, but since 2022-2023 the sessions have been offered in a hybrid format.

Clinical training within Neurology includes general and specialized research training. Specifically, residents train in many neurodegenerative disorders, and many collaborate and interact with other DoM divisions (e.g., the Division of Palliative Medicine) and faculty departments (e.g., Surgery).

Educating at a city-wide, cross-divisional and departmental level also helps external community and resident collaboration. The Annual *Toronto Neurology Update* provides education to general practitioners, including internists, physiatrists, emergency physicians, psychiatrists, community neurologists, residents and fellows.

Undergraduate & Pre-clerkship

The Division – faculty and residents – has played a significant role in the pre-clerkship portion of the MD Program, overseeing teaching for over 250 medical students each year at both the St. George and Mississauga campuses. Several of our faculty have won a W. T. Aikins Faculty Teaching Award (Appendix A.5) in recognition of excellence in course/program development and coordination (1997-1998, 2014-2015, and 2019-2020) and in the development and use of innovative instruction methods (2003-2024). For the past several years, many faculty and residents have been recognized as being among the top 10% of teachers in the MD undergraduate program (MD Teaching Award of Excellence – Neurology: Honors and Awards (Appendix A.3).

The pre-clerkship curriculum is known as the Foundations Curriculum. Within the Foundations Curriculum, the Concepts, Patients & Communities 3 (CPC 3) is a 16-week course in Year 2 of the MD Program that employs the organizing structure of the human body's physiological systems to offer students an integrated approach to clinical medicine. The 16 weeks cover the musculoskeletal system (three weeks), neurologic system (six weeks), psychiatry (four weeks), and special senses (ophthalmology and otolaryngology/head & neck surgery; three weeks). Our faculty and residents were integral in developing e-learning materials (lecture videos, self-learning modules, case-based learning modules and case guides), delivering lectures, leading small-group workshops, facilitating case-based learning (CBL) and health science research (HSR) tutorials, acting as Academy Scholars as part of the Portfolio component, and developing assessment questions for weekly quizzes and mastery exercises.

Our residents are also regularly involved in teaching small-group workshops in CPC 3 and, if time permits, CBL (formerly problem-based learning) tutoring as well. Our faculty and residents also participate in clinical skills teaching within the Integrated Clinical Experience (ICE) component of the Foundations Curriculum including, but not limited to, the sessions on the Neurological Examination.

Clerkship

In clerkship, divisional faculty members participate in teaching activities during the Medicine rotation, including the preceptorship program, seminars, bedside physical examination sessions, the ambulatory clinic component, and clerkship OSCE.

Faculty also regularly supervise medical students in projects encompassing both basic neuroscience and clinical research, including the Comprehensive Research Experience for Medical Students (CREMS).

Student Interest Group in Neurology (SIGN)

Since 2023, Dr. Christine Hawkes has been serving as the faculty supervisor, succeeding Dr. Aaron Izenberg, leading sustained undergraduate mentorship in neurology. This initiative is sponsored by the American Academy of Neurology and support is also provided by the Division of Neurology.

This group meets regularly for a variety of activities including ward walks, case discussions and social events with staff neurologists and neurology residents. The primary goals are to help students gain further insight into the specialty of neurology and to foster their interest in considering neurology as a career choice.

Annually, Dr. Hawkes arranges an event where the student members of SIGN can engage directly with the Division Director of Neurology, Program Director, Deputy Program Director, members of the NEC, and resident representatives for each year. This event provides an opportunity for students to learn more about the neurology residency program and a

career in neurology. This annual event was on hold during COVID, with some of the SIGN events held virtually. However, in-person events are resuming in April 2023.

Electives

The Neurology program accepts medical students and residents from other programs (nationally and internationally) for two- to four-week electives in neurology. Electives can be on the inpatient clinical teaching units or outpatient subspecialty neurology.

Residency Academic Half-Day Curriculum

A comprehensive curriculum encompassing all aspects of clinical, subspecialty neurology and basic neuroscience over a two-year cycle constitutes our mandatory academic half-day, attended by both adult and paediatric neurology residents. The curriculum is organized into subspecialty “teaching blocks” and each block typically spans four to six weeks. Teaching of intrinsic CanMEDs roles is integrated within lectures, supplemented by specifically assigned time slots dispersed over the entire curriculum to cover additional longitudinal themes (e.g., medicolegal aspects of neurology practice, serious illness conversations, transition to practice, Journal Club). A neurology-specific quality improvement curriculum is also included within the 2-year cycle, including teaching principles of patient safety, QI methods, and how to structure morbidity and mortality rounds (M&M rounds). In addition, there is a quarterly one hour lecture in the academic half-day schedule devoted to “NQIL Rounds” (Neurology Quality Improvement Lab – Appendix A.6) that serves as quality improvement rounds for the residents.



The NQIL rounds are based on the principles of M&M rounds but serve a broader purpose. In addition to discussing medical errors and adverse events, residents are encouraged to share challenging ethical cases or cases that require timely dissemination of new medical knowledge to the group. For instance, during the pandemic, NQIL rounds were utilized to address ethical and safety concerns related to providing acute stroke care to patients with unknown COVID status.

The last hour of the weekly academic half-day is dedicated to “Professor’s Rounds” directed by the DDD and selected faculty. Case presentations are discussed with the emphasis on interpretation of clinical information and diagnostic formulation.

Inpatient and Outpatient Experiences

There is a mixture of both inpatient and outpatient experiences, with the first two years of the program (PGY1 and 2) being concentrated on learning internal medicine and other related disciplines (e.g., neurosurgery, critical care medicine). There are 8 blocks of hospital inpatient neurology and consultation services in the first two years as well as elective opportunities in neurology. From PGY3 onwards, the sole focus is on neurology. Hospital service includes spending time on inpatient general neurology services, inpatient stroke services and hospital consultation services at all teaching hospitals.

PGY2 and 3 residents attend a longitudinal general neurology ambulatory clinic with one of the neurology faculty, where they see a wide range of general neurology patients and acquire solid clinical skills.

During PGY4 and 5, the ambulatory experience is focused on exposure to different subspecialties across the teaching hospitals (cognitive/behavioural neurology, movement disorders, epilepsy, stroke/cerebrovascular disease, headache/pain, neuromuscular disease, multiple sclerosis, neuro-ophthalmology/neuro-otology, neuro-oncology, sleep neurology, and general). These are chosen as electives by the residents.

Unique Strengths of the Program

- A PGY1 ambulatory half-day in a general neurology clinic with the main purpose of establishing and refining their neurological examination skills before PGY2. The emphasis is on direct observation on the performance of these skills with real-time feedback.
- A mandatory two-month rotation in outpatient subspecialty neurology clinics in each of PGY2, 4 and 5 where residents will spend time in different subspecialty clinics 6 to 8 half-days per week during this rotation in order for them to obtain experience that will start as an exposure/how-to approach (PGY2), to competence (PGY4), and eventually mastery and independence (PGY5).
- “Women’s Neurology” elective, which is the only one in North America that addresses the issues specific to managing women (especially young women of childbearing age) with various neurological conditions (e.g., stroke, epilepsy, multiple sclerosis).
- PGY4 one-week neuromuscular disease course organized and taught by Dr. Gyl Midroni (SMH). The teaching is highly interactive due to the small number of learners, with the major highlight being the exposure to patients with less common neuromuscular conditions (e.g., genetically-determined conditions), which the residents might otherwise not have encountered during their residency training.
- NIRVE (Neurology International Residents Videoconference Exchange) (Appendix A.7): A resident-led initiative founded by Dr. Dalia Rotstein from the Division of Neurology at the University of Toronto in 2008. Its main goal is to promote resident education and leadership through international collaboration. Currently, the NIRVE rounds occur monthly and have attracted thus far more than 300 trainees in more than 10 sites from different countries across the world.
- All residents are encouraged to undertake scholarly activities with neurology division faculty throughout the program. In addition, residents are required to undertake an academic scholarly project and present the results at the annual Silverside’s Day in their PGY5. Scholarly work within quality improvement, patient safety or innovation are encouraged, and can be used as the residency research projects.
- Annual program improvement retreat (see above).



- Annual Neurology Summer Social in July: A welcoming event to encourage faculty, residents, fellows, and their families to meet each other as well as to introduce our new residents and fellows.
- Open-door policy for residents to meet with the Program Director and/or hospital site directors and/or DDD regardless of the circumstances. In addition, the Program Director meets with residents bi-annually for performance review, feedback and career counselling.

Postgraduate Medical Education

The Division offers clinical and research fellowship training in all neurology subspecialties, including Behavioural/Cognitive Neurology, Concussion, Epilepsy, Headache, Movement Disorders, Neuromuscular Medicine, Neuro-oncology, Multiple Sclerosis, Stroke/Neurovascular, and Women’s Issues in Neurology. Approximately 40-50 fellows are accepted to a variety of subspecialty programs per year, with a total of 70-85 fellows in the Division at any given time. The Division offers one of the most diverse fellowship programs in the country.

Some of the programs are multi-site fellowships, allowing trainees to obtain a comprehensive experience in different clinics and hospitals throughout the city. One example is the city-wide neuromuscular fellowship. Fellows trained in our programs have successfully taken up academic faculty positions around the world as well as in industry.



While clinical expertise occurs primarily in the outpatient setting, fellowships take place at tertiary referral centres or hospitals where there is access to inpatient neurology services, including neurocritical care at the three major teaching hospital sites. Clinical trial groups in all the subspecialty programs are also active at all teaching sites, and fellows gain experience in all aspects of performing clinical research. In addition to the experience in managing clinical neurology patients, clinical fellows at the UHN site also obtain experience managing patients in epilepsy and deep brain stimulation surgical programs as part of their training. The behavioural neurology fellowship at Baycrest offers experience to two fellows per year in an inpatient behavioural ward, the only one of its kind in Canada. Clinical neurophysiology training including experience reading and performing EEGs and EMGs are part of epilepsy, neuromuscular and neurophysiology programs, after which fellows are prepared to write national examinations of clinical neurophysiology for either Canadian Society of Clinical Neurophysiologist (CSCN) or American Board of Neurophysiology examinations. Fellows also develop expertise in advanced procedures, including botulinum toxin injection (for dystonia, spasticity, or headache), percutaneous muscle biopsy, transcranial magnetic stimulation and neuromuscular ultrasound.

Fellowship programs are usually one to two years, though some fellows have stayed in training programs for up to five years to complete graduate degrees. Formal training in Master’s degree programs is often pursued concurrently with fellowship programs, most commonly through the Institute of Health Policy, Management and Evaluation at the University of Toronto.

Continuing Medical Education

The Division is committed to fostering a culture of collaboration, equity, and excellence by offering various continuing education initiatives to its faculty and partners. These opportunities aim to break down silos and promote collective learning. Some of these initiatives were conducted virtually during the COVID pandemic, allowing for national and international reach, and some have now resumed in a hybrid format as of 2023.

The list of Continuing Professional Development Activity Inventory is available at Appendix D.

The Division of Neurology organizes university rounds throughout the academic year. These include:

- U of T Neurology Grand Rounds (previously City-Wide grand rounds) are organized monthly on the 4th Friday from September to June, excluding December and during the summer): where either visiting professors or faculty from the division present on any neurology subspecialty or a trending topic. Previous rounds were telecasted through the Ontario Telehealth Network and hosted through Zoom then archived through Vimeo on the Division of Neurology website. Rounds are attended by neurology faculty, community neurologists, and since 2020, virtual and hybrid rounds have increased the engagement with international academic colleagues and partners. Depending on the topic, we have invited other Divisions to participate as well. The rounds are also featured on the World Federation of Neurology website as an educational resource.
- Neurology National Grand Rounds: These quarterly video-conferenced national rounds provide an excellent opportunity to highlight faculty and exciting clinical and research programs at a national level. They also provide a wonderful opportunity for neurologists across Canada to interact and to facilitate collaboration.
- McEwan-Jones Lecture and the Faculty Research Day (December): The McEwan-Jones lecture always precedes the event with a one-hour lecture from an eminent MS specialist. The Day features the research endeavours from members of the Division of Neurology.
- Richardson/Lang Day (February): A half-day event featuring topical and entertaining debates within subspecialties. External speakers were invited in 2021 to debate with one of our faculty members.
- Neuromuscular Day (March): An annual event highlighting advances and research in neuromuscular disorders. This event highlights the research and innovative work by members of the Division – in addition to hosting an internationally renowned expert as a keynote speaker.
- Silversides Lecture & Residents’ and Fellows’ Day (June): The Day features the research work of residents and fellows and is held in conjunction with the Silversides lecture. It is also the graduating ceremony of the PGY5 residents and fellows.

In addition to rounds, the Division heavily invests time and resources into CME events which are offered throughout the academic year. Baycrest and the Division of Neurology invite neurologists and other healthcare professionals to view recordings of our weekly International Behavioural Neurology

Videoconference Rounds (Baycrest). Another well-attended event is the Toronto Neurology Update. This is an annual one-day, hybrid event which features clinical and practical information for non-neurologists. This conference is directed to helping non-neurologists like general practitioners, general internists, psychiatrists, geriatricians, emergency physicians and others improve their clinical skills and knowledge with regards to evaluating patients with common neurological presentations.

RESEARCH

Neurology faculty members conduct a wide range of research from basic molecular and genetic studies, animal models of diseases, drug discovery, human physiological and imaging studies, and clinical trials (all phases) to clinical epidemiology and health-services research. This research covers all major subspecialties in neurology, including autoimmune encephalitis, dementia, headache, movement disorders, stroke, multiple sclerosis, epilepsy, sleep, and neuromuscular diseases. Historically, Neurology produces knowledge translation that improves patient care, policy, training and innovation on a global scale.

The Division’s research enterprise is well-funded. The total value over the five-year period (April 1, 2018 – March 31, 2023) was \$141.033 million. Typically, funds are secured from peer-reviewed grants from national and international sources: Alzheimer Society of Canada, Brain Canada, Ontario Brain Institute, Parkinson Canada, MS Society, Weston Family Foundation, Temerty Foundation, Canadian Headache Society, Canadian Institutes for Health Research (CIHR), the Kidney Foundation of Canada (KFC), the National Institutes of Health (NIH), the Heart and Stroke Foundation (HSF) and Diabetes Canada (CDA).

Significantly, the Division supports its junior investigators through its Slamen-Fast New Initiatives Program (<https://live-w2-deptmed.pantheonsite.io/neurology-awards>). This program’s goal is to provide seed funding for pilot projects to promote research in priority areas, such as collaboration between researchers in different hospitals. These members published 4,071 publications, which generated 111,342 citations and resulted in an average H-index of 29.79. In the past two years, Neurology has worked to identify new research priorities. While productive, the Division does recognize recent funding and space challenges. Specifically, the Division does not control research space, which is coordinated at the site or Department level.

Figure 15.1: Academic Position Description of Full-time Neurology Faculty

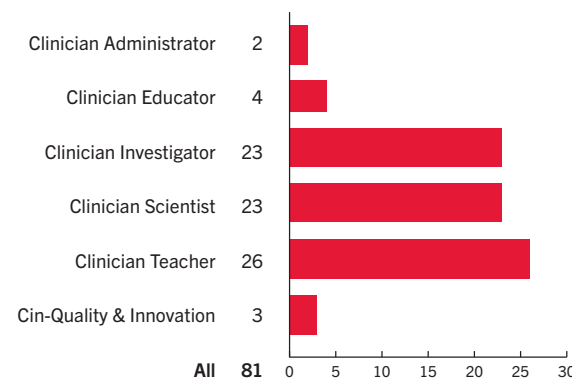


Figure 15.2: Affiliation of Full-time Neurology Faculty

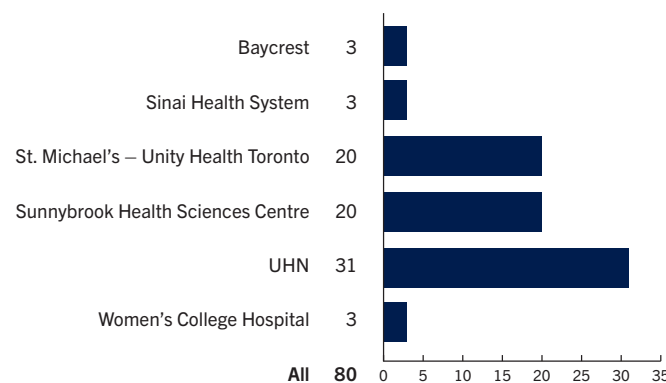


Figure 15.3: Current Rank of Full-time Neurology Faculty

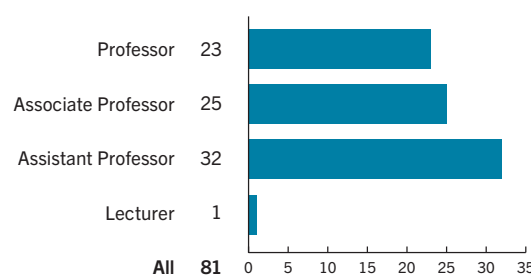
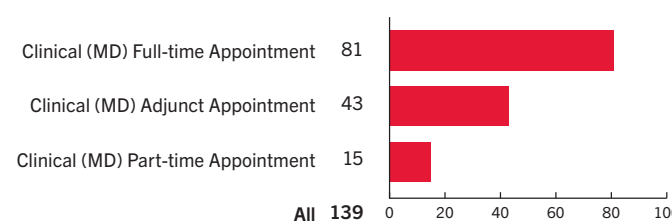


Figure 15.4: Primary Appointment of Neurology Faculty



Because of the growing population and inpatient care needs (i.e., increasing beds and clinic space), Neurology's research growth could be further challenged. Compounded by low (and dropping) overall success rates at CIHR and recent cuts to clinician salary support, programs like the New Initiatives Program may not be enough to supplement research costs. Neurology will explore new funding opportunities in the coming years.

FACULTY

The Division of Neurology consists of a total of 160 faculty members: 81 full-time, 15 part-time, 43 adjunct, four other, and 21 status only and emeritus. Since 2018, the Division has recruited 19 full-time faculty in areas of behavioural neurology, epilepsy, general neurology (providing specialized care in women's neurology and to oncology patients with neurological issues), headache, movement disorders, multiple sclerosis, neuro-oncology, neuromuscular and stroke.

To be eligible for full-time faculty positions, candidates must have completed advanced training. The required type of training depends on the position description. DoM currently has six job descriptions. See Academic Position Descriptions (Appendix A.8).

Distribution of Neurology faculty according to job description includes 23 CSs, 27 CTs, 23 CIs, four CEs and 48 others (2-CQIs, 2-CAs, 43-adjuncts).

The distribution of faculty varies across sites. The highest distribution of full-time faculty is at University Health Network (32), Sunnybrook Health Sciences Centre (20) and St. Michael's Hospital (19).

Faculty are also recognized by numerous awards and are acknowledged on the Division's website (<https://live-w2-deptmed.pantheon.io/neurology-honors-and-awards>). To ensure that divisional members have opportunities to be nominated for awards, the Division's executive keeps a running list of deadlines for major awards as well as a regular topic during Executive Committee meetings. These deadlines are communicated to faculty by email and on the website. Nominations are coordinated by the DDD, PD, and hospital leads where appropriate.

Lastly, the Division recognizes that geography can be a challenge to divisional cohesion. However, because

of significant improvements to communications, such as web and digital media (e.g., website and videoconference improvements), faculty are better connected to divisional and subspecialty information. This improved communication is demonstrated by strong event attendance and by growing interest, both within and outside the Division, in attending the Division's events.

Equity, Diversity and Inclusion

This is an area where the Division will need to develop over the next several years. As of 2023, the Division has appointed a faculty, Dr. Manav Vyas (Unity Health), to be our champion and will be an active member of the Executive Committee.

Mentorship

Neurology announced Dr. Antonio Strafella as its first Mentorship Facilitator in 2018, aligning with the DoM initiative to appoint these positions across all departmental divisions. As Mentorship Facilitator, Dr. Strafella sat on the Neurology Executive Committee to promote divisional planning around mentorship. Currently, Dr. Masellis (Sunnybrook) has succeeded from Dr. Strafella in 2022 and meets regularly with the DDD and Neurology faculty individually to discuss their mentoring relationships and is an active member of the Executive Committee. To this end, he surveyed division faculty to determine mentorship expectations and needs. Identified challenges include the geographical distribution of our faculty and lack of specific mentorship for clinician teachers and mid-career research faculty. Both the DDD and Dr. Masellis will work with the Department of Medicine to help develop protocols for mentorship of mid-career research faculty. The DDD, a clinician-teacher himself, is an active member of the Department of Medicine's Valuing the Clinician Teacher Committee (<https://deptmedicine.utoronto.ca/valuing-clinician-teacher>) to assist in the development and mentorship of clinician-teachers.

As of 2021, the Division has also developed the Legacy Mentorship Series. As the division has many outstanding professors with national/international prominence and leaders in their respective fields, many of our trainees, both residents and fellows, and junior to mid-career faculty can learn from their experience – pitfalls, resilience, balance of life – and provide academic mentorship. The Division also has taken the opportunity to document their excellence and contributions in the history of this division.

Wellness

The Division is in the process of finding an appropriate person to lead this at the university level. Wellness issues are already addressed at the local hospitals with each hospital lead.

QUALITY AND INNOVATION (QI)/ ADVOCACY

Neurology Quality and Innovation Lab (NQIL)

The Neurology Quality and Innovation Lab (NQIL) was founded by three U of T Neurologists (Dr. Charles Kassardjian, Dr. Houman Khosravani and Dr. Sara Mitchell) as a hub for collaboration and implementation of local and city-wide quality improvement, patient safety, and innovation projects. The goal of NQIL is to facilitate quality improvement and innovation work throughout the division, but also provide supervisory and educational opportunities for the residents in the neurology program. In this way, we are helping to train neurology residents and faculty in QI methods and principles to expand QI capacity within the division. (Appendix A.6)

In terms of leadership, QI is represented on both the Neurology executive committee and neurology education committee with QI representative (Charles Kassardjian). This has already resulted in tangible impact, including further recognition of QI projects for funding through the Slamen-Fast New Initiatives fund, and integration of QI principles into the Neurology resident retreat, in order to select feasible areas of programmatic improvement. In addition, with leadership from David Chan and the education committee, QI principles will be used to select and carry out regular program-level quality improvement projects, co-led with residents. NQIL is also involved in several educational endeavours within the program. The first is a neurology-specific quality improvement curriculum administered during the academic half-day. The second is the NQIL rounds (described above), which act as quality improvement rounds for residents (including M&M rounds).

NQIL members have mentored and supervised several medical students and residents on their scholarly projects, which focus on areas of innovation, safety or quality.

Examples include the development of the virtual neurological examination (with instructional videos), examining the appropriateness of different consultation for virtual care, or the development of a simple tool to facilitate the creation of resident call schedules.

NQIL has shown scholarly success in the form of several publications in peer-reviewed journals, poster and oral presentations at research conferences, invitations to present at Grand rounds, and development of a QI workshop (Empowering Clinical Neurosciences for Optimal Patient Care – Quality Improvement and Advocacy Workshop) to be presented at the annual Canadian Neurological Sciences Federation Conference in 2023.

Impact of COVID-19 in the Division

There are no individuals – faculty, residents, fellows – and their family members that have not been impacted by COVID-19. The impacts have resulted in professional worries through reduced productivity and reduced grant funding, decreased wellness due to increased pressures to balance clinical care, education and/or research productivity with personal responsibilities, illness due to COVID, social isolation due to lack of in-person meetings and lack of connectivity, and reduced capacity to deliver the usual high-standard clinical care. **Although there were no ideal solutions to address these issues, the Division has attempted to mitigate them through the following measures:**

- Transition to online video platforms, such as Zoom, to disseminate knowledge and includes all the resident lectures, Division rounds and CME, graduation ceremony, and city-wide meetings. For our Divisional rounds and CME courses, the transition to online platforms have increased our ability to disseminate knowledge across the city and to other countries as evidenced by increased participation – and we will continue with this format. The World Federation of Neurology has also partnered with the Division of Neurology and we allow access to our Division of Neurology Grand Rounds to anyone in the world.
- Multiple touch-points during the height of the pandemic to mitigate stress, anxiety and worry among learners and faculty. For residents, the PD and education committee members met weekly (through Zoom) to discuss concerns. Residents also organized events among themselves with support from the Division. For fellows, the Fellowship Director met with them on a monthly to bimonthly basis. For faculty, the Hospital Directors met with faculty and maintained meetings with updates.

Finally, all members of the Executive Committee were available to any person in the Division who needed to talk.

- The Division of Neurology wants to acknowledge and to express their appreciation of the Department of Medicine allowance for COVID-related issues accounting for reduced productivity of faculty undergoing their 3-year review and/or promotion – reducing the faculty’s stress and anxiety.
- Development and distribution of Divisional jackets and scrubs to faculty, learners, and allied health members associated with Neurology as a tangible representation of connectiveness as a single Division of Neurology – independent of the location of an individual’s hospital practice.
- Securing funding for pilot research studies among junior faculty at the onset of the pandemic from the Fast Foundation (the Slamen-Fast New Initiatives Program) as most of the research funding was diverted for COVID study and treatments. Although appropriate at the time, the diversion of funding potentially could stall the productivity of junior faculty not involved in COVID research. The Division recognized this potential pitfall and addressed it.
- The development and distribution (internationally) of novel methods of neurological clinical care by our NQIL group and subspecialties. This includes:
 - the virtual neurological examination – co-developed with our learners and faculty (Appendix A.9)
 - the protected code stroke protocol (Appendix A.10)
 - the virtual cognitive assessment (Appendix A.11)
 - the virtual care for patients with behavioural changes due to dementia (Appendix A.12)



LOOKING FORWARD

As we emerge from the pandemic and its physical separation from others across the city, the Division must re-establish its physical presence across the different hospitals and unite as a single university division after years of separation. With the relaxation of restrictions, the Division will be able to deliver events in hybrid format. The Division also plans on an in-person mini-retreat for faculty in 2023 or 2024 – allowing faculty to learn from each other’s interests in research, clinical care, and education – increasing city-wide collaboration.

The Division anticipates the retirement of several faculty members in the coming years, and therefore, needs to plan for their successors with hospital leads.

As the care of a person with a medical disease, a primary neurological disease, or both is becoming more complex due to an aging population, persons with medical comorbidities, and emerging therapies with neurological side-effects, there is an increased need for “general” neurologists who can provide comprehensive care beyond the knowledge of subspecialty neurologists. The Division has recognized this need and aims to develop General Neurology as a “subspecialty” across academic hospitals and composed a priority proposal document. Currently, there is a shortage of general neurologists in academic neurology, and more

hiring is required. The proposal also addresses the need to develop a neuro-hospitalist program and fellowship – which only exists in the United States. The foreseeable challenges include obtaining funding and convincing hospital administrators of its importance.

We are continually challenged by the Ministry of Health regarding potential cutbacks on the number of neurology residency positions allocated to the University of Toronto. As the number of persons with neurological disorders has steadily increased over the years (e.g., stroke, dementia, Parkinson’s disease), there is an increased need to have sufficient number of neurologists in society to meet this challenge. We have continually advocated that the number of residency positions not be cut but rather increased. In addition, with the provincial plan to increase the number of medical students and resident positions over the next few years, there is a simultaneous push to have residents rotate at new hospital sites (e.g., Mississauga, Scarborough). The resultant redistribution of residents away from the current academic sites will cause an additional significant strain on the inpatient services – as the number of required persons to adequately manage them are already at minimums – and threaten their continual existence.

There will be a strategic retreat in 2026 nearing the end of the DDD’s first term.

OCCUPATIONAL MEDICINE



OVERVIEW

Occupational Medicine (OM) gained recognition as a specialty by the Royal College of Physicians and Surgeons of Canada (RCPSC) in 1985. As a discipline, it encompasses the recognition, evaluation, control, management and rehabilitation of occupationally related diseases and injuries. Specialists in the field are trained to promote and maintain the highest degree of physical, mental and social well-being of workers in all occupations; prevent health problems caused by working conditions; enable employment of workers in occupational environments compatible with their physical and psychological capabilities.

Occupational medicine is a small field with only 54 specialists nationally (in 2019), for which awareness remains low. The specialty remains under-recognized despite significant incidence and costs related to occupational injury and disease. Advocacy and efforts to increase visibility and awareness will be a priority for the future. Division growth is enabled by increasing the number of trainees and retaining them, which necessitates raising student awareness, and sufficient trained faculty for service delivery and teaching, with the latter aspect requiring increased funding. To date the Division has been productive despite limited resources, but it will not be possible to increase service delivery without effective succession planning which will be a focus for the future.

Consistent with the goals of the DoM as a whole, the mission of the Division of Occupational Medicine during the five years encompassed by this report has been to meet the work and health needs of individuals and populations and to meet the future challenges of a changing world of work by training leaders in the field and conducting research and knowledge dissemination. This Division is active in teaching, research, and clinical service and is a trusted academic leader in the field, providing our partners with the education, research evidence and clinical expertise required to influence important practice and policy changes. The Division has faculty embedded in many important Occupational Health and Safety stakeholders in the province and that unique interconnectedness with academic/legislative/labour/clinical entities creates a lot of potential synergy and opportunity.

The core clinical site for Occupational Medicine is at Unity Health – St. Michael's Hospital. The Division also has strong links to the Dalla Lana School of Public Health through its Division of Occupational and Environmental Health, in particular the Master of Public Health (MPH) programs and Master of Science in Community Health (MScCH), Occupational Health Care stream.

Transitions

Dr. Linn Holness has been a longstanding Division Director (DDD), holding the position for more than 20 years, and prior to the end of her term the Division of Occupational Medicine held a strategic planning retreat in January 2016. Although the Division has been in existence since 1995, 2016 was the first time it had been reviewed. The 2016 document plays an integral part in summarizing the complexity of the Division's history and relationships and will set the stage for further strategic planning. When her second term as DDD ended December 2017, a formal search by the Department of Medicine was launched February 2018. Dr. Anil Adishes, originally from the UK and Dalhousie University was appointed DDD, December 2018 and began engagement with the faculty to start strategic planning.

However, due to the COVID-19 pandemic and change in research and clinical climate, Dr. Adishes resigned in 2021. A formal search was relaunched and on December 1, 2021 Dr. Joan Saary was appointed DDD.

The University Division of Occupational Medicine and the St. Michael's Hospital Department of Occupational and Environmental Health have historically been interwoven, in part because St. Michael's Hospital remains the only U of T-affiliated hospital with a Department / Division of Occupational Medicine. As a result, in the past, the DDD and the Hospital Division Head have been held by a single individual unlike larger University Divisions that have numerous hospital division heads when the speciality is represented at various institutions. Now however, for the first time, these roles will be split, and as such, Dr. Saary will serve as the DDD, but not the Hospital Division Head at Unity Health. This model represents a significant change for the Division.

Impact of the COVID-19 Pandemic

Toronto was one of the epicentres of the pandemic in North America and its clinical departments were arguably hit the hardest. The pandemic forced abrupt changes in education and clinical care and placed tremendous stress on the DoM and all of its members. Learners, staff and faculty had to contend with profound changes in their work, work environment and in their personal lives. The COVID-19 pandemic highlighted the significance of health for work, and unlike any other subspecialty in medicine, Occupational Medicine is well-positioned to address this issue and guide

workplaces in safeguarding and supporting the health and safety of workers.

Occupational Medicine is poised to address some of the common issues in the healthcare system, and the Division needs to identify opportunities to position OM as a fundamental partner in discussions surrounding emergency preparedness, social determinants of health (involving employment/work), supporting primary care (given how often work and health is a topic of concern for patients who visit their family doctor), and chronic disease management (since having people be able to return to work is a major positive outcome in managing chronic disease), among others.

From a clinical perspective, there have been challenges with clinic support/admin staffing during this time with several changes in staff. Nonetheless there was good support for the maintenance of clinical activities, even during the pandemic, with remote patient assessments that have continued thereafter to some extent. COVID has proven that virtual care may be a viable model of case delivery in Occupational Medicine with limited access to small numbers of specialists. In the future the Division will seek to identify opportunities to modernize and build on those virtual successes.

GOVERNANCE

Department Division Director (DDD)

Dr. Joan Saary is an Occupational Medicine specialist and expert in extreme environments. An Associate Professor of Medicine at the University of Toronto, she also holds a PhD in Medical Science and MSc in Clinical Psychology. She has a courtesy appointment with Unity Health Toronto's St. Michael's Hospital, and oversees aerospace medicine education initiatives at the Temerty Faculty of Medicine. She serves as Chair of Aerospace Medicine at the Royal College of Physicians and Surgeons of Canada and is a past President of the Occupational Medicine Specialists of Canada. Professor Saary is a consultant to the Canadian Armed Forces and the Canadian Space Agency. She has represented Canada internationally in both Occupational and Aerospace Medicine roles.



Executive Committee

The Executive Committee includes Drs. Joan Saary, Aaron Thompson and Linn Holness, who meet monthly. Dr. Nik Rajaram has recently been added to the committee to better represent the adjunct clinicians working in the community setting. After the transition to the new academic year, a current resident in the program will be invited to join as well.

Program Coordinator

The Program Coordinator role has proven to be highly relevant, particularly for a small Division undergoing significant transition. Since early 2022, there have been three changes in the Program Coordinator role for Occupational Medicine. The Division was pleased to welcome Carolyn Laidlaw to the position which is shared with Emergency Medicine. Her presence has brought some stability and her energy and efficiency have enabled some groundwork to be laid in developing a repository of sharable documents, and initiation of trackable databases for Divisional activities etc.

FACULTY

Occupational Medicine has 10 primary-appointment faculty members, who work in various settings including academia, specialized clinics, government and industry. Of those, only the Residency Program Director Dr. Vince Spilchuk holds a full-time appointment. There are 3 part-time faculty, and the remainder hold clinical adjunct appointments at the rank of lecturer. The significance of the contributions to the delivery of OM education warrants further attention and support. Without their voluntary contributions some training components would not be able to maintain the same level of quality.

The Division collaborates with faculty from other divisions in the Dept of Medicine, most notably, members from Dermatology, Respiriology, and Allergy and Clinical Immunology, Clinical Pharmacology and Toxicology, and Physical Medicine and Rehabilitation. As a result, several of the St. Michael's Department of Occupational and Environmental Health medical staff hold primary university appointments in other divisions. This diverse group contributes to the success of the Division and allows rich and varied rotation options for trainees. The Division also provides reciprocal training opportunities for residents from other divisions, of which the most developed relationship is with Dermatology; its residents rotate through the St. Michael's clinic.

There are also collaborative relationships with other departments such as Psychiatry which also enhances clinical training of Occupational Medicine residents. Over the past five years, there have been an increasing number of psychiatrists focusing their practice on Occupational mental health. Those who have received training in this area are now providing assessment and treatment to injured workers and leading clinics tailored to working adults, rather than traditionally those with severe and persistent mental illness. As mental illness is the leading cause of absenteeism and disability leave, there has been an expansion of workplace mental health initiatives, supported by Occupational Health teams and Human Resources.

The Division has made efforts to recognize faculty development and mentorship. Given that most of its faculty are part-time or adjunct, the Division has a strategic priority to examine faculty development and mentoring within this context. There have been several notable promotions in the last five years

including the elevation of the current DDD (Dr. Joan Saary) to the position of Associate Professor. Furthermore, Dr. Aaron Thompson's promotion to Associate takes effect July 1, 2023 and Dr. Nik Rajaram was promoted to Assistant (part-time) in Feb 2023. Dr. Saary will further strategize with Division faculty and partners to identify potential opportunities. The Division is committed to growing the presence of Occupational Medicine through partnership and advocacy, which will remain a key focus in the coming years. We also endeavour to identify an EDI lead who will bring that lens not only to the Division but also to bring the Division's perspective to the Department of Medicine. The most recent graduate of the Occupational Medicine residency program is currently completing a PhD in Health Policy, Management & Evaluation with a focus on Health Professions Education Research, specifically examining students facing disadvantages in the medical school application process. He will be the only Occupational Medicine physician in Canada formally trained through a medical education fellowship, making him a potential candidate for this Divisional role.

As a small Division we take particular pride when faculty members achieve awards. Aaron Thompson was one of the only two receiving 2022 PARO "Excellence in Clinical Teaching" award for U of T. This award is a significant achievement – all specialities are eligible and only one award per university (except U of T because of its size). We are all aware of Aaron's outstanding teaching ability; it is fantastic to see it widely recognized. As well, Dr. Bruce McGoveran was recognized in 2022 as one of the teachers in the top 10% of all faculty teaching in the MD Program at the U of T. Dr. Saary was recently named one of the 'Top 25 Women in Defence' by Esprit de Corps magazine in 2021. Our senior resident Dr. Conrad Tsang was nominated for the Postgraduate Medical Trainee Leadership Award.

EDUCATION

Undergraduate Medical Education

The University of Toronto offers one of the most robust undergraduate medicine programs in occupational medicine in the province. The curriculum incorporates occupational medicine content through lectures, seminars, and integration into sections of other courses, including a course that teaches history taking and physical examination. More specifically, there is OM content in Year 1 (ICE Clinical Skills), Year 2 (Complexity and Chronicity – full half-day), and Year 4

Figure 16.1: Academic Position Description of Full-time Occupational Medicine Faculty

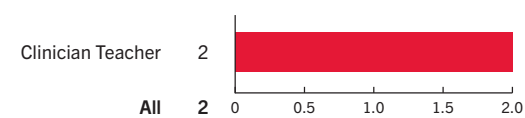


Figure 16.2: Affiliation of Full-time Occupational Medicine Faculty

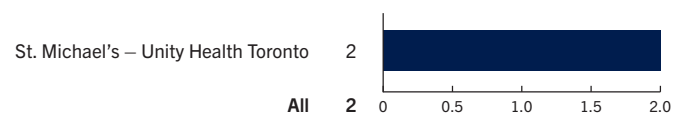


Figure 16.3: Current Rank of Full-time Occupational Medicine Faculty

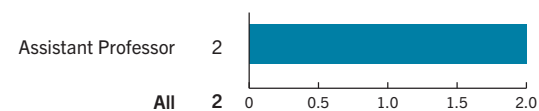
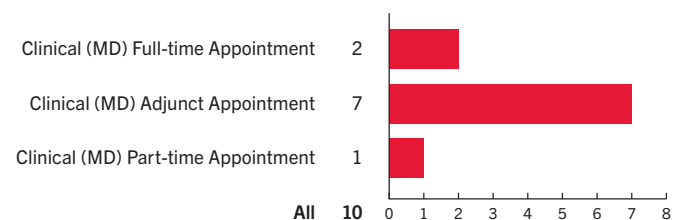


Figure 16.4: Primary Appointment of Occupational Medicine Faculty



(Transition to Residency). We are working to support further integration of OM elements into undergraduate core materials. One of our adjunct faculty (Dr. Bruce McGoveran) has been the site coordinator at the FitzGerald Academy for CSI since 2016 (teaching with that course since 2003).

Among the advocacy projects for occupational medicine is a video of history taking created by Division faculty. The video is utilized at U of T and other medical schools across the province. This initiative is supported by the Workplace Health Champion program, which was developed in 1997 by the Workplace Safety and Insurance Board (WSIB). The Workplace Health Champion advocates for the inclusion of OM content in the curriculum and delivers some of the OM sessions. Dr. Gary Liss is the current Workplace Health Champion for U of T, however succession planning for this role represents another significant transition in the Division.

Despite these efforts, there is still a lack of awareness among medical students and residents regarding Occupational Medicine as a discipline, as evidenced by the low number of Canadian applications to the CaRMS match for residency training in this field. To address this, non-curricular methods of showcasing the discipline to medical students and residents are being sought.

One example is the recent creation of CSTaRS (CSAM Student and Resident Subgroup) <https://csam-scma.ca/cstars/>. As a result of inability to meet demand for personal mentoring from Dr. Saary, she envisioned a group-mentoring process and platform, which has grown into a national self-sustaining student-led organization for which she provides organizational mentorship and oversight.

Postgraduate Medicine – OM Residency

The Occupational Medicine Residency Training Program is one of only three accredited programs in Canada. Initially, Occupational Medicine was a five-year direct-entry program. In 2006, the Royal College of Physicians and Surgeons of Canada (RCPSC) changed the OM program to a two-year subspecialty program. Currently there are two routes of entry, either through General Internal Medicine or Public Health and Preventive Medicine training programs. The program combines clinical rotations with rotations in government, industry and didactic training and has recently been nominated for a PARO Program Award.

Since 2014, Occupational Medicine has seen three residents from Public Health and Preventive Medicine and two residents from General Internal Medicine complete the program. One resident from Internal Medicine will be commencing the program in summer 2023.

The program has consistently undergone successful internal and external reviews conducted by the RCPSC. The Residency program underwent successful RCPSC External review in 2020/2021 and was fully accredited (Accredited Program with Follow-up by Regular Accreditation Review) following a satisfactory RCPSC review in 2019, and the smooth transition from Dr. Aaron Thompson to Dr. Vince Spilchuk as Program Director in 2021.

At the primary clinical teaching site, the Occupational Disease Specialty Program, particularly the HAVS program, is unique in Canada. Residents and faculty see patients from virtually every province, and have helped train other practicing OM specialists in setting up their own similar programs (e.g., Shobhit Maruti from WSBC).

Given the small number of postgraduate training programs in OM and limited faculty resources across the three universities that provide them (U of T, University of Alberta and University of Montreal), partnerships play a crucial role in enriching program content. In response to this need, a collaborative Academic Half Day program between the three university programs has been established, which leverages virtual meetings to feature speakers from across the country. It helps foster inter-institutional partnerships and supports trainees in making connections with colleagues in other provinces. Residents from the other two Canadian programs also come to Toronto to undertake electives with the U of T program. Internal partnering, such as sharing academic sessions with other Divisions like Physical Medicine and Rehabilitation, also enhances program content.

A key upcoming initiative for the postgraduate program is the development and implementation of the Competence by Design (CBD) education program. Although the commencement of this program has been delayed at the RCPSC, we anticipate it will commence sometime in the fall of 2023. One of the Division's recent graduates, who is currently undertaking a PhD, has expressed interest in possibly taking the lead for this initiative.

Postgraduate Medicine – Other Training Program Activities

The St. Michael's clinic is also an important training site for various programs other than Occupational Medicine. Particularly, Dermatology has the longest and most significant use of the clinic rotation. Each year, six to eight second-year Dermatology residents spend one month in the clinic learning occupational dermatology.

In addition, trainees from Allergy and Clinical Immunology spend varying amounts of time in the clinic. More recently, residents in Physical Medicine and Rehabilitation and General Internal Medicine have been doing occupational medicine rotations. Most trainees are from U of T programs; however, some come from other training programs across the country (e.g., Western University and University of Manitoba). OM residents have attended PM&R academic half days, and have provided educational sessions on workers' compensation, insurance medicine and conflict of interest. OM faculty also contribute teaching sessions to Internal Medicine Rounds for residents and medical students.

Some Family and Community Medicine residents also spend varying amounts of time in the program (two- to four-week rotations). As well, the Champion in collaboration with a WSIB physician contribute to sessions (usually three hours long) during Academic Half Days for Family Medicine residents at the various teaching sites addressing occupational medicine and WSIB/compensation issues.

Fellowships

Since the last review, the Division has built a successful international fellowship program. The first Fellow completed the program and is now the first female occupational physician in the UAE, working in both clinical and leadership roles. Two other Fellows from Oman (graduated June 2022) and UAE have joined the program, and another from Saudi Arabia will commence training in 2023.

Development of an Aerospace Medicine Fellowship has been underway since 2014. This would be the first program of its kind in Canada. Challenges include administrative issues (employer concerns, memoranda of understanding with collaborative sites for the delivery of educational content etc.) and funding difficulty.

Graduate Medicine – Research Graduate Programs

The main vehicle for traditional MSc/PhD programs is the Institute of Medical Sciences at U of T. Division members have supervised both MSc and PhD students. A research-focused program in the MPH program in Public Health Sciences is also an option through Dalla Lana School of Public Health.

Graduate Medicine – Professional Graduate Programs

Professional graduate training in occupational medicine includes the MScCH in Occupational Health Care and the Diploma in Industrial Health. Dalla Lana offers both. The MScCH is open to regulated health professionals and focuses on occupational health.

Continuing Medical Education

The Division is engaged in a variety of continuing educational activities. Occupational Medicine Rounds are overseen by Dr. Aaron Thompson, and are geared towards Occupational physicians but open to participants from various backgrounds. They are now delivered in virtual format approximately twice a month. The switch to fully virtual has been smooth and successful, enabling broader participation from geographically distant locations. These rounds are accredited, and participation certificates are provided. OM faculty also contribute several talks for the SMH Family Medicine program grand rounds.

Aerospace Medicine Rounds, overseen by Dr. Joan Saary, were launched in Jan 2021 to fill a national gap in Canadian Aerospace Medicine training and CME opportunities. The vision is that they will be a component of an eventual Fellowship in Aerospace Medicine. Rounds are delivered virtually, approximately monthly. Like OM rounds they are accredited, and participation certificates are provided. They have been very well-received, garnering international participation.

Both OM and Aerospace Rounds are recorded and posted on the U of T Dept of Medicine website at <https://deptmedicine.utoronto.ca/rounds>

Faculty are also engaged in provision of other continuing educational initiatives through their involvement with provincial and national Occupational Medicine organizations including the Ontario Medical Association Section on Occupational and Environmental Medicine, the Occupational and Environmental Medical Association of Canada, and the Occupational Medicine Specialists of Canada.

Another important aspect of educational leadership in Occupational Medicine relates to the development of educational resources such as textbooks. Several faculties have contributed to textbook content for both Occupational Medicine (Pocket Consultant – Occupational Health 6th Ed /Adishes & Saary) and Aerospace Medicine (Principles of Clinical Medicine for Space Flight / Saary). Other faculty (Adishes/Thompson/Spilchuk) have contributed to development of the Occupational Medicine virtual community of care through Project ECHO (Extension for Community Healthcare Outcomes), a model that creates knowledge-sharing networks through multipoint video conferencing.

Student Awards

The Division was the recipient of a generous 2021 donation from Christina Walker in memory of her late husband, Colonel Carl Walker. The Division of Occupational Medicine was pleased to announce four inaugural beneficiaries of the Colonel Carl & Christina Walker Fund in Aerospace Medicine. In 2022, the funds have supported Temerty Medicine learners' participation in conferences and other educational/research experiences relevant to the field of Aerospace Medicine. Recipients included one medical student and three residents (general surgery, radiation oncology, and family medicine).

The Division is now also establishing a research award to be named after a program graduate, Sean Somerville, who passed away unexpectedly.

RESEARCH

Although small, the Division is active in clinical and applied research, as well as research that informs policy development. Division faculty generated 17 Web of Science documents over the review period, generating 112 citations and an average H-index of 6. Over the reporting period, Divisional faculty held total funding up to \$115,504.

A major research initiative of the Division has been the Centre for Research Expertise in Occupational Disease (CREOD), a collaborative program of U of T and St. Michael's Hospital. CREOD was founded in 2004. The current Director of CREOD, Dr. Linn Holness, is a Professor Emerita in the Department of Medicine. Initially, a stakeholder consultation occurred to develop its research agenda. This process led to the identification of four research programs: three mapping directly to clinical activity at St. Michael's Hospital (skin disease, respiratory disease, hand-arm vibration syndrome) and a fourth focuses on biological exposures in the workplace. A fifth program was established five years ago to capture cross-cutting and emerging themes of relevance to occupational disease, including effective Joint Health and Safety Committees, the role of health-care providers in early diagnosis and issues of early recognition and reporting. **CREOD has facilitated important developments in research programming. These include:**

- development of programmatic areas of research;
- development of appropriate infrastructure to support research and researchers;
- better integration of students into the research programs;
- enhanced collaborations; and
- a focus on knowledge translation.

An important resource that CREOD has provided is funding for students, including fellows, master's, and PhD students. It also funds summer studentships for medicine and undergraduate students. Most of these have been situated in the clinic and have assisted clinical research in our program areas.

Another key feature of the Division's past research success has been the strong collaboration with other research centres. Cancer Care Ontario's Occupational Cancer Research Centre (OCRC) is a sister research centre that focuses on malignant occupational disease. The former DDD was a founding member of OCRC and has served on its advisory council since its inception. Active research collaboration with scientists at the OCRC continues. In addition, the Division has collaborated on research projects with Institute for Work and Health scientists. The Centre for Research Expertise in Musculoskeletal Disease at the University of Waterloo is the other system-funded research centre. The Division has partnered with the centre on knowledge-translation activities such as a hand-arm vibration syndrome workshop.

Other key collaborations occur with our provincial partners. They have included the Ontario Ministry of Labour, Immigration, Training and Skills Development (MLITSD) (which is responsible for occupational health and safety legislation and enforcement) and WSIB. The Division is well connected within the occupational health and safety system in Ontario and works directly with many of the other partner organizations, teams and working groups.

In addition to CREOD, the Division has started to form links with the Centre for Urban Health Solutions (C-UHS) at St. Michael's Hospital. C-UHS has a focus on social determinants of health and innovative upstream interventions to improve health outcomes for marginalized and vulnerable populations in Ontario and Canada. The Division is working with C-UHS to develop a stream related to work and employment.

During his tenure as DDD, Dr. Anil Adisesh had research funding from the Canadian Cancer Society and New Brunswick Health Research Foundation. He also worked with major international organizations to integrate evidence into policy. For example, he was involved in development of the ILO (International Labour Organization) Diagnostic and Exposure Criteria for Occupational Diseases. https://www.ilo.org/global/topics/safety-and-health-at-work/resources-library/publications/WCMS_836359/lang--en/index.htm. Several other Divisional faculty also make significant contributions to policy development, leveraging evidenced-based literature reviews. These contributions encompass both research and quality improvement work, and is an area of untapped potential given that it is

under-recognized and under-reported within the Division. Dr. Adisesh's work, along with the numerous publications stemming from SMH clinical databases, also indicates that there is potential to harness larger existing databases and data-linking to investigate occupational outcomes more comprehensively.

A new opportunity may emerge if a recent submission (Improving Recognition of the Work Environment as a Determinant of Women's Health) for CIHR support for a Women's Health Hub is successful. The goal of the proposed hub is to improve women's health through better understanding of the impact of the work environment on women, and through increased recognition of the work environment as an important determinant of women's health. The key activities of the proposed hub will span the research to practice continuum and will include Research, Knowledge Mobilization and Capacity Building. This hub will be led at the U of T, in the Dalla Lana School of Public Health, by Prof. Victoria Arrandale, an occupational hygienist and exposure scientist who has studied women's health in the trades (welding, electrical) and personal service (nail salon) sector. Victoria will be joined in leadership by Dr. Marina Afanasyeva, a specialist physician in Occupational Medicine and Public Health and Preventive Medicine, and Valerie Wolfe, the Executive Director (South Central Region) for the Occupational Health Clinics for Ontario Workers (OHCOW). The new DDD facilitated the initial opportunity, is very supportive, and maintains valuable relationships with representatives of similar and potentially collaborative groups within the Canadian Forces and Veteran's Affairs.

The Division will also continue to encourage and support the publication and presentation of resident research undertaken during training rotations. The research program at SMH has developed unique longitudinal databases for occupational dermatology (patch test) and hand-arm vibration syndrome (HAVS) patients. Starting in 2013 (Patch Test) and 2014 (HAVS), these databases are now likely the largest databases of these specific types of patients in North America and are used for individual research projects by SMH researchers and trainees.

The new DDD has undertaken research supported the Surgeon General's Health Research Fund and has collaborations with Defence Research and Development Canada – Toronto as well as Sunnybrook Research Institute related to neuro-imaging of Canadian Forces fighter pilots. She has also mentored numerous students through published and award-winning research projects which had provided the evidence-base to impact aeromedical policy development.

QUALITY AND INNOVATION (QI)/ ADVOCACY

Developing innovations that improve the patient experience is a core activity in the clinic setting. Much of the work is rooted in initial studies of patient needs and issues that lead to the development of tools. An example is the workplace prescription. In addition to traditional medical management, workers often require support in managing their workplace and its associated exposures. Following input from workers and employers about desired information needed and format, a workplace prescription was developed to assist the knowledge transfer of workplace prevention recommendations in a clear, written format for all parties involved. Another important activity relates to vulnerable workers. This work is well aligned with the Centre for Urban Health Solutions, which focuses on health inequalities and social determinants of health.

LOOKING FORWARD

Although the Division of Occupational Medicine has been in existence since 1995, 2016 was the first time it had been reviewed. The most immediate challenge identified at that time was the transition of the Director's leadership role given her many long-term relationships. A challenge or threat moving forward was the fact that many of the system

connections are individual, so transition of these relationships will be important. The SWOT analysis done then continues to be relevant and although details will not be reiterated here, this analysis will inform a new strategic retreat. Discussions related to succession planning and sustainability will be of paramount importance, as well as the future vision of CREOD and whether opportunities will exist for newer Division members and clinical trainees.

The Division will persist to disseminate knowledge of occupational medicine within other specialties and subspecialties, while also create opportunities for trainees to understand the role of work in relation to their disciplines. Future directions will be informed by the recently completed MLITSD-funded Occupational Disease Review which is yet to be released.

Areas of untapped potential identified prior to the strategic retreat include engagement of adjunct lecturers, opportunities in medical surveillance, expansion of clinical focus beyond current areas of niche expertise (e.g., HAVS and contact dermatitis), supporting faculty to expand project ECHO, enhanced utilization of large existing databases, women's health research initiatives, and aerospace medicine training program and/or clinic development. The current DDD has particular expertise in aviation and diving medicine, and is currently developing a Fellowship in Aerospace Medicine. The feasibility of an interdisciplinary network of aerospace-interested clinicians and researchers may expand Divisional collaborative opportunity beyond existing divisional partnerships.

Strategic Planning

The Division last held a strategic- planning retreat in January 2016 to inform recruitment of the next DDD. Priorities were mapped to the seven guiding principles of the DoM strategic plan (2016-2020). In 2018 the DoM recruited Dr. Anil Adisesh to serve as DDD, and additional plans for strategic planning were in progress. However, due to the COVID-19 pandemic and then subsequent departure of Dr. Adisesh, strategic planning was delayed until appointment of the following DDD. Dr. Joan Saary is currently developing a strategic planning framework in consultation with the DoM and will launch a formal planning process Summer 2023. Division and partner engagement will consist of a survey, 1:1 engagement with key stakeholders, planning meeting and eventual articulation of goals, priorities and metrics for a 5-year and 10-year framework.



PALLIATIVE MEDICINE



OVERVIEW

In July 2017, the Division of Palliative Medicine became a new division within the Department of Medicine (DoM), following palliative medicine's approval as a subspecialty by the Royal College of Physicians and Surgeons of Canada (RCPSC). In thanks to a generous donation from the Rose family, the Division has developed strong base funding for its operations.

The division is committed to ensuring that all patients who would benefit from palliative care have access to a spectrum of evidence-informed care delivered by interprofessional teams with primary and advanced competency in palliative medicine. The Division champions and collaborates with other divisions in the DoM and the Division of Palliative Care within Family Medicine, to grow the profile, practice and study of palliative medicine.

The Division is committed to growing its high-quality training programs, rich and meaningful academic platforms, and promoting strong advocacy for increased attention and investment in the field. Division leadership seeks to ensure Palliative medicine is recognized as an integral and essential part of quality healthcare delivery.

GOVERNANCE

Department Division Director (DDD)

Appointed Division Director in September 2022, Dr. Ebru Kaya graduated from residency training in palliative medicine in the UK and immigrated to Canada in 2006. Dr. Kaya is an Associate Professor in the Department of Medicine and has supported in numerous leadership roles, including Program Director, Royal College residency training program in palliative medicine at the University of Toronto, co-director for the Clinical Fellowship program for the Division, and as Palliative Care Site Lead at the Toronto General Hospital. Dr. Kaya was co-recipient of a Temerty Faculty of Medicine Award for Excellence in Postgraduate Medical Education in 2023 and has made important contributions to palliative care through the Canadian Society for Palliative Care Physicians, where she has served as Treasurer and is currently the President.



Dr. Camilla Zimmerman served as inaugural DDD from July 2018 until December 2021. She is a Professor in the Departments of Medicine and Psychiatry. She is also Head of the Division of Palliative Care at the University Health Network and a staff palliative care physician at the Princess Margaret Cancer Centre, and a Senior Scientist at the Princess Margaret Cancer Research Institute.



Division Executive Committee

The Division has an executive Committee that is both engaged and involved in division planning and implementation. The group meets regularly (both in person and hybrid) and consists of:

- Education Lead and Program Director for 2-year subspecialty residency program (currently held by Dr. Kaya)
- Research Lead, held by Dr. Breffni Hannon
- Wellness Co-leads, Drs. Sarah Torabi and Jennifer Moore

Research Committee

- Breffni Hannon, UHN
- Kirsten Wentlandt, UHN
- Martin Chasen, William Osler
- Lise Huynh, Sunnybrook

Wellness Committee

- Meera Burns, Unity Health
- Breffni Hannon, UHN
- Lindsay Hurlburt, UHN
- Sarah Lord, Sick Kids
- Jennifer Moore, Sunnybrook
- Sarah Torabi, Sunnybrook
- Mitali Vatsraj, William Osler

Strategic Planning

The Division's focus is on growing high-quality training programs, rich and meaningful academic platforms, and strong advocacy for increased attention and investment in the field. In the coming months the Division will begin a strategic planning process to articulate updated vision, mission and priorities that align with those of the DoM and Temerty Faculty of Medicine, and which highlight priorities of the Division to achieve growth of its training program to better serve population needs.

Figure 17.1: Academic Position Description of Full-time Palliative Medicine Faculty

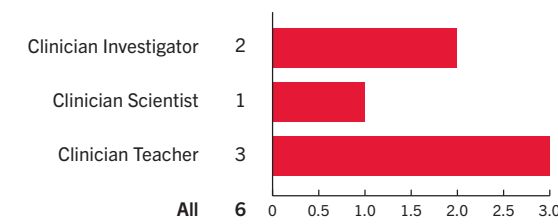


Figure 17.2: Affiliation of Full-time Palliative Medicine Faculty

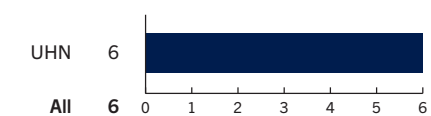


Figure 17.3: Current Rank of Full-time Palliative Medicine Faculty

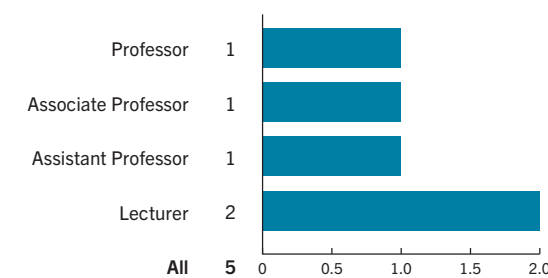
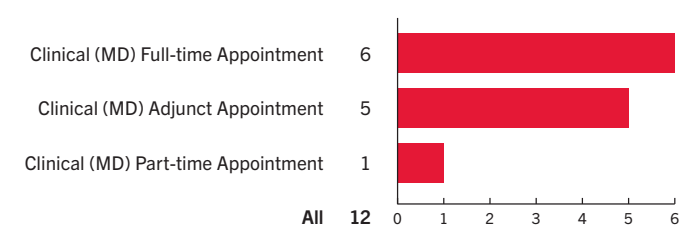


Figure 17.4: Primary Appointment of Palliative Medicine Faculty



EDUCATION

In 2013, palliative medicine became a subspecialty. The first cohort of residents were accepted into the program in 2017. There are currently only six other subspecialty programs in Canada with ten positions in total. Upon graduation, our residents are highly sought after by both community and university-affiliated teams. Currently we are in our sixth cohort, but all but two of our residents have been hired into teaching hospitals in the GTA.

Overall, there is a global shortage of palliative care physicians, including palliative medicine specialists. All division faculty are engaged in teaching activities that span multiple levels and involve interprofessional audiences. While most teaching is focused on improving clinical skills of generalist clinicians who see patients with life-threatening illnesses, many are also engaged in teaching advanced trainees. Several of our Faculty regularly teach and mentor other palliative care clinicians locally, regionally, nationally and internationally.

There are two local awards for trainees and a national award for subspecialty residents to encourage scholarly work in palliative care, starting from their medical school and continuing throughout their training.

Undergraduate Medical Education

Palliative medicine is increasingly in demand by medical students. Students interested in exploring training options are connected early on with the Division Director and those interested in a QI project or research in palliative care medicine are connected to Clinician Investigators and other faculty who are experienced in research/QI work.

Postgraduate Medical Education

Royal College Subspecialty Residency Training Program in Palliative Medicine

The mission of this program is to train outstanding palliative care subspecialists who will use clinical, academic and scholarly skills throughout their careers to improve the quality of life and or death for patients with life-threatening illnesses and for their family members.

Training may begin in the final year of residency (Internal Medicine, Neurology or Anesthesiology) or after the completion of specialty training. The program is two years and training includes successful completion of a scholarly project and certification exam.



The Division has had 10 residents since 2018 and over 30 Fellows.

The program meets the specific training requirements set out by the Royal College. In the first year, trainees acquire core palliative care knowledge and skills by rotating through palliative care services in a variety of inpatient, outpatient and community settings. In the second year, trainees learn about the management of end-stage non-cancer illness through a series of focused off-service rotations. At the end of the second year, trainees complete another four blocks of core palliative care rotations; during this time, the trainee will act as a “junior attending” while preparing for transition to practice.

Residents will have two blocks of research and two electives during their two years of training. Each resident is also required to complete a scholarly or academic project during training. At the conclusion of training, projects are reviewed and evaluated in a peer-reviewed format and are presented at the national meeting of the Canadian Society of Palliative Care Physicians.

Fellowships

As of 2023, there are two fellowship programs; the clinical fellowship and the palliative medicine clinical research fellowship. More information on these fellowships is below:

The [clinical fellowship](#) focuses on providing outstanding clinical experiences in different palliative care practice settings across UHN such as community and tertiary palliative care units, inpatient palliative care consultation services, residential hospices, and outpatient palliative care clinics.

Fellows learn about palliative care for patients and families across different stages of illness, ranging from diagnosis and active treatment to acute medical issues, post-treatment care, and end-of-life support. During the training, fellows provide palliative care for a wide spectrum of patients with malignant and non-malignant illnesses. There is also the opportunity to tailor training to meet their individual learning goals. Clinical fellows participate in an interdisciplinary academic environment with ample opportunity for feedback and present at local rounds; including Pain and Symptom Management Rounds and Departmental Grand Rounds. There are also research and leadership opportunities; including junior attending roles and committee participation.

The [Palliative Medicine Clinical Research Fellowship](#) at UHN provides fellows with exceptional experience in clinical palliative care research. The focus of the fellowship is on acquiring research skills while working in an interdisciplinary clinical and academic environment. Fellows develop research proposals under supervision, analyze original research data, prepare presentations for and participate in local, national and international meetings, and write manuscripts for submission to peer-reviewed journals. There is also ample opportunity for presentation at local rounds, including: the Manuscript Review Seminar, Journal Club, Pain and Symptom Management Rounds and Departmental Grand Rounds. Completion of a Master’s degree with a focus on palliative care is also possible. This fellowship has a duration of two years. Continuation into the second year is contingent upon successful evaluation after the first year. During the fellowship, participants are provided with 60% protected time dedicated to research activities, while the remaining time is primarily allocated to specialized outpatient palliative care.

RESEARCH

Leadership in research is a priority for the Division of Palliative Medicine. Building on established research programs and networks, the Division collaborates broadly with other specialties across the world. Since 2018, the Division’s scholarly outputs, inclusive of research, education and QI works, have resulted in over 155 publications, some of which include publications in JAMA Oncology, the Lancet, and BMJ Supportive & Palliative Care. These publications have resulted in over 4530 citations and have an average H-index of 25.7.

Collaborative city-wide research continues to grow. The Division is committed to fostering research and has annual competitions for divisional grants. These grants are designed to strengthen collaboration and have a requirement that at least two sites must come together. Research grants will be funded jointly by the Division and by the Global Institute of Psychosocial, Palliative and End-of-Life Care, an extra-departmental unit at U of T. Projects are presented at a yearly Research Day, which features research by trainees as well as staff. Currently, most research in palliative medicine at the University is in oncology, with an aim to expand this research to non-cancer populations.

FACULTY

There are seven full-time faculty members (2 CIs, 4 CTs and 1 CS) sited at University Health Network (PMH and TGH) and Sunnybrook Health Sciences and six adjunct appointment/part-time faculty, sited at Unity Health, UHN and community

sites, W. Osler Health Ctr – Brampton Hospital and Rouge Valley Health. In addition to Divisional faculty, approximately 20 Royal College–certified Family Physicians are working as consultants in palliative medicine in university-affiliated hospitals across Toronto. Approximately half work full-time as palliative care specialists, while the other half also practice in another subspecialty, such as general internal medicine, respirology or emergency medicine. Many university-affiliated sites are actively recruiting, and the number of faculty members is expected to increase significantly over the next few years.

Palliative medicine is relevant for many subspecialties of the DoM, and there may be other members of the DoM interested in contributing to academic activities in the Division such as collaborative research, teaching for the Royal College program or participating in continuing education.

At present, faculty working full-time as specialists in palliative medicine have appointments in other divisions or within the Department of Family and Community Medicine (DFCM). Through the departmental palliative medicine Faculty Survey, faculty will indicate their interest in a primary or cross appointment to the Division of Palliative Medicine, and appointments will be requested and implemented accordingly.

Most U of T faculty practicing palliative medicine are clinician teachers due to a significant need to build capacity for generalist palliative care within the GTA. However, a concerted effort is being made to recruit and train Clinician Investigators and Clinician Scientists. Appropriate protected time, commensurate with job description, will be ensured by funding through individual practice plans at the relevant site, as well as start-up divisional funding.





Mentorship

A formal mentorship program is in place for residents in the Royal College palliative medicine program and one will be developed for new staff under the direction of the Division Director and Hospital Site Lead. Mentors will be chosen according to areas of academic interest, job description and career goals.

Wellness

A high rate of burnout is experienced in palliative medicine. Burnout is attributed to many factors, some of which are understood to include: working with patients and families facing advanced illness and the perception of a lack of resources. The acknowledgement of palliative medicine as a subspecialty represents a significant milestone that would bolster morale for practicing physicians and encourage trainees to enter this rapidly advancing field. Palliative care is best delivered through interdisciplinary teams. However, for most physicians, their source of support will continue to come from their local palliative care team. In addition to medical colleagues, where available, team members from various professions such as nursing, social work, psychology, spiritual care and psychiatry are potential sources of support. There is also a national mentorship program available to faculty.

There are many resources and activities available to faculty including bi-annual nature walks, and group activities at Divisional retreats. Storytelling and arts-based activities are being explored for faculty by the wellness leads.

As part of academic half-day, residents in the Royal College training program are involved in a multi-part self-care series assisted by two faculty members in the DFCM who have experience in physician wellness. These sessions allow residents the opportunity to discuss challenges and explore methods of coping. Residents are provided with relevant articles and resources over the course of their training. The faculty mentor also facilitates resident wellness through regular meetings that address stress and concerns and provide counselling and support as needed. Also, during many of the palliative medicine rotations, the resident will be working in a supportive interprofessional team.

A retreat is organized every second year, which will be attended by faculty and trainees. The retreat serves as an occasion to come together in a relaxed setting, providing opportunities to reflect on wellness and resiliency, and promote self-care.

Equity, Diversity and Inclusion

Among the 20 faculty members who are practicing as palliative medicine consultants at hospitals affiliated with U of T, more than half are women, and 70 percent of those are working full-time as palliative medicine specialists. Principles of gender equity and diversity are upheld for all committees including the executive, divisional search committees and the Residency Program Committee. The Residency Program Committee also includes one or more representatives from social work, bioethics, and spiritual care. The Division is in the process of creating a new EDI lead role, that will provide guidance on promoting inclusion and equity to both the training program and faculty members.



Continuing Medical Education

There are division-wide and site-based rounds, workshops and journal clubs available to all faculty. In 2023 the Division was invited to join a national palliative care journal club which includes podcasts and other curated resources. There are many conferences throughout the year that faculty are also encouraged to attend. In addition, there are online courses accessible to faculty, allowing them to assess their knowledge and identify areas for further growth.

QUALITY AND INNOVATION (QI)/ ADVOCACY

Quality and innovation are of great importance in palliative medicine. Current and planned initiatives include:

- Developing standards for thromboprophylaxis in patients in inpatient palliative care settings;
- Using mobile technology to assess symptoms, and
- Developing a mechanism for symptom screening with targeted early palliative care involvement for symptomatic patients;
- Understanding underlying characteristics of patients with chronic liver disease referred to specialist palliative care;
- Developing a national palliative care registry of COVID-19 patients.

Early palliative care has been a focus of research and innovation. Specialized palliative care clinics have been created for patients with cancer, advanced lung, liver and kidney disease, movement disorders and heart failure. These clinics have been created for patients awaiting or receiving organ transplants; a clinic is planned for patients with connective tissue diseases.



LOOKING FORWARD

Given that the Division of Palliative Medicine is relatively new, building the division will be a strong focus. With the executive team, the Division Director will revisit the 2017 strategic priorities, and in the coming months will focus planning on understanding the environment, capacity and evaluation of 2017 objectives. Considering the engagement of faculty members, the challenges posed by the COVID-19 pandemic, and an increase in burnout of faculty, it is evident that the Division needs to prioritize the support of its faculty, especially early career faculty.

There is a significant need to improve access to palliative care overall, but in particular, to non-cancer palliative care. To enhance this access, the Division is collaborating with DFCM, co-leads a community of practice across Canada that is dedicated to building capacity in non-cancer palliative care.

The Division maintains a close partnership with the DFCM, which offers many benefits, but also presents some key challenges. One of these challenges includes understanding the different training avenues. Specifically, medical students who are interested in a career in the field often struggle to understand the differences and advantages between the 5-year (internal medicine and palliative medicine subspecialty) and the 3-year (family medicine and enhanced skills year in palliative care) residency programs. This issue is not unique to Toronto and is observed across most subspecialty palliative medicine programs nationwide. Each program has different areas where physicians can support; clear and early articulation of which training avenues allow for specific areas of care will be an important initiative moving forward.

There are many internists and subspecialists seeking formal training in the field of Palliative Medicine. In recognition of this trend, a national working group has been established to focus on increasing recruitment to the subspecialty program; many U of T Faculty are members of this committee.

PHYSICAL MEDICINE & REHABILITATION



OVERVIEW

The Division of Physical Medicine and Rehabilitation (PM&R) has a strong and growing presence across a wide breadth of clinical, educational and research areas. The Division spans four academic health science centres, two community-affiliated rehabilitation hospitals and other physical sites across the Greater Toronto Area. The Division is the largest and most productive physical medicine and rehabilitation unit in Canada and one of the strongest in North America.

At a systems level, PM&R has led the development of important national guidelines for delivery of care in stroke, brain injury and spinal cord injury (SCI). It has developed several Cochrane Reviews addressing musculoskeletal pain and disability. The Division leads an educational model called Extension of Community Healthcare Outcomes (Project ECHO Ontario) in which primary care physicians are educated on how to best care for patients with pain and other disabilities.

The Division has a strong group of young and mid-career faculty who focus on quality improvement and patient safety. Their areas include the introduction of regular physician huddles and morbidity and mortality (M&M) rounds into the rehabilitation arena, improved transitions across sites of patient care, and improved patient education. The group has also established indicators of quality care for rehabilitation settings.

Faculty and residents have active research programs in the treatment of specific clinical disorders including spasticity, myofascial pain, osteoporosis, anoxic brain injury, amputee rehabilitation, cardiac rehabilitation and peripheral nervous system injuries. The Division continues to make innovative research discoveries and translate that knowledge into the clinical setting, so that patients with disabilities can improve function and community participation after serious illness and injury.

GOVERNANCE

Department Division Director (DDD)

Dr. Larry Robinson was appointed Division Director, Physical Medicine and Rehabilitation in 2016 and is completing his second term. He is Clinician Investigator, Professor and holds the John and Sally Eaton Chair in Rehabilitation Sciences. He also serves as Program Chief for Rehabilitation at Sunnybrook Health Sciences Centre in Toronto. He moved to Canada from the University of Washington where he served as Chair of the Department of Rehabilitation Medicine and later as Vice Dean for Clinical Affairs and Post Graduate Medical Education.



Dr. Robinson has published extensively on rehabilitation and electrodiagnosis with over 130 publications in the peer-reviewed literature as well as 2 books. He developed the combined sensory index (CSI) for diagnosis of carpal tunnel syndrome, which is now known internationally as the Robinson Index. He also is widely known for his work on diagnosis and prognosis of traumatic neuropathy.

Division Executive Committee

The Division Executive Committee is led by the DDD, Dr. Larry Robinson, and includes a variety of roles that seek to reflect the entire division. This includes:

- Mark Bayley (Professor, QI track, Chief at Toronto Rehab)
- Lisa Becker (Assistant Professor, Clinician Teacher, Residency Program Director)
- Cathy Craven (Professor, Clinician Scientist, Chief of Spinal Cord Injury Program)
- Shannon MacDonald (Assistant Professor, Clinician Investigator)

- Chris Fortin (Assistant Professor, QI track, Chief at Bridgepoint Rehab)
- Amanda Mayo (Assistant Professor, QI track, Leads QI programming for us (QI Program Lead)
- Kevin Hsu (Lecturer, community member)

The Committee meets quarterly and communicates more frequently by email. Meetings have continued on a virtual basis since the start of the pandemic.

Divisional leadership also consists of Dr. McKyla McIntyre as Wellness Lead, Dr. Lisa Becker as Residency Program Director, Dr. Andrea Furlan as Fellowship Committee Lead, Dr. Peter Broadhurst as Undergraduate Medical Education Lead and Dr. Julio Furlan as Research Committee Lead. Drs. Andrea Furlan and Ali Rendely lead our social media group. Committee composition seeks to reflect diversity, equity and inclusion and along with the Division Director work to support policy, practice and recruitment opportunities that uphold these core values.

Competence Committee

The Competence Committee (CC) is responsible for making overall assessments for each resident, and recommendations regarding promotion, coaching and remediation, at multiple time points throughout residency (CC Terms of Reference). The committee is made up of faculty members from various sites but is led by Dr. Julia Warden. The program director (PD) also sits on this committee. They use all the assessments (e.g., EPAs, ITARs, exams, etc.), as well as other relevant criteria (e.g., attendance records, emails to the PD), to make decisions. Residents are reviewed by the CC at least three times per year. The CC provides their overall assessment and recommendations to the RPC and PD. The PD will meet with the resident (after the CC meeting) to review these recommendations.



Strategic Planning

In 2015, a strategic-planning process that focused on city-wide engagement was completed. **The planning incorporated an extensive and open consultation which included the following:**

- interviews with individuals inside and outside the Division;
- focused working groups that engaged all Division members;
- surveys that gathered information on preliminary goals and priorities; and
- a Division retreat that confirmed six final priorities: faculty development, communications, interprofessional collaboration, quality improvement, education and research initiatives.

In 2019 a division review was completed and progress in the 4 key areas were assessed. Having met all articulated goals, new priorities were set for the 2019-2024 period. Priorities include:

- Building research capacity and enhancing collaboration across division sites
- Expanding social media presence
- Advancing integrated care
- Advocating for specialized rehabilitation care
- Promoting Quality and Innovation activities (locally and nationally)



- Supporting wellness in our division
- Effectively rolling out competency based medical education

External Review

An external review of Dr. Larry Robinson and the Division was completed in 2019 by Dr. Andrea Townson. This was done in synchrony with a review of Dr. Robinson's term as Program Chief of St. John's Rehab (part of Sunnybrook Health Sciences Centre). Renewal of Dr. Robinson's term was recommended.

In 2023, another review of the Division will be completed, as well as a hospital review of the St. John's Rehab program

EDUCATION

The number of undergraduates and postgraduates (core residents, electives, residents and fellows) who rotate through the University's PM&R clinical sites has increased over the past four years. The growth in postgraduate numbers over the past three years was largely due to the increase in core PM&R residents and fellows.

The Division's residents and fellows rotate to eight Toronto hospitals as well as to community sites and hospitals in other cities.

Undergraduate Medical Education

While there is not a required elective in PM&R, we perform outreach to medical students in their pre-clinical and clinical years. This includes reaching out to offer observerships (in pre-clinical years), optional musculoskeletal skills workshops, participating in small group sessions, and recruitment for elective rotations.

Postgraduate Medical Education

The Postgraduate Year One (PGY-1) entry residency training programs offered by the Department of Medicine are accredited by the Royal College of Physicians and Surgeons of Canada (RCSPC). RCSPC certification in a specialty is granted when one completes all credentials, training, and examination requirements. Information regarding the specialty training requirements for each program can be found on the RCSPC Website.

The Physical Medicine and Rehabilitation Residency Training Program at the University of Toronto is one the largest programs of its kind in Canada. Our faculty has a strong commitment to resident education. Our program provides diverse opportunities for training, research and broad clinical exposure within the University of Toronto community. Residents receive financial support for conferences, research, books, technology and social programming. Our program alternates with Edmonton in hosting the Canadian Comprehensive Review Course in Physical Medicine and Rehabilitation. We have a collegial group of 23 residents with a broad informal support network. We are pleased to see an expansion in number of entry slots, from 3 per year to 4 per year starting in 2023.

Fellowships

The Division of Physical Medicine & Rehabilitation (PM&R) has an active Clinical Fellowship training program. Clinical Fellowships offer advanced clinical training to fill the specific learning needs of the trainee that are framed within the CanMEDS roles of medical expert, communicator, collaborator, manager, health advocate, scholar and professional. The Clinical Fellowship is an educational experience, but also involves significant patient contact and care provision in an interdisciplinary environment that is supervised by a physician who holds an appointment in the Division of PM&R. A number of the clinical fellowships provide exposure to clinical research in the field and the opportunity to conduct a clinical research or Quality Improvement Project. All PM&R



fellowship programs provide at least one half day of protected academic time. More information is available via link: <https://domapp.utoronto.ca/fellowship/pmr/Application%20Overview%20for%20PM&R%20Fellowship%20030723.pdf>

There are a limited number of fellowships funded through the Division of PM&R that are available on a competitive basis. Both Visa and Non-Visa applicants are advised to seek funding support from their own institution or government. The clinical fellowship is a non-accredited program for board certified or board eligible physicians. The Fellowship does not lead to certification by the Royal College of Physicians and Surgeons of Canada (RCSPC). Fellowships that are offered within the Division of PM&R include Amputee Rehabilitation, Brain Injury Rehabilitation, Cancer Rehabilitation, Cardiovascular Prevention & Rehabilitation, Chronic Pain Rehabilitation, Interventional Physiatry, Multiple Sclerosis Rehabilitation, Neurological Rehabilitation, Spinal Cord Injury Rehabilitation and Trauma Rehabilitation.

Competence by Design (CBD)

The Competence by Design (CBD) model in PM&R requires residents to complete Entrustable Professional Activities (EPAs), which are tasks that can be delegated to a resident and observed by a supervisor. At the end of each rotation, residents will also be evaluated by an In-Training Assessment Report (ITAR). ITARs are linked to the Rotation Plan, which specifies the goals and objectives of each rotation. Assessments are completed on the Elentra e-platform and can be initiated by faculty or the resident.

Figure 18.1: Academic Position Description of Full-time Physical Medicine & Rehabilitation Faculty

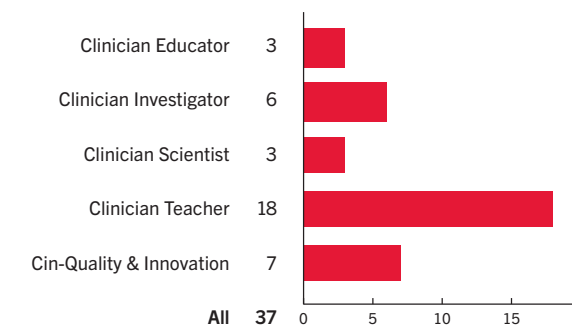


Figure 18.2: Affiliation of Full-time Physical Medicine & Rehabilitation Faculty

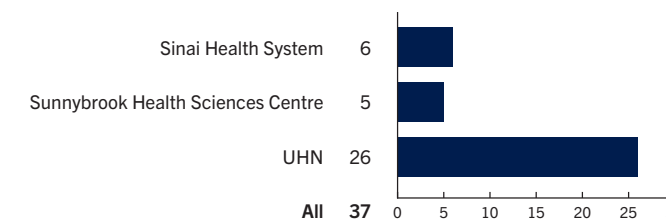


Figure 18.3: Current Rank of Full-time Physical Medicine & Rehabilitation Faculty

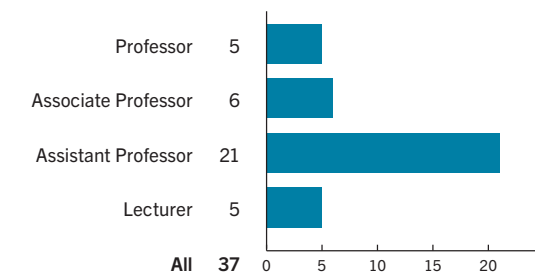
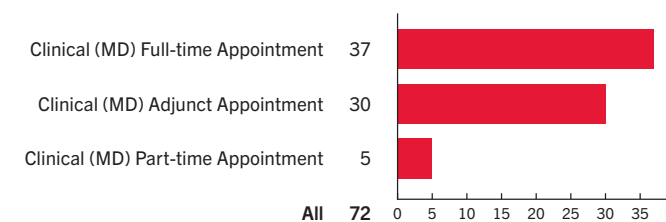


Figure 18.4: Primary Appointment of Physical Medicine & Rehabilitation Faculty



PM&R Residency will continue to be five-years in duration. It is split into four stages:

- Transition to Discipline (TTD) 2 blocks in PGY 1
- Foundations of Discipline (FOD) 17 blocks in PGY 1-2
- Core of Discipline (COD) 35 blocks in PGY 2-5
- Transition to Practice (TTP) 11 blocks in PGY 5
- The Royal College Exam will take place during the Core stage

As of June 30, 2023, we will have had 3 years of experience with CBD. It has been operating smoothly without significant challenges. We had two-years of faculty preparation for CBD prior to implementation.

RESEARCH

Research productivity within PM&R has had significant impact and growth. Division Faculty have published 814 publications and our researchers are highly cited: 8,821 citations appeared during the review period and had an average H-index of 14.28. Divisional faculty held an average of 29 grants each year over the reporting period, totaling \$15.147 million.

FACULTY

PM&R faculty provide patient care at clinical sites, actively educate medical students and future physiatrists and conduct important research in the efficacy and efficiency of rehabilitation along the patient-care continuum. Since 2014 we have seen a dramatic growth in faculty members, from 20 in 2014 to 38 currently. Overall, the Division has 38 full-time, 29 adjunct and 8 part-time faculty. **A number of cross-appointed faculty have additional specialties in anatomy and psychiatry. Faculty cover a wide range of rehabilitation specialty areas including the following:**

- Acquired brain injury
- Amputee
- Anatomy
- Burns
- Cardiac
- Electromyography (EMG)
- Multiple sclerosis



- Musculoskeletal
- Neurological
- Neuromuscular
- Oncology
- Orthotics
- Paediatrics
- Pain management
- Respiratory
- Spasticity
- Spinal cord injury
- Sports medicine
- Stroke

Over the last five years, the Division has enhanced relationships with other divisions and hospitals in various ways. Examples include:

- Building acute-care consult services at several fully affiliated hospitals;
- Using social media and a monthly newsletter to share news of interest
- Establishing a multidisciplinary nerve injury clinic in collaboration with plastic surgery
- Having a physiatrist round on burn patients in acute care
- Participating in a new complex brain disease clinic run by neurology

- Attending an interdisciplinary clinic for patients with neuromyelitis optica (NMO), as well as MS clinics
- Establishing a pain-in-pregnancy collaborative clinic focused on women's health
- Serving as part of a limb preservation team with vascular surgery
- Developing a laryngeal electromyography clinic.

Continuing Medical Education

The Division has provided continuing education credits for grand rounds and journal club, as well as Resident Research Day. We have hosted the U of T PM&R Day annually, which offers CME credits. We also collaborate closely with the Canadian Association of PM&R to publicize continuing education events.

Mentorship

Division mentorship is instrumental to our success as a Division. We make sure all new recruits have at least one mentor, preferably outside of our Division. Often more than one mentor is established, though none is in the chain of command. Furthermore, at the time of annual review we check in to see if the mentorship is working well; at times we may change or add mentors. Mentorship has been an important ingredient to support faculty growth over time.

QUALITY AND INNOVATION (QI)/ADVOCACY

Quality Improvement (QI) has been a significant focus of our Division. We particularly wish to build capacity for this very important work. We recently completed a Division-wide initiative to improve medication reconciliation; this initiative resulted in a doubling of compliance at the three clinics that participated. Our senior residents also participate in a new QI initiative each year. Several of our faculty have published a primer for QI in PM&R in the journal "PM&R". Moreover, several of our faculty have started a national special interest group (SIG) in the Canadian Association of PM&R focused on Quality and Innovation.

Our Division has had significant involvement with Choosing Wisely Canada (CWC). Dr. Larry Robinson was the CWC leader for the specialty in Canada and it is now Dr. Chris Fortin (at Bridgepoint).



MAJOR ACCOMPLISHMENTS

Major accomplishments of the Division of PM&R have included:

- Near doubling of faculty numbers since 2014
- Marked growth of funded research with >\$10M annual funding since 2020, and >160 peer reviewed publications per year
- Expansion of a residency program with positive accreditation review and stable leadership
- Establishment of a critical mass of faculty with a primary scholarly interest in quality and innovation
- Sustained focus on faculty wellness
- Clinical integration into other areas of medical care

LOOKING FORWARD

The Division of PM&R is in a very strong position with a favourable trajectory and outlook. With upcoming promotions expected in 2023 and 2024 we will have a good balance of junior and senior faculty.

The Division will complete its review in the fall of 2023 with a new division director to be recruited for July 1, 2024. Fortunately, there are a number of strong full-time faculty candidates in the division including 4 Professors and 6 Associate Professors. This position could be attractive to external candidates as well, especially so if the position were paired with an opportunity to serve as medical lead (i.e., program chief, or physiatrist in chief) at a rehabilitation hospital; that is because recruitment and program growth rely jointly on hospital and university support.

RESPIROLOGY



OVERVIEW

Respirology is a relatively young subspecialty of internal medicine. The field evolved out of the tuberculosis sanatoria in the 1960s with most respiratory specialists having trained in the United Kingdom. In Toronto, under the direction of Dr. Colin Woolf, the Respirology Training Program was established in 1972, the same year as the first accreditation in Respirology by the Royal College of Physicians and Surgeons of Canada. Toronto has played an important role in the evolution of this field in Canada and abroad with several major contributions. These include elucidation of mechanisms involved in the control of breathing during wakefulness and sleep, the development of novel modes of mechanical ventilation and description of ventilator-induced lung injury, the establishment of the first sleep laboratory devoted to sleep-related breathing disorders, the demonstration of the relationship between sleep apnea and cardiovascular disease, the development of the largest adult cystic fibrosis clinic in Canada, as well as the first lung transplantation, to name just a few milestones.

U of T Division of Respirology is in the top ranks for respiratory research and training internationally. In 2020, the Division underwent a highly successful Royal College accreditation, and was renewed for eight years.

The Division has flourished under the guidance of its Departmental Division Directors (DDD) who have included Drs. Michael Hutcheon, Eliot Philipson, Arthur Slutsky, Gregory Downey, Elizabeth Tullis and Douglas Bradley. They have fostered dramatic growth in the numbers of faculty and in the scope, and depth of clinical, research and educational programs. During his tenure (Jan 2012-Dec 2021), Dr. Bradley re-invigorated the Division with significant enhancements in research and education that included:

1. establishment of a Research Advisory Committee to oversee
 - a. adjudication of Pettit Block-Term grants to provide seed funding to faculty members,
 - b. support of resident research projects, and
2. creation of a Faculty Mentor portfolio to ensure academic progression of faculty at all stages of career development,
3. elevation of Airways Disease (AWD) as a priority program. Faculty engagement was high despite COVID-19 restrictions; the establishment of a semi-annual publication of “RespNew”, and an “Annual Meet the Investigators Night” have helped to solidify a sense of belonging within the Division.

GOVERNANCE

The DDD and the Executive Committee are responsible for the overall academic mission of the Division. This includes responsibility for strategic planning, setting and implementing overall academic policy, and fundraising to support the Division’s academic activities. The executive is broadly representative of geographical sites, academic and clinical interests of the Division’s membership. The DDD and the Divisional Administrator are responsible to the Executive Committee for managing divisional finances, organizing meetings and communicating with faculty via email and the semi-annual divisional newsletter, RespNews.

Department Division Director (DDD)

Appointed DDD January 1, 2022, Dr. Chung-Wai Chow is a transplant respirologist at the Toronto Lung Transplant Programme, Ajmera Multi-Organ Transplant Programme, University Health Network. She completed MD and PhD studies at the U of T before completing a postdoctoral fellowship in Molecular Cell Biology at the Max Planck Institute, Germany as an Alexander von Humboldt Fellow. She is a clinician-scientist in the Division of Respiriology. She is cross-appointed to the Dalla Lana School of Public Health and the Faculty of Applied Science & Engineering at the U of T. She is Chair of the U of T Institute of Medical Sciences Awards Committee.

Her research is focused on the development and assessment of novel techniques to assess lung function with a focus on chronic airway diseases, air pollution, allograft function following lung transplantation, and development of machine learning techniques to improve diagnostic acumen. She is leading several large prospective studies that compare respiratory oscillometry with spirometry in different patient populations. Her research is supported by grants from the CIHR, NSERC, NIH, and the Lung Health Foundation. She was appointed as the first chair of the divisional AWD Research Program in 2018.

Dr. Bradley was Division Director, Respiriology for two terms (appointed in 2012 and reappointed in 2017). He is a Senior Scientist and the Director of the Sleep Research Laboratory at KITE. He holds the Clifford Nordal Chair in Sleep Apnea and Rehabilitation Research and is the Team Leader of the Sleep Science Team. He is also Professor of Medicine at the University of Toronto and held the Godfrey S. Pettit Chair in Respiratory Medicine until December 2021. His research involves the relationship between sleep apnea and cardiovascular diseases, with a focus on the causes



and treatment of sleep apnea in patients with heart failure. He is also the co-inventor of a home sleep apnea monitoring device, BresDx, and is a co-founder of the company, Bresotec Inc., that developed it.

Division Executive Committee

The Executive Committee is advisory to the DDD and set the Division’s academic mission, including strategic planning, policy implementation and fundraising. The executive meets at least quarterly. Terms on the executive committee are based on the terms of the specific roles represented.

The Research Advisory Committee (RAC)

The RAC is responsible for organizing the respirology trainee and faculty research activities of the Division. The RAC consists of a Chair and members representing the Division’s research areas. It is responsible for oversight of resident research projects, organization and adjudication of intramural research funding applications from the Pettit Block-Term Grant Fund, organizing the annual Respiriology Research Day, and overseeing the Meet the Investigators Evening. Dr. Jane Batt, the first RAC Chair, played a significant role in elevating the profile of research within the Division and passed the baton to Dr. Dmitry Rozenberg in April 2023.

The RAC Chair reports to the DDD. The term of the Chair is three years with possibility of renewal for another three years.

Quality Improvement Program (QI)

A quality improvement (QI) program has been integrated into divisional activities, with Dr. Kieran McIntyre appointed as Director of QI to organize and supervise respirology resident QI projects.

PGY5 residents participate yearly in the DoM’s Co-Learning Curriculum in QI. Residents receive formal instruction in the science of QI and work longitudinally as a group to carry out a QI project, which is presented at the end of the year at the DoM’s Annual QI Day. Dr. McIntyre is also our Divisional lead in the Choosing Wisely program at SMH and, alongside Dr. Samir Gupta, collaborates with colleagues at the Canadian Thoracic Society to launch a Canada-wide version of Choosing Wisely to reduce unnecessary testing and improve efficiency in health care and patient safety.

Since 2018, five new faculty have been recruited as CQI (Sidhu, MacDonald, Colman, Fidler, Blazer). COVID-19 has had a major impact on the activities of the QI program, with renewal of its activities underway at time of reporting. The Director of QI reports to both the DDD and the Vice Chair of Quality and Innovation of the DoM.

Faculty Development

The Director of Faculty Development was a new role established in 2018 with the appointment of Dr. Elizabeth Tullis. She is responsible for meeting all new faculty members and assigning each a formal mentor to facilitate successful Continuing Faculty Appointment Review (CFAR) at three years after an initial appointment and to advise faculty regarding the optimal timing for academic promotion, and provide additional support as needed. Faculty are assigned formal promotion mentors at each hospital site. Dr. Tullis has been reappointed for a second term in 2023. The Director of Faculty Development reports to both the DDD and the Vice-Chair, Mentorship, Equity & Diversity of the DoM.

Equity, Diversity and Inclusiveness (EDI) and Wellness

In recent years, DDDs have been provided some discretionary funds to promote University-wide interactions and team building at the research, educational and residency training levels. These activities have brought deeper significance to being a member of the U of T’s Division of Respiriology. A new portfolio for EDI and Wellness was created in 2023 and Dr. Anju Anand is appointed for this role in November 2023 with a 3-year term with possibility of renewal for another 3 years.

Figure 19.1: Academic Position Description of Full-time Respiratory Medicine Faculty

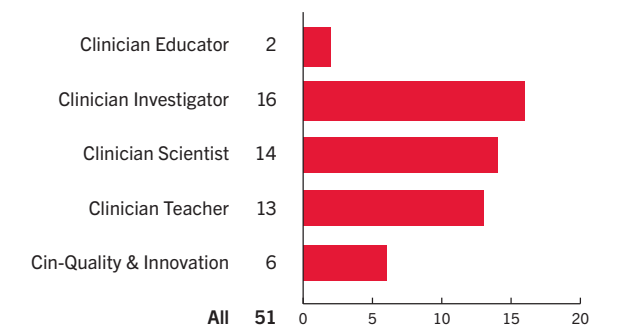


Figure 19.2: Affiliation of Full-time Respiratory Medicine Faculty

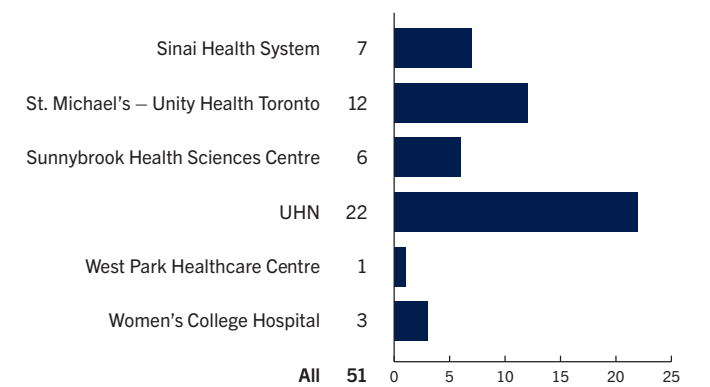


Figure 19.3: Current Rank of Full-time Respiratory Medicine Faculty

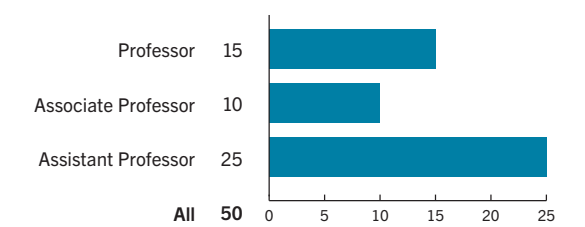
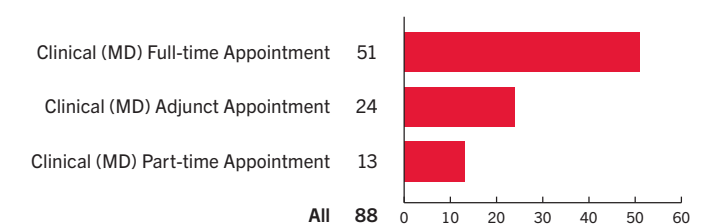


Figure 19.4: Primary Appointment of Respiratory Medicine Faculty





Strategic Planning

The Division underwent strategic planning renewal in 2018. Its articulated vision statement is: “To achieve international leadership in innovative, productive and world-class respiratory research and training programs”. The Strategic Plan is well aligned with DoM strategic priorities. In the past five-years, 14 full-time faculty have been hired: six Clinician Investigators, five Clinician Quality Improvers, one Clinician Teacher, one Clinician Scientist and one Research Scientist. Of these, six were hired into one of our priority programs: three in lung transplantation and two in sleep and control of breathing and one in AWD.

The 2018 Strategic Plan identified additional new areas of excellence for consideration: interventional pulmonology,

knowledge translation and TB/NTM. Progress has been made in these areas with recruitment of a CI in 2022 at Unity Health (cross-appointed to West Park). By December 2021, the Division had achieved all the goals outlined in the Strategic Plan with the exception of expansion of continuing medical education (CME) activities into national and international fora, due to COVID-19. With the planned retirement of Dr. Victor Hoffstein in July 2023, opportunities to recruit to the Division’s focused areas of excellence are currently in process.

EDUCATION

The Training Program Director (PD), in conjunction with the Program Committee, is primarily responsible for organizing and overseeing the resident training program. The Program Committee consists of the Program Director (PD), educational site directors at each of the major teaching hospitals, and two Respiriology resident representatives. Three additional faculty were added in advance of the implementation of the Competence by Design (CBD) in July 2021: the leads for implementation, curriculum development, and evaluation (see Figure above). The Program Committee organizes Respiriology resident rotations among all the major teaching hospitals to meet the requirements of the RCPSC and to implement the policies set by the Executive Committee. They are also responsible for preparing for RCPSC accreditation reviews. The PD reports to both the DDD and to the Vice Chair of Education for the DoM.

The program underwent a successful external review by the RCPSC in November 2020 with renewal for eight years.



Undergraduate Medical Education

Under the stewardship of Dr. Harvey Wong, the Year 1 and 2 Respiriology curriculums have been consolidated into a single new foundations block that incorporates both basic science and clinical aspects of the field. The new block was rolled out in February 2017, and the new curriculum places less emphasis on the large-group lecture.

Dr. Wong and his team have also developed online learning modules. Small-group learning activities remain an important component in the new curriculum. They include the use of skill-based seminars and case-based learning sessions.

Postgraduate Medical Education

Adult respirology training at U of T is a two-year program that accepts four to five Ontario Ministry of Health funded trainees and up to one foreign-funded trainee per year. It is directed by Dr. Christopher Li, who heads the Training Program Committee, which includes two resident representatives.

The program provides robust training in general Respiriology, and unique exposure to many niche areas. In addition to general Respiriology rotations, residents rotate through Lung Transplantation, Sleep Medicine, Critical Care Medicine, Cystic Fibrosis, Thoracic Surgery, and Community Respiriology. There are two training blocks dedicated specifically to respiratory physiology and pulmonary function testing. Elective experiences are available in a wide variety of areas, including Pulmonary Hypertension and Interstitial Lung Diseases, Tuberculosis, Interventional Pulmonary Medicine, Thoracic Oncology, Thoracic Radiology, Pulmonary Rehabilitation, Occupational Lung Disease, and Clinical Allergy and Immunology. A new elective in Chronic Ventilation was introduced in 2021. Respiriology faculty are frequently described as knowledgeable, dedicated and enthusiastic teachers.

The program offers a comprehensive and well-organized academic half-day seminar series, coordinated by Dr. Shane Shapera. Embedded in the academic half-day is a dedicated procedural skills curriculum, which includes three sessions per year in the Surgical Skills Lab. Coordinated by Dr. Harvey Wong, this curriculum includes simulation activities in thoracic ultrasound, and airway and pleural procedures. There are a number of “Portfolio Jam Sessions”, dedicated to teaching and facilitated discussion in some of the intrinsic CanMEDS roles. New and revised curricular elements

include a curriculum in cardiopulmonary exercise testing, and sessions dedicated to career development.

Scholarly activity is very much encouraged. Trainees receive instruction in research methodology and critical appraisal from Dr. Matthew Stanbrook, Deputy Editor for the Canadian Medical Association Journal, who facilitates the journal club. In addition to the traditional journal club, Dr. Anju Anand facilitates a simultaneous live journal club on Twitter, enabling a much broader participation and more fulsome discussions, which may even include the authors of the papers being discussed. Residents have the opportunity to publish their critical appraisal and the Twitter discussion in journals, including the Canadian Journal of Respiratory, Critical Care and Sleep Medicine. All residents carry out two, one-month blocks of research during their time in the program. To facilitate resident research, residents attend a “Meet the Investigators Night” at the beginning of their PGY4 year. This event allows residents to learn about research activities in the division and to connect with potential supervisors and formulate research projects. Residents are expected to present their work at the annual Respiriology Research and Awards Day. Furthermore, all residents participate in a QI curriculum that includes a group QI project.

Advanced Training Programs for Postgraduate Trainees

With increasing number of fellowships offered in the Division, Dr. Cecilia Chaparro was appointed the Divisional Fellowship Director in October 2018. Her mandate was to ensure that the learning objectives were well articulated, appropriate, and that compensation was in compliance with institutional guidelines. Additionally, she aims to foster a sense of community and belonging at the U of T, addressing a gap identified by some of our previous fellows at exit interviews.

Dr. Chaparro organizes an annual orientation welcome session, meets one-on-one with the fellows at least once a year and has exit interviews with all the fellows. Fellows are encouraged to attend and actively participate in academic events including Journal Club, “Meet the Investigators’ Night”, weekly Respiriology Research and Grand Rounds, and the annual Research and Awards day.

Despite the COVID-19 related restrictions, Dr. Chaparro has found ways to promote sense of belonging through creative means with virtual and other activities.

Since 2018, the number of fellowships positions and fellows in the Division has continued to increase from 22 in 2019-2020 to 29 in 2022-2023, despite the pandemic. This highlights the reputation of the Division's clinical and research programs, which are highly regarded both nationally and internationally, thanks to the excellence of our clinician teachers and investigators. International fellows came from Brazil, the United Kingdom, Finland, Switzerland, Germany, Italy, Ireland, Israel, Saudi Arabia, the United Arab Emirates, India, Japan and Australia.

Fellowships

Funding to support fellowship is a high priority within the Division. The Division has committed revenue of the successful continuing medical education (CME) activities to support a competitive fellowship at \$60,000 per annum with priority given to those in Research and/or priority area. It was first awarded in 2019-2020. Despite the challenges of COVID-19, we have been able to continue funding support of two fellowships in 2020-21 and one each academic year in 2021-22, and 2022-2023. In addition, UHN, MSH and SMH each offers funding for fellows training within their institutions. The MSH Airways Fellowship was established in 2022 to provide full funding support at MSH.

Competence by Design

The 2021-22 academic year marked the transition to a new educational and assessment framework, Competence by Design, for Respiratory training programs across the country. In accordance with the transition and the 2018 divisional Strategic Plan, a Competence Committee was established with a mandate to review resident assessment data and progression through the stages of training in the program. Assessments of Entrustable Professional Activities (EPAs) have been implemented. Other resident assessments include a portfolio, a yearly in-training OSCE-style exam, and a procedural skills assessment.

Continuing Medical Education

CME is an important part of Respiratory's educational program, extending the Division's reach beyond the University into the community. Respiratory has had an annual CME event for local physicians since 2006 called The Day in Respiratory. Dr. John Thenganatt took over as Director of CME in 2016. He has expanded CME activities and steadily increased attendance at the Day in Respiratory

from 195 to over 250 in the ensuing years. Profits from the CME events provide stable funding to support a CME Fellow at \$60,000 per year. With the expertise and excellence demonstrated by several subspecialty respiratory clinical, teaching and research programs at U of T, we are actively considering expanding our CME activities to national and international venues, which might potentially generate more revenue and further enrich the Division's academic activities. While temporarily disrupted by the pandemic, these plans are currently being revised.

Awards and Recognition in Education

The Division recognizes excellence in its trainees and has established two annual awards for this purpose: the Outstanding Research Trainee Award and the Jae Yang Memorial Award for Excellence in Teaching. Annual recognition of our trainee achievement during the COVID pandemic has been important in maintaining engagement and sense of community.

Our faculty are recognized for the commitment and outstanding teaching skills. Awards to our faculty are below:

- 2023 Chris Li awarded the PARO Dr. Robert Conn Resident Advocate Award
- 2021 Shane Shapera awarded the U of T Department of Medicine Teacher of the Year
- 2018 Anju Anand awarded the William Goldie Prize and Travel Award in Education
- 2018 Christie Lee awarded the William Goldie Prize and Travel Award in Teaching

RESEARCH

The Division of Respiratory has earned global recognition for its exceptional research and clinical programs, particularly in the fields of lung transplantation, sleep-related breathing disorders, cystic fibrosis, and lung injury. These areas of excellence, and since 2018, AWD have received priority for resource allocation and recruitment of faculty with academic foci in these areas. In the last 5 years, the Division has hired a PhD research scientist, Dr. Gaspard Montandon, whose research focus is control of breathing during sleep (2017). Drs. Andrew Kouri (CS) and Alina Blazer (CQI) were hired in 2023 in the AWD area.



The establishment of the RAC has significantly increased the profile and productivity of research in the Division.

1. The RAC receives funds from the Pettit Chair in Respiratory Medicine to support a peer-reviewed, intramural grant competition for faculty members (the Pettit Block-Term Grant Fund). These grants, typically \$5000, support new projects with priority given to junior faculty within seven years of faculty appointment, to obtain pilot data to enhance competitiveness at external peer-review granting agencies.

The impact of the Block Term Grants has been excellent, with 12 peer reviewed publications and 13 new research grants that are attributable to the Block Term grant support. Numerous conference abstracts, mostly presented by trainee, have significantly enhanced the international profile of the Division. The Pettit Block-Term grants have also helped transition fellows into early faculty positions.

2. A formal research rotation as part of the core Respiratory training program, overseen by the RAC chair, has enhanced the residency

learning experience and has engaged respiratory trainees to pursue academic careers.

3. The RAC organizes an annual Meet the Investigators Evening. While the main objective is to introduce incoming fellows to the breadth of research conducted by our faculty and identify supervisors for their research rotation, it is also a forum for faculty to update each other on their activities, and to promote new collaborations.
4. The Division holds an annual Research Day that is open to all divisional members, faculty and trainees. Generally, 40 to 50 abstracts are presented per year with attendance of 90 to 120 people at the all-day events. Awards are presented to trainees in 4 categories: (a) best oral presentation, (b) best poster in Biomedical Sciences, (c) best poster in Clinical Sciences and (d) best poster in Health Sciences.

In 2017, to recognize outstanding sustained research contributions over time, we established two new annual research awards: the Excellence in Research Faculty Award and the Outstanding Research Trainee Award.

Weekly city-wide Respiriology Research in Progress Rounds are run by Dr. Matthew Binnie. These rounds have attracted excellent local and visiting speakers and very good attendance. Cutting-edge research is disseminated to faculty and trainees in an open forum made widely accessible via Zoom. Post-COVID, a hybrid model is being explored.

Respirology participates in multi-disciplinary, multi-departmental research. A major success from the 2018 Strategic Plan was the elevation of AWD research to an area of excellence. Appointed as the first Director of AWD Research in 2018, Dr. Chow established a multi-disciplinary team of early and established researchers working in the AWD. Success of the AWD group can be measured in various metrics, including two group peer-reviewed publications and several individual peer-reviewed publications and grants exceeding a total of \$500,000 since late 2018. In 2023, two junior faculty were recruited in AWD (UHS-SHS-CQI; WCH-CS) with a mandate to build on excellence in AWD with a focus on delivery of patient care pathways (CQI) and digital health (CS).

The Division has been successful in obtaining peer-review grants with a general overall trend to increase funding over time. Compared to the average annual funding of \$6,622,233 between 2011-2015, average annual funding between 2016-2019 has increased 27% to \$8,409,062. This increase in research funding is remarkable given the highly competitive and challenging scenario at the CIHR with a steady decline in the percentage of grant applications funded over the last five years. Over the reporting period, Divisional faculty held grants totaling \$46.689 million.

A second metric of research productivity is the number of publications by faculty members, with a steady increase in publications at U of T was acknowledged from 2016 to 2020. There is a strong upward trend from 162 in 2016 to 235 publications in 2020, a 45% increase. Moreover, while the number of individuals publishing these papers has gone up from 45 to 51 during this time, the number of publications per author has increased from 3.60 to 4.61, a 28% increase. This is part of a long-term pattern as demonstrated by an increase in the average number of publications per year from 129 between 2011-2015 to 186 between 2016-2020, a 44% increase. Over this reporting period, our faculty members have now published 1,727 publications, which generated 35,630 citations and resulted in an average H-index of 25.67.

Accomplishments

Highlighted below are just some of the many high impact knowledge translation activities of our Faculty:

- 2023 Dr. Richard Horner received the CIHR-ICRH/CSS Distinguished Lecturer Award in Sleep Sciences
- 2022 Dr. Margaret Herridge received the CIHR-ICRH/CCCS Distinguished Lecturer Award in Critical Care Sciences
- 2021 Chung-Wai Chow received the NSERC Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering
- 2021 Dr. Douglas Bradley – Recipient of the CIHR-ICRH/CSS Distinguished Lecturer Award in Sleep Science
- 2019 Dr. Margaret Herridge received the Eaton Scholar Research of the Year
- 2018 Dr. Margaret Herridge received the ATS Assembly on Critical Care 10th Annual Lifetime Achievement Award
- 2018 Dr. Susan Tarlo received the ATS Assembly on Environmental, Occupational and Population Health John Peters Award
- 2018 Andrea Gershon received the U of T Faculty of Medicine William Goldie Prize and Travel Award in Research

LOOKING FORWARD

Although COVID-19 has significantly impacted the academic activities across all areas of medicine, the appointment of a new DDD in early 2022 promises opportunities for renewal and reassessment of future priorities in Respiriology.

The major areas of development in the next 4-5 years of the Division include the following:

1. **Wellness:** As we emerge from the pandemic, fatigue and burnout have become major issues affecting academic physicians worldwide. The appointment of Dr. Anju Ananda as the lead for EDI-Wellness, starting in November 2023, will provide a measured and thoughtful process to promote wellness and foster engagement in the Division.

2. **50th Anniversary Celebration of Division of Respiriology Training Program:** A celebratory event, aiming to bring together all former and current trainees and faculty of the Division of Respiriology, will take place on June 8 and 9, 2023. The event has three major objectives: 1) to foster sense of community and belonging, 2) to enhance the international profile by engaging former trainees scattered around the world, and 3) to leverage the event as a platform for **fundraising** with the specific goals of providing salary support for fellows and early faculty.
3. **Digital Health and AI in Medicine:** COVID-19 has transformed health care delivery and education. Many of our division members have played significant roles in the switch to digital health, with several new recruits who have made digital health a major focus of their academic activities in different roles (CQI/CI/CS) and in different areas of pulmonary medicine (Transplant, AWD, ILD). Initiatives to bring the group together to reassess existing strengths and opportunities will occur in 2023-2024. Amongst these is the integration of the new 2 AWD recruits (Drs. Blazer and Kouri) to existing infrastructures and new programs to ensure their success. With potential of another recruit in general respirology/AWD at SMH, there is an opportunity to build on a unified citywide AWD clinical and research program.
4. **Other new areas for development include IP and TB/NTM:** Three faculty have been hired into IP at SHSC, SMH and UHN/TGH, and two faculty in TB/NTM at SMH/WPH and UHN/TGH in the last five years which form a nidus for a citywide program. In particular, the tight association of the regional cancer programs at UHN-SHS and SHSC is an opportunity for expansion in the areas of clinical care, teaching and research.
5. **Chronic Ventilation and post-ICU Care:** Post-critical care illness and chronic ventilation are areas of significant growth in our division, benefiting from our close professional relationship with the Division of Critical Care, WPH, Grace Hospital and several community hospital partners. As we emerge from the pandemic, there will be ample opportunities to further develop in these areas over time.

6. **Education and QI:** With a new PD starting in late 2023, and the need to address human resource challenges concerning residents and fellows, there are opportunities for the Division to re-evaluate our processes to optimize teaching and academic advancement for our trainees and faculty. This evaluation will be integrated with the University and Department wide processes that are already underway.

Respirology at the University of Toronto has achieved notable accomplishments in recent years, solidifying our position as one of the leading research, educational and clinical programs in respiratory medicine in the world. This success is driven by the ambitions and excellence of our faculty, residents, and post-doctoral fellows. While the COVID-19 pandemic has posed challenges, it also presents opportunities to strengthen our existing priority programs and explore promising new areas for growth.



RHEUMATOLOGY



OVERVIEW

The Division of Rheumatology dates back to the early 1960s when the first Rheumatic Disease Unit was founded by Dr. Metro Ogryzlo. He was the Division Director until his death in 1977. Subsequent division directors included Dr. Hugh Smythe (1977–91), Dr. Robert Inman (1991–2002) and Dr. Claire Bombardier (2003–16). The position has been held by Dr. Heather McDonald-Blumer since July 2016.

The Division includes 5 academic teaching centres: Sunnybrook Health Sciences Centre (SHSC), Women’s College Hospital (WCH), St. Michael’s Hospital (SMH), Mount Sinai Hospital (MSH) and University Health Network/Toronto Western Hospital (UHN/TWH). The latter two sites are geographically separated but are unified through the Sinai Health System/University Health Network (UHN) partnership. Across the city, each unit has its own Hospital Division Head for rheumatology and a group of rheumatologists based onsite. Collectively, these form the university-wide Division of Rheumatology.

The division presently has 35 full-time rheumatologists, including 5 clinician teachers who have joined the faculty since 2018. There have been 5 retirements within the last 3 years and it is anticipated that there could be as many as 10 retirements over the next 5 years. There are a number of part-time and adjunct faculty members who are mostly community-based clinical rheumatologists.

There are five active job postings at the time of writing. This reflects the bimodal age distribution of our faculty. From the research perspective (CS and CI), many of our clinical research programs have new leadership but as clinical volumes have escalated and patient complexity has increased, this requires greater clinical support. From a teaching and education perspective, most sites require more clinician teachers or clinicians in quality and improvement to assist with the clinical workload. Moreover, there are also increasing demands in teaching across the spectrum of medical learners.

Three working groups have been developed (research, education and advocacy), each with dedicated leadership. The Leads report to the divisional executive to ensure discussion, dissemination and support as needed across the divisional sites.

Each site participates in active, ambulatory patient care, and each faculty member undertakes clinical work commensurate with her or his university job description. Each hospital provides general rheumatology care. Within the division, there are multiple subspecialty clinics (Appendix A) that some are based at a single site and some situated at several sites (but functioning somewhat independently).



Several sites involve working with advance practice clinicians within the clinical setting, although this is not widely available. All sites except Women’s College Hospital (which is exclusively ambulatory) have active rheumatology inpatient consultation services. One site – Toronto Western Hospital continues to have a small dedicated rheumatology inpatient “ward” for which the rheumatologists are the most responsible physicians. The ward traditionally has two to four inpatients at any time. This clinical service has been challenging and controversial in terms of its need, its ability to provide safe patient care and its overall educational benefit to trainees. In 2016, there was significant discussion about the benefits and risks associated with the rheumatology ward. At that time, viable alternatives were not available and so the ward has continued. However, in the first part of 2023, this discussion has renewed given ongoing concerns regarding patient safety, the educational value of the ward experience for internal medicine and rheumatology trainees, changes in resident numbers and the potential liability for faculty looking after patients with complex internal medicine issues, which are often outside the scope of general and subspecialty rheumatology. Active discussion is underway with our general internal medicine colleagues to find a mutually beneficial way forward with key decision-makers from new leadership in rheumatology, general internal medicine, and the hospital Department of Medicine involved in the process.

GOVERNANCE

Department Division Director (DDD)

Dr. McDonald-Blumer was appointed DDD in 2016 and reappointed for a second term in 2021. She is a Clinician Educator based at Mt Sinai Hospital. Her academic interest is in medical education, specifically in curriculum design. She has been the Program Director for Rheumatology (2005-2010), the Program Director for Core Internal Medicine (2009-2016) and was the Director for Competence-by-Design for the Department of Medicine (2019-2022). She has held leadership positions with the Canadian Rheumatology Association and with the Royal College of Physicians and Surgeons of Canada within her subspecialty. She has completed a 6-year term as Chair of the Guidelines Committee for Osteoporosis Canada and is taking the lead in developing their Conflict of Interest Oversight Policies.

Her work has advanced rheumatology training across the country through curricular innovations. In recognition of these contributions, Dr. McDonald-Blumer was awarded the Royal College Program Director of the Year Award as well as the inaugural Canadian Rheumatology Association Teacher/Educator of the Year Award. She was also awarded the William Goldie Award for medical education and the Teacher of the Year Award to recognize the impact of her work and leadership within the internal medicine program.

The Division Director also holds the Pfizer Chair in Rheumatology Research, an endowed chair that provides approximately \$75,000 per annum for research activities within the division. Over the last 3 years, the majority of this funding has provided salary support to research faculty who were deemed meritorious but not funded adequately by other sources. Going forward, a significant portion of the funds will be allocated to support a research assistant who will facilitate the work of our newly developed research network. The DDD has discretion over the allocation of funding, but final decisions are discussed at the divisional executive meeting.

Division Executive Committee

The Division of Rheumatology Executive Committee (ExecC) includes the DDD, the hospital Division Heads, the rheumatology Program Director (PD), and faculty leads for mentorship, divisional fellowship programs, and undergraduate/early postgraduate education and divisional research, and to represent the growing and important constituency of early career faculty members within our faculty, an early career faculty member is also included. Since our 2022 forward planning exercise, the faculty leads for research, education and advocacy have joined the committee on an as-needed basis. The committee meets 4-5 times per year and has terms of reference that are reviewed annually, including minutes that are circulated following each meeting.

Hospital Division Heads (HDH) are charged with being the communication link between the ExecC and their hospital division members. All hospital divisions have regular faculty meetings. For other members of the ExecC representing education and research, where required, they lead subcommittees which work with the faculty lead to support planning and implementation of relevant activities. Subcommittee members are chosen to reflect the required areas of expertise with consideration of the principles of diversity and inclusion. The Program Director chairs the Residency Program Committee (RPC) and the DDD sits on that committee allowing relevant divisional information to move freely between the department, divisional executive, the RPC at each meeting and the trainees in the program. Resident input is integral to the RPC meetings. Our quarterly Rheumatology Update keeps the division informed of significant developments. Current members of the Divisional Executive can refer to Appendix B.

Strategic Planning

In spring 2022, the Division participated in a strategic planning retreat which articulated a 5-year framework of priorities and goals that aligned with the Department of Medicine’s 2020 guiding principles. Collectively, the Division reaffirmed a shared vision: the University of Toronto’s Division of Rheumatology will be a global epicentre for innovative rheumatology. The Division will focus on three specific areas:

- Develop and support a citywide collaborative research network to facilitate the work of individual scientists and the collective research interests of the division.
- Implement and disseminate innovative and inclusive models of education across the learning continuum to inform clinical practice and enhance care and outcomes.
- Advance the division’s advocacy with focus on patient care, divisional impact for our hospital sites and furthering integration of EDI principles into all that we do.

EDUCATION

The Division has two CEs and 15 CTs. The CEs are both part of the UHN/Sinai division, one being based at Toronto Western Hospital and the other at Mount Sinai Hospital. One has a focus on undergraduate education while the other has a focus on postgraduate medical education.

The CTs are distributed unevenly, with some sites, such as WCH, having predominantly CTs, while other sites, such as UHN, have a shortage of CTs, with only one CT available.

There have been significant challenges in teaching rheumatology in the setting of COVID-19 as rheumatology remains a very “hands-on” specialty. Faculty within the division have taken a leading role across the city in both rheumatology and internal medicine to provide guidance with regard to virtual teaching and in particular, virtual MSK assessment.

Teachers and educators within the division are highly regarded locally and nationally (Appendix C).

Undergraduate Medical Education

Formal undergraduate rheumatology teaching occurs predominantly in August and September of each academic year. To address the needs of the undergraduate program, almost all rheumatology faculty are asked to participate in some element of the undergraduate teaching program. Participation is excellent and over the last few years, 2-5 of our faculty have received recognition for teaching excellence award. A smaller number of our faculty teach general clinical skills at the undergraduate level throughout the academic year.

Postgraduate Medical Education

Internal Medicine and Off Service Trainees

Over the last five years, there has been a substantial decrease in the presence of internal medicine and other junior residents undertaking rheumatology rotations. Although the Core Internal Medicine program mandates that each medicine resident has one rotation in rheumatology during their 3 years of training, many other programs have withdrawn their residents from what is perceived to be less relevant subspecialty training. This, combined with significant absences from weekday clinical training of the Internal Medicine residents (pre-and post-call days, academic half-days, education days, vacation days, lieu days) plus all of the disruptions given COVID have altered the dynamics of rheumatology clinical care and related education significantly. This has placed significant stress on clinical care and has altered the frequency and duration of teaching that is done for the junior trainees and placed significant stress on the teaching faculty. Despite this, all sites have formal core rheumatology teaching for early postgraduate trainees. At two sites (SHSC and SMH), the education sessions are shared to have more than one trainee at the session).

Rheumatology Subspecialty Training

The PGY 4/5 training program has 3 or 4 Ministry of Health funded trainees per year. Historically, the program has accepted 1 or 2 internationally funded trainees to each cohort, but vacancies may arise if their experience does not meet program requirements. On average, over the last 5 years, there have been 8-10 trainees in total, spread across the 2-year training program and both funding sources.

Competence by Design (CBD)

The new rheumatology Competence-by-Design (CBD) curricula was introduced in 2019 and was smoothly rolled out by the Residency Program Committee and the Program Director. As technology across the postgraduate enterprise has improved over the past 5 years, the division appears to be doing very well in supporting CBD for our rheumatology trainees and our core internal medicine residents. Statistics provided through the Office of CBD Planning and Implementation track divisional faculty engagement in CBD twice annually. This is in addition to the oversight of the rheumatology Competence Committee which looks at this data from the resident's perspective.

Our residency training program is highly regarded as reported by the Royal College in the 2020 External Accreditation Review Report. We do well in the annual CaRMS subspecialty match. Although we are not privy to formal reports from the Royal College of Physicians and Surgeons of Canada detailing the pass rate of trainees leaving our program, our informal survey suggests that > 95% of trainees over the last 5 years have passed their RC competency exam. Residents indicate that they are competitive in the job market. The majority indicate they are more interested in community-based positions, rather than university-centred ones (citing finances, autonomy, location of practice, etc).

Fellowships

The Division is also responsible for robust fellowship training programs, which focus on subspecialty rheumatology experiences for those who are already qualified as general rheumatologists. Between 2018 in 2020, there were approximately 20 fellows, almost all of whom were situated at Toronto Western Hospital. They focus on advanced clinical/clinical research training in lupus, spondylitis, and psoriatic arthritis. At MSH, there has been a scleroderma fellowship and a vasculitis fellowship while at Women's College, there is now a psoriatic arthritis/ultrasound fellowship. (<https://deptmedicine.utoronto.ca/university-toronto-department-medicine-fellowships>)

There was a significant decrease in the number of fellows during the COVID restrictions. However, the international fellows are returning. These individuals are sponsored by various institutions or governments, thus covering the cost of their fellowship training.

It is recognized that there are significant financial challenges in providing advanced training for Canadian citizens and permanent residents resulting in a limited number of Canadian citizens/permanent residents who undertake advanced training within our division. Some fellowship programs lack hospital-based institutional support, and funding for advanced clinical or academic pursuits beyond PGY5 is difficult. However, a few Canadian institutions outside of Toronto offer partial funding for fellowships in Toronto, with the expectation that fellows will bring back acquired knowledge and skills to their home institution.

RESEARCH

The Division continues to have a robust clinical research program. This reporting period, Faculty have published 1,475 publications, which has generated 37,715 citations and resulted in an average H-index of 26.70. There are long-standing clinical research cohorts for patients with lupus, psoriatic arthritis, scleroderma and vasculitis. Research programs tend to be "disease specific" both in terms of focus and funding. Over the reporting period, Divisional faculty held total funding up to \$53.523 million.

There are 11 CSs and 5 CIs, all of whom participate in clinical research. Of this group, four of the CSs also participate in bench/translational work (one CS has research expertise outside rheumatology). Most research faculty are based at UHN/MSH although the scientist at WCH has a robust research program in psoriatic arthritis. Although the PsA programs at TWH and WCH are separate, there is collaboration between their scientists in areas of shared interest. Similarly, the cardio/rheumatology research program has 2 sites but has now harmonized their research protocols. All the CSs have graduate students or clinical research fellows working in the faculty's research areas of expertise.

Dr. Lihi Eder (WCH) is the Faculty Lead for Research within the citywide division. She has developed a research network that predominantly includes investigators and scientists but also includes some interested teachers and clinicians in quality and innovation. Collectively, this group is working to begin some pragmatic, citywide trials that will answer agreed-upon key clinical questions. Through the funds from the Pfizer Chair in Rheumatology Research, a research coordinator will be in place for July 1, 2023. This individual will coordinate the activities and assist with administrative and logistical works for the group. Selected Divisional Research Recognition can be viewed at Appendix D.





The University of Toronto Division of Rheumatology was at its height of productivity and international stature between 2000 and 2015. This reputation is dwindling as senior clinicians wind down and retire. There has been partial succession planning in most programs (lupus, psoriatic arthritis, spondyloarthritis and scleroderma) but insufficient depth and breadth to maintain and augment the various research programs. Our previous positioning in the field of Rheumatoid Arthritis research has been decimated. During the last 5 years, recruitment was challenging due to hospital-based restrictions, mainly through the practice plan and space considerations and more recently, a halt on outside recruitment during the pandemic.

Going forward, for the researchers currently in our midst, supporting them, ensuring appropriate mentoring and facilitating protected time for their research remains a work in progress.

FACULTY

There are 39 full-time faculty currently including 18 clinician teachers (2 Associate Prof., 16 Assistant Prof.), 3 clinician educators (1 Prof., 2 Associate Prof.), 2 clinicians in quality/

innovation (2 Assistant Prof.), 5 clinician investigators (3 Prof., 1 Associate Prof., 1 Asst. Prof.) and 11 clinician scientists (7 Prof., 4 Associate Prof.). There are a number of part-time and adjunct faculty members with diverse activities which have not been discussed in this report. Most are community-based clinical rheumatologists although one part-time member has an active clinical and research presence in obstetrical rheumatology.

Faculty composition includes 25 female and 10 male faculty. There is quite broad ethnic diversity with 22 most likely identifying as Caucasian, 11 as Southeast Asian and 2 as Asian. While most of the faculty have trained in predominantly in Canada, there are members who have trained in France, Great Britain, India, Israel and Lebanon. The ages distribution is bimodal with approximately 15 faculty members above age 60 and 10 below the age of 45.

Although we have recruited 5 clinician teachers since 2018, the clinical workload continues to increase in number and in complexity. The declining resident participation in clinical work and impending retirements with senior faculty mean that recruitment of clinician teachers at 4 of 5 major sites is actively being planned. This remains somewhat challenging as the number of new graduates interested in staying in the academic milieu is small. Our experience in Toronto matches

that which is seen in academic rheumatology across the country. It is expected that there will be 2 or 3 recruitments from recent graduates of the rheumatology training program over the next 1-3 years.

There are six active job postings at the time of writing (1 Clinician Scientist, 2 Clinician Investigators, a Clinician Teacher and 2 Clinicians in Quality and Improvement). From the research perspective (CS and CI), many of our clinical research programs have new leadership but to address clinical care and to protect academic time for our scientists, this requires greater clinical support. From a teaching and education perspective, most sites require more clinician teachers or clinicians in quality and improvement to assist with the clinical workload but also increasing demands in teaching across the spectrum of medical learners.

Introduction of advance practice therapists or other allied health professionals is being considered at Mount Sinai and novel economic models to fund these individuals from within the division are being discussed. At Toronto Western Hospital, there is some program-based funding for advanced practice therapists while at Women's College Hospital, there is hospital-based funding for an advanced practice therapists working within the division.

Continuing Medical Education

The Division supports continuing education programming for faculty. Since 2018, we have launched City Wide Rheumatology Rounds. These are 3.5 hour, theme-based seminars organized quarterly. They provide state-of-the-art updates for clinicians and clinician researchers in our division. A mixture of local, national and international speakers has been chosen for each half-day session. Approximately 70 – 80% of the faculty have been able to attend as well as most of our fellows and residents. During the pandemic, as these were virtual, we also had good participation from some of our community rheumatology colleagues and some participation from rheumatologists working in other university centres.

Mentorship

Dr. Mary Bell has been the role of Faculty Lead: Mentorship for our division. Between her efforts and that of the DDD, all new and recent recruits to the division have an internal mentor from within the division, and an external mentor, someone from outside our division with a shared academic job description and career pathway.

Figure 20.1: Academic Position Description of Full-time Rheumatology Faculty

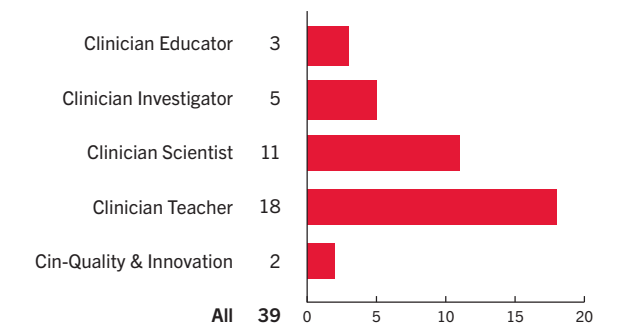


Figure 20.2: Affiliation of Full-time Rheumatology Faculty

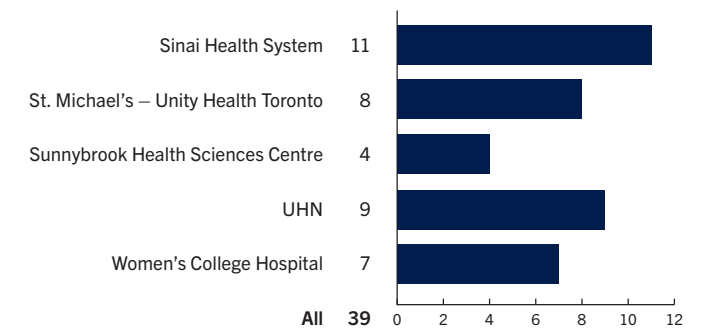


Figure 20.3: Current Rank of Full-time Rheumatology Faculty

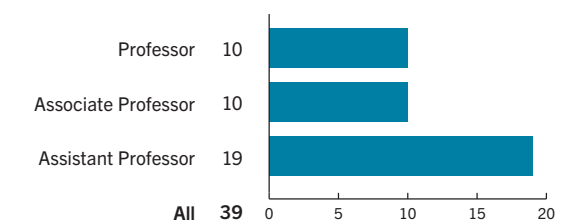
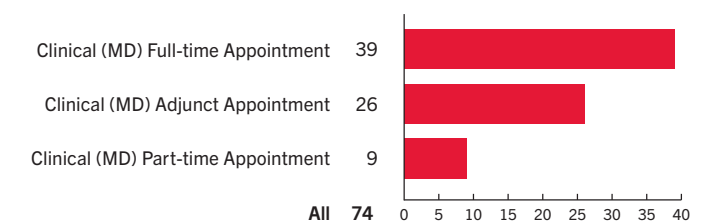


Figure 20.4: Primary Appointment of Rheumatology Faculty



For our teachers and educators, this mentorship has worked well. It has been more challenging for our investigators and scientists and many of them have sought informal mentorship from international colleagues. There has been a tendency for senior research faculty within our division to have challenges in adapting from the role of fellowship supervisor to clinical research colleague. This has raised concern for impeding the independent research identity for early scientists. However, this effect seems to be waning over time, particularly with retirements/pending retirement of the senior research faculty. However, the division would benefit from senior researchers who had dedicated time, interest and expertise in mentoring some of our early/mid career investigators and scientists.

Wellness

The faculty and our trainees appear to have a strong and collegial relationship. Prior to the pandemic, there were multiple staff events throughout the year to foster a sense of community and well-being. During the pandemic, we did have some virtual events, recognizing the limitations. Hospital and departmental division directors reached out to all faculty during the pandemic and for the most part, our group got through as best as could be expected.

Since the easing of the restrictions, we have had several social activities to help rekindle relationships and in April 2023, we were able to do a City Wide Rheumatology Rounds in person.

Issues negatively affecting job satisfaction and faculty wellness are divided across the job descriptions. Scientists and investigators report tremendous strain in funding their research and securing adequate salary and time support. This has been a focus of the DoM with revision of the funding structure but remains a persistent point of anxiety within rheumatology. For the teachers, there is a perception that their work is not valued by the residents (collectively, not individually) and that the DoM focus is thought to be more resident-centric. There is also a perception that the value of scientists is still greater than that of clinician teachers. It is acknowledged that there has been significant early improvement within the DoM to remediate this, but it remains a work in progress.

ADVANCEMENT

Financial support for the Division remains challenging. The Division receives funding from the Department of Medicine (UDAF funding), providing financial support

for selected rheumatology resident educational activities for the year. (E.g., participation in national educational initiatives, partial support for attending key rheumatology meetings, support for curricular initiatives such as our ultrasound program etc.)

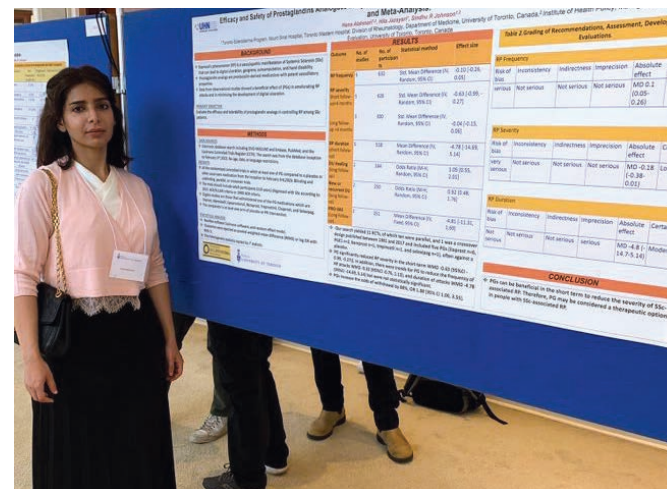
Additional citywide divisional funding is obtained through annual fund-raising to the pharmaceutical partners. This helps fund faculty educational opportunities such as our citywide rheumatology rounds.

Each hospital division head also has the opportunity to seek funding for their hospital-based division. However, with less funding available from industry partners, some segments of the division may end up competing against each other. Additionally, hospital divisions or members may receive philanthropic funding through the hospital-based foundations.

During late 2022 -2023, the divisional leadership has been working with the Temerty Faculty of Medicine Advancement office to explore other funding options.

QUALITY AND INNOVATION (QI)/ ADVOCACY

Division faculty include two full-time members who are classified as CQIs: clinicians in quality and innovation. A third faculty member has patient safety and quality improvement training although is technically classified as a CT. The faculty are divided across the teaching hospitals and provide expertise to their local faculty and across the division. Each has initiated site-specific quality improvement projects and collectively participate in undergraduate, core and dedicated rheumatology training to improve knowledge about QI principles.



CQI's also support and supervise resident QI projects.

CQI faculty have developed new models of care when teens graduate from the Hospital for Sick Children to adult rheumatology care. The division now has dedicated transition clinics for teens with juvenile inflammatory arthritis, lupus and myositis. The CQI group are also expanding the expertise of primary-care providers in community settings through the ECHO rheumatology project,

A member of our CQI faculty is leading the Advocacy Working Group. Currently, they are exploring model of care initiatives with agencies such as the Ontario Rheumatology Association and the Canadian Rheumatology Association as well as supporting and perhaps expanding local clinical models (2 members of our division do outreach clinics quarterly in Northern Ontario).

LOOKING FORWARD

The division is focused on providing exemplary rheumatology care in an academic setting and beyond by ensuring that we have the best faculty, an integrated, respectful and effective training program and researchers who will elevate the understanding of rheumatic disease and translate discoveries into action. Divisional Goals from our Retreat 2022 is available at (Appendix E).





Medicine

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