



2022 Review

Department of Medicine

2021-2022 ANNUAL REPORT



Department of Medicine

Geographic scope

The Department of Medicine is located in the Alberta Health Services – Calgary Zone and at the Cumming School of Medicine, University of Calgary.

The Department serves a catchment of 2.4 million residents of Southern Alberta, Southeastern British Columbia and Southwestern Saskatchewan. Department Members are located in 7 medical sites across Calgary, including the Foothills

Medical Centre (FMC) and UCalgary Foothills Campus, Peter Lougheed Centre (PLC) and Sunridge Landing, Rockyview General Hospital (RGH), South Health Campus (SHC), Richmond Road Diagnostic and Treatment Centre (RRDTC), Sheldon M. Chumir Health Centre, and Bridgeland Seniors Health Centre.

2022 Review

DEPARTMENT OF MEDICINE

UNIVERSITY OF CALGARY AND

ALBERTA HEALTH SERVICES

2021-22 REPORT

Homelessness, Food Insecurity & Diabetes Care.
Making Care More Accessible to Socially
Disadvantaged Populations

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\$25.6M

*in total research revenue,
including \$8.01 M in CIHR*

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PARENT ORGANIZATIONS

The Department of Medicine exists as a Department within both Alberta Health Services (AHS) and the University of Calgary (UCalgary). To reflect this unique dual-organizational structure, both AHS' and the UCalgary's logos and colour palettes are featured in balance throughout this Report.

"Our program offers one of the first Internal Medicine POCUS fellowships in Canada, having trained 7 experts since 2017"

- Dr. Irene Ma & Dr. Leo Smyth discuss how the DOM has lead the way in POCUS Canada

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51,480

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14.7K

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EXECUTIVE SUMMARY - DR. HOLROYD-LEDUC

These are challenging times for the Department of Medicine, given the ongoing pandemic and related workforce challenges. Despite these challenges, we are proud of the fact that, through creative and innovative ways, we continue to provide world-class, innovative patient-centered clinical care.



Dr. Jayna Holroyd-Leduc, Department Head & Allison Mirotnik, Department Manager

It is my privilege, as department head, to present the Department of Medicine’s 2022 Annual Report. Our division heads / section chiefs, vice-chairs, faculty and members of the department’s communications, analytics, finance and physician services teams have worked hard to provide reports and information that highlight the department’s important clinical, educational, research, and administrative activities and accomplishments in the 2021-22 Fiscal Year. I thank them for their contributions.

These are challenging times for the Department of Medicine, given the ongoing pandemic and related workforce challenges. Despite these challenges, we are proud of the fact that, through creative and innovative ways, we continue to provide world-class, innovative patient-centered clinical care. In 2021-22 department members provided exemplary clinical care as admitting physician for over 14,000 inpatients and as consultant physicians for over 35,500 inpatients, and received nearly 52,000 outpatient referrals through Central Access and Triage plus Seniors Health One-line.

The department also continues to educate future generations of physicians through our excellent core Internal Medicine Residency Program, ten sub-specialty residency training programs, and several Canada-leading Advanced Fellowship training programs. Many members of the department also contribute to the medical school teaching curriculum, graduate student training, and to the various continuing medical education and professional development programs. The faculty within the Department of Medicine are effective and dedicated educators, teachers and mentors, as evidenced by the number of educational, teaching and mentorship awards that our members have received.

Researchers within the department, working across the Cumming School of Medicine research institutes, are having broad impact. The Department’s total annual research revenue in 2021-22 was \$25.6 million, of which \$8.01 million was in CIHR revenue. A number of our junior faculty members are realizing success at obtaining CIHR and other National/International funding, which will continue to grow the academic productivity of the department over the years to come. Our departmental members are also providing key and effective leadership within the University of Calgary and Alberta Health Services, as well as through National and International roles and collaborations.

The department has continued its work towards creating an equitable, diverse and inclusive (EDI) environment, led by the department’s equity and diversity working group and anti-racism task force. Under the leadership of our vice-chair for Indigenous Health, the faculty and trainees within the department continue to expand their knowledge and skills to support the provision of high quality care for Indigenous patients, while also respecting community needs and approaches. Our Office of Physician Wellness and Vitality continues to support the wellness of physicians both within the department and beyond.

The department has developed new Mission and Vision statements, and has begun the process of developing a new 5-year strategic plan. The plan will be built on the CARE (Clinical; Academic; Research; Education) pillars and work to support our people. Great work continues to be done in the department, as evidenced by the outstanding accomplishments and achievements featured in this report. I hope that you enjoy reading our 2022 Annual Report.

MESSAGE FROM THE DEPARTMENT MANAGER

Each year the Department of Medicine members do tremendous work, and despite the continued impacts of the Covid pandemic and a healthcare system under significant strain, this year is no different. I hope you will take the time to read through this year’s annual report in detail. Through the various reports and featured articles, we have tried to provide just a snapshot of all the amazing work done this year across our pillars of Clinical Care, Administration and Leadership, Research, and Education. Behind each few paragraphs in our annual report are a team of people putting hours of work into securing grants, developing new systems, delivering quality patient care, or teaching learners. What you have collectively accomplished this past year is certainly worth documenting and celebrating.

I want to acknowledge the toll the last few years have taken on our teams, we have applauded your resilience and courage, praised your selflessness and strength, and done our best to champion the needs of our teams, but in truth we are all very tired. My sincere hope is that in the coming period we will be able to shift our focus towards stabilization and re-building, foster work-life integration, and move forward feeling supported and with renewed passion for our work.

Congratulations on a productive and impactful year. I am grateful to be a part of this amazing team.

Dr. Jayna Holroyd-Leduc
Department Head, Department of Medicine

Alison Mirotnik
Department Manager, Department of Medicine

VISION, MISSION & CORE VALUES

As we move forward with our strategic planning, it is pivotal that we have strong vision, mission and core value statements to lead us through the development process.

VISION

Optimal healthcare and wellness for all.

MISSION

To equitably advance health and wellness by cultivating a community of diverse physicians who lead through care delivery, discovery, innovation, education, and knowledge implementation.

CORE VALUES



Community of Colleagues - working collaboratively to create a respectful, inclusive, engaging and compassionate environment for our patients, our colleagues and each other.



Citizenship in Action - focused on accountability, transparency and fulfilling our collective duties to provide high quality patient-centered care to all Albertans.



Leading through Excellence - by promoting the curiosity and courage needed to aspire innovation and excellence in academic medicine across the CARE (clinical; administration/leadership; research/scholarship; education/training) pillars.



Focusing on Wellness - where valuing wellness for the collective supports patients' safety, as well as promotes individual department members to realize optimal integration of career with their personal life.

"We have made major strides in the coordinated care of patients with venous thromboembolism, but this is just the beginning"

- Dr. Leslie Skeith



Tiara Rothe, Thrombosis Nurse; Dr. Leslie Skeith, Thrombosis physician

Thrombosis Medicine

Improving Clinical Care, Education and Cutting Edge Research

WHAT IS THROMBOSIS MEDICINE?

Venous thromboembolism (VTE) includes deep vein thrombosis (DVT) and pulmonary embolism (PE), and occurs in approximately 1 in 1,000 Canadians. Previously, individuals with VTE were seen by different specialists in different clinics. In an initiative co-led by the Divisions of General Internal Medicine (GIM) and Hematology, a central triage hub and clinic system was created in Calgary

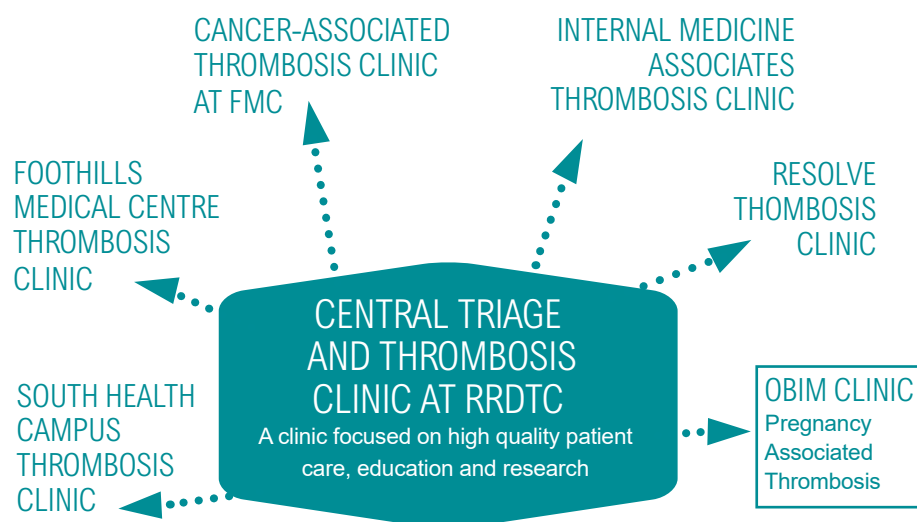
for the coordinated care of patients with VTE. The Thrombosis Medicine group includes 5 hematologists and 8 GIM specialists with training and expertise in VTE. The group also works closely with other specialty clinics and groups to better care for patients with VTE. The goal of this initiative is to improve high quality and timely patient care, and to increase the access to cutting edge research and educational opportunities.

THROMBOSIS CLINIC SYSTEM

Referrals come to a single Thrombo-sis Central Access and Triage located at Richmond Road Diagnostic Treatment Centre (RRDTC). The main Thrombosis Clinic is also located at RRDTC, where the majority of thrombosis group members work to see acute or complex referrals. In addition to the central Thrombosis Clinic at RRDTC, referrals are distributed to satellite thrombosis clinics throughout the city where thrombosis group

members work, to promote patient-centered care. One satellite clinic is the Cancer associated Thrombosis Clinic located at the Foothills Medical Centre (FMC).

The Thrombosis Central Triage receives on average of 180 referrals per month, and the Thrombosis Specialist Link receives on average of 50 calls per month.



Collaborating Groups: Lupus/APS Clinic, Obstetric Internal Medicine (OBIM), Perioperative Medicine, PE Response Team (PERT), Pulmonary Hypertension Clinic, Interventional Radiology, Vascular Medicine, Anticoagulation Management Services

Thrombosis Clinic Members: Dr. Deepa Suryanarayan
Dr. Leslie Skeith,
Dr. Mike Bosch,
Dr. Darrel Cotton
Dr. Dawn Goodyear
Dr. Michelle Lamarche
Dr. Salma Shivji

OBIM Group: Dr. Lee-Ann Hawkins
Dr. Kelle Hurd
Dr. Paul Gibson
Dr. Kara Nerenberg
Dr. Dave Sam
Dr. Meghan Vlasschaert

TIMELINE OF THROMBOSIS CLINIC DEVELOPMENT

2018

Thrombosis Steering Committee created with the mandate to develop a centralized triage process and clinic structure



2019

Launch of the Thrombosis Triage and Clinic at RRDC; Thrombosis Medicine rounds start



2020

Residents from Hematology and GIM start to attend the Thrombosis Clinic at RRDC



2021

Launch of Thrombosis Specialist Link; Thrombosis Executive Committee created with a larger mandate and scope



2022

Working group formed to develop a more structured thrombosis rotation for residents; Bringing research to the clinic

IMPROVED CLINICAL CARE

The Thrombosis Medicine initiative and group's focus is on the timely access and improved patient care for patients with VTE. By creating a central triage and clinic system, patients can be referred to one place but still be seen across the city, which focuses on both patient and specialty-focused care. The Thrombosis Medicine group has grown from 4 to 13 members, who work at the central Thrombosis Clinic at RRDC and satellite thrombosis clinics. Clinical care and access is tracked on the Thrombosis Clinic Alberta Health Services Dashboard. To improve timely access, the Thrombosis Medicine group is now on Specialist Link.

EDUCATIONAL ELEMENTS

The group holds monthly thrombosis rounds, which includes discussion of complex cases and review of the latest evidence to guide practice. These rounds have been multidisciplinary to include other groups, such as Obstetric Internal Medicine, Interventional Radiology, and the Pulmonary Hypertension group. There is an educational working group that is developing a future thrombosis rotation for residents, in collaboration with the Pulmonary Hypertension group. In addition to a residency rotation, the Thrombosis Medicine group's goal is to offer an Adult Thrombosis Medicine Area of Focused Competency (AFC) subspecialty fellowship in Calgary.

CHANGING RESEARCH

The Thrombosis Medicine group are leaders in research. Dr. Suryanarayan is the site lead for a RCT evaluating a novel Factor XI agent for cancer-associated VTE, and is the site lead for COBBRA, an RCT evaluating apixaban versus rivaroxaban for the treatment of VTE. Dr. Skeith is the site lead for SAVER, an RCT of a statin versus placebo to prevent recurrent VTE. Dr. Shivji is the co-chair for the 2022 Thrombosis Canada Conference. Drs. Pannu, Lamarche and Skeith participated in CanVECTOR's Canadian Venous Thromboembolism Priority Setting Partnership to develop the top 10 VTE research priorities.

RESEARCH SPOTLIGHT: THROMBOSIS IN PREGNANCY RESEARCH - DR. LESLIE SKEITH

Dr. Leslie Skeith is an Associate Professor in the Division of Hematology and Hematological Malignancies, Department of Medicine. Dr. Skeith is cross-appointed to the Departments of Oncology and Community Health Sciences, and is affiliated with the Libin Cardiovascular Research Institute, Alberta Children's Hospital Research Institute, and the O'Brien Institute for Public Health. Dr. Skeith's primary research area is in the prevention and treatment of thrombosis and related complications of pregnancy, including antiphospholipid syndrome. Dr. Skeith has received over 1.75 million in peer-reviewed funding as PI or co-PI, which includes three CIHR grants to lead international projects in the area of thrombosis and pregnancy.

PREVENTING VTE IN THE POSTPARTUM PERIOD



Pregnancy is a risk factor for VTE, and the early postpartum period after delivery carries the highest per-day risk of VTE. The pilot PARTUM trial (Postpartum Aspirin to Reduce Thromboembolism Undue Morbidity) is a pilot randomized controlled trial evaluating the feasibility of a trial of 6 weeks of low-dose aspirin (ASA) versus placebo for postpartum individuals who have additional VTE risk factors. The pilot PARTUM trial is led by Dr. Skeith and is in 4 countries (Canada, Ireland, France, Netherlands) and 7 sites, and has recruited almost 200 participants to date. After the pilot trial is complete, then the next step is the larger PARTUM trial across 70 sites around the world to definitively answer the question: Can aspirin prevent symptomatic VTE in postpartum individuals who have VTE risk factors, compared to placebo?

OPTIMAL PERIPARTUM ANTICOAGULATION



Pregnant patients with a prior VTE or who are at risk of VTE are on low-molecular-weight heparin (LMWH) injections during pregnancy. However, what the best approach for anticoagulation management around labour and delivery is unknown, and there is wide practice variation around the world. Dr. Skeith, along with co-leads Dr. Isabelle Malhamé (Montreal) and A. Kinga Malinowski (Toronto), are starting a prospective cohort observational study across 5 countries and 13 sites to better understand peripartum anticoagulation management for pregnant patients on LMWH, which includes standardized bleeding outcomes and patient questionnaires. PREP and GO (PRospective Evaluation of Peripartum Anticoagulation management for thromboembolism) is coming to Calgary soon!

ANTIPHOSPHOLIPID SYNDROME & PREGNANCY



Antiphospholipid syndrome is a rare autoimmune disorder that is defined as persistently positive antiphospholipid antibodies and thrombotic or pregnancy complications. Together with rheumatologists Drs. Megan Barber and Ann Clarke, Dr. Skeith co-leads a multidisciplinary Lupus/APS clinic. Every 3 months, this specialized clinic also includes specialists from Maternal Fetal Medicine and Obstetric Internal Medicine. Dr. Skeith is leading a multicentre prospective cohort study of pregnant patients with APS, to better understand the role of complement and coagulation activation. This includes lab and clinical collaborators in Calgary and at sites in Canada and the US. Drs. Skeith, Barber and Clarke contribute to the international APS ACTION research network, and have recently published in the CMAJ.



Dr. Gabe Fabreau (GIM) | Dr. Oliver Haw (GIM) |
Dr. Evan Minty (GIM) | Dr. Kristen Brown (ID)



Dr. Alejandra Ugarte-Torres (ID) | Dr. Tania Panuu
(GIM) | Dr. Jason Weatherald (RESP)

COVID-19 Vaccination Clinics in High Impact Locations

How work-site and geographically chosen COVID-19 vaccination clinics helped socially disadvantaged populations

Dr. Gabriel Fabreau, General Internal Medicine, was a key player in coordinating COVID-19 vaccination clinics at local area meat processing plants and heavily impacted geographical areas in NE Calgary. As soon as a call for volunteer vaccinators went out, there was also a great uptake of Department of Medicine members who came out to help.

Dr. Fabreau works collaboratively with Dr. Coakley (Medical Director of the Refugee Clinic) and they co-direct and co-founded a research program refugee-healthyy.ca. In April 2020 during the outbreak at the Cargill meat processing plant, the Medical Officer of Health reached out to them for assistance to connect with community partners to manage the outbreak. Dr. Fabreau and Dr. Coakley became part of the AHS Public Health COVID Meat Processing Plant Task Force. Every time there was an outbreak at a meat processing plant (Cargill, JBS, Harmony, Olymel), they would provide advice around operations and how to effectively respond. Dr. Coakley was responsible for community engagement, whereas Dr. Fabreau was responsible for the state of science and led the operational and CIHR-funded research side of the project.

Meat processing plants were identified early in the pandemic as one of the highest risk environments for COVID transmission, including associated community spread in an unvaccinated population. Meat plant workers are a very vulnerable group, with the majority being

newcomers to Canada who tend to be disempowered and have low agency. The team's recommendations included that meat processing plants be a priority for vaccinations as JBS, Cargill and Harmony combined account for 75-80% of Canada's beef supply, and therefore are considered critical infrastructure for the National food supply. Any outbreaks would also have a major impact on the health system, given the associated spread through the community. It was decided that the best way to remove barriers would be on-site vaccination clinics, accompanied by community engagement and involvement of community agencies, unions and employers prior to hosting the clinic. The first round of on-site vaccinations included 3100 workers from 4 meat plants in the AHS Calgary zone. The first dose clinics saw 81% uptake and the second dose clinics reported over 80% uptake.

Community rapid vaccination clinics were also developed in partnership with a number of stakeholders, including the Mosaic PCN and the Calgary zone PCN committee. The idea was presented to government during the third wave, at a time when the population living in the North East part of Calgary (lowest incomes, frontline essential workers and not vaccinated) were experiencing high rates of COVID-19 infection. The goal of hosting a community-based vaccine clinic was to reduce access barriers to vaccinations that impact many residents of North East Calgary, including newcomers to the country. The government approval was received

on May 31, 2021 and the goal of creating Alberta's first community partnered, low-barrier, walk-in COVID-19 vaccination clinic with multistakeholder collaboration was achieved in June 2021. The clinic was able to vaccinate 2280 first doses in two days to an 80% self-identifying visible minority group and 69% were from the East/North East target area. Almost 40% of people had attempted to get a vaccination appointment earlier but couldn't. The model was efficient with a 99% satisfaction rate and an average two minute median wait time.

Dr. Fabreau highlighted the importance of all the volunteers from the Department and re-iterated that, after caring for hospitalized patients with COVID over 3 waves, it was therapeutic to bond over vaccinating some of the most heavily impacted Albertans. Being able to work with colleagues from across AHS and the Calgary zone PCNs to provide vaccinations to members of these communities was a win for all involved.

Five months after the first clinic (November 2021) the East and North East communities achieved a 99% uptake of first dose vaccinations, all due to community efforts. However, there are still questions about access or hesitancy contributing to uptake of first dose vaccinations. In December 2021 the Refugee Health YYC was awarded a new CIHR grant to further explore what took place, and to better understand the vaccine acceptance and hesitancy factors among newcomers in Canada.

"Our program offers one of the first internal medicine POCUS fellowships in Canada...with one of the largest trained faculty groups"

Dr. Alejandra Boscan, Dr. Janeve Desy, Dr. Rahim Kachra

P

oint of Care Ultrasound (POCUS) in Clinical Medicine

Dr. Irene Ma & Dr. Leo Smyth Discuss How the DOM has lead the way in POCUS in Canada

WHAT IS POINT OF CARE ULTRASOUND & HOW IS IT USED IN THE ASSESSMENT OF MEDICAL PATIENTS?

Point-of-care ultrasound (POCUS) is an ultrasound exam performed by the clinician at the bedside to answer focused clinical questions that can assist in patient care. POCUS exam findings are integrated with the patient's history, physical exam, and investigation results. For example, in evaluating patients with dyspnea (shortness of breath), POCUS can provide valuable additional information about volume

status, degree of pulmonary congestion, as well as findings which may change management.

When used to guide bedside procedures, POCUS increases success and decreases complication rates. While POCUS is not new to practitioners in emergency medicine or critical care, its use in internal medicine has only just begun in the last 5-10 years.

HOW HAS THE DOM LEAD THE WAY IN POCUS IN CANADA?

Members of the General Internal Medicine Division have led the way in national curriculum development¹, standard setting², and curriculum implementation³.

Our program offers one of the first internal medicine POCUS fellowships in Canada, having trained 7 experts since 2017. With one of the largest trained faculty group in the country (10 active members), at RGH and FMC, we

implemented a novel POCUS consult service for patients admitted to the medical teaching unit, assisting with clinical decision making and bedside procedures.

Members of the DOM are also working with the Medicine Strategic Clinical Network to develop training resources and best practice recommendations to maximize the safe use of POCUS for the province.

WHAT IS REQUIRED AND WHAT ARE THE BARRIERS TO INTEGRATE POCUS INTO CLINICAL MEDICINE?

The use of POCUS is recommended in settings of diagnostic uncertainty as it has higher accuracy than chest radiographs for some findings, such as pleural effusions and pneumothorax, and can increase the proportion of and reduce the time to correct diagnoses. While POCUS does not replace physical exams or indicated comprehensive diagnostic imaging, its use does represent a significant departure from

traditional practice.

Proper use of POCUS requires both sufficient quality as well as quantity of training, not just in image acquisition and interpretation, but also in the limits and nuances of clinical integration. Such training requires time, trained faculty, access to machines, as well as infrastructure such as secure image archival systems so that images are reviewed by trained practitioners.

WHAT ARE SOME EXAMPLES OF HOW POCUS CAN HELP IN ASSESSING MEDICAL PATIENTS?

Common focused clinical questions that can be answered by POCUS include:

1. Has my patient with pneumonia developed a pleural effusion?
2. My patient with alcohol use disorder but no known cirrhosis has abdominal pain. Is there ascites (do I need to rule out spontaneous bacterial peritonitis)?
3. My patient is short of breath - how likely is pneumothorax, tamponade, and/or heart failure to be accounting for her symptoms?
4. In performing a paracentesis, are there any collateral blood vessels present within the needle path?
5. Does my patient with knee pain have a knee effusion?

References: 1. Ma IWY, Arishenkoff S, Wiseman J, et al. Internal Medicine Point-of-Care Ultrasound Curriculum: Consensus Recommendations from the Canadian Internal Medicine Ultrasound (CIMUS) Group. *Journal of General Internal Medicine* 2017;32:1052-7. | 2. Desy J, Noble VE, Liteplo AS, et al. Minimal criteria for lung ultrasonography in internal medicine. *Can J Gen Intern Med* 2021;16:6-13. | Ambasta A, Balan M, Mayette M, et al. Education Indicators for Internal Medicine Point-of-Care Ultrasound: a Consensus Report from the Canadian Internal Medicine Ultrasound (CIMUS) Group. *Journal of General Internal Medicine* 2019:1-7.



Dr. Sandi Dumanski & Dr. Sofia Ahmed

"This research in sex and gender is so important for patients like me, it helps by providing doctors knowledge to answer patient's questions and provide them with the best level of care. Without this type of research I feel my care would suffer and it would be difficult for me to navigate the health care system to find the right health care workers to meet my specific needs."

- Patient Partner: Michelle Pellerin

Sex and Gender in Health Research

Creating an individualized approach to patient care

Did you know? Approximately 70% of medical research is completed in male systems or men, despite increased recognition of the critical importance of both sex and gendered factors in health. Throughout this article, sex refers to an individual's biology and the genetic, hormonal and other physiologic processes associated with being male, female, or intersex. Gender, however, is a social construct, and describes identity, expression, roles, relations, and institutionalized gender.

Both an individual's sex, as well as their gender, play a key role in clinical outcomes, though are poorly incorporated into patient care. This is in part related to the inadequate representation of females, as well as women, transgender and gender-diverse individuals, in medical research. While 51% of the global population is female, men make up more than two thirds of research participants in clinical trials, and more than 75% of preclinical research studies are completed in male animals and cells¹. On average, there is a 17 year gap between the generation of evidence from research and its translation into clinical practice, therefore there is an urgent need to address the disparate representation in research to transform and personalize clinical care.

Dr. Sofia Ahmed and Dr. Sandi Dumanski are taking great leaps towards reducing that gap, by generating and mobilizing usable knowledge on the effects of sex and gendered factors on important cardiovascular and kidney outcomes. Cardiovascular disease is commonly perceived as a disease of men, when in fact, cardiovascular disease is the leading cause of premature death in Canadian women, and early heart attack signs are missed in 78% of women². Furthermore, transgender and gender-diverse individuals may be at increased cardiovascular risk compared to their cisgender counterparts. Similarly, the prevalence of chronic kidney disease is higher in women compared to men, and notable differences in disease presentation, progression, and response to treatment are apparent. There is limited knowledge to date regarding kidney disease in transgender and gender-diverse individuals. These clinical differences observed in cardiovascular and kidney disease presentation, response to therapy, and prognosis may be largely explained by sex differences in risk factors and pathophysiology, compounded by gendered variables related to an individual's gender roles, relations, and institutionalized gender.

INCLUSION OF FEMALE PARTICIPANTS IN MEDICAL RESEARCH³



CELL-BASED
80% Male/Sex Not Reported



ANIMAL-BASED
75% Male



HUMAN TRIALS
67% Men



CLINICAL CARE
Women > Men

Drs. Ahmed and Dumanski's program of research aims to understand how specific sex-based factors (including sex hormones and reproductive health) as well as gendered factors (including gender identity, gender roles, and gender-affirming hormone therapy) influence cardiovascular and kidney health outcomes. Their human translational research environment is unique to western Canada, and is supported by key collaborations in the communities they service. Utilizing a gendered lens, their work is strongly rooted in intersectionality and supported by a framework that encourages equity, diversity, and inclusion. Both clinician-scientists are passionate about advocacy and education, and integrate comprehensive knowledge mobilization strategies into their research to foster and encourage personalized medical care.

BUILDING RESEARCH CAPACITY

Drs. Ahmed and Dumanski's research laboratory strongly supports development of research capacity, with a well-established and prominent trainee research and mentorship environment embedded within the day-to-day work. An incredible community of passionate, collaborative, and forward-thinking undergraduate, graduate and post-graduate trainees participate in structured mentorship programs that foster growth and success. Both Drs. Ahmed and Dumanski focus on collaborative leadership, and research trainees are not only involved in the science, but also fully immersed in community engagement, advocacy, education, and knowledge mobilization.

"Drs. Ahmed and Dumanski are phenomenal mentors that go above and beyond for their trainees. They have the skillful ability to identify the strengths within each other and others within their lab, which has led to the development of an incredible, collaborative team. Their success is developed on a foundation of professionalism, holistic collaboration, and a passionate aptitude for creating an environment for growth. It is an absolute honour to work with them; not only are they inspiring, but they are passionate about their research and are working towards improving the precision of clinical medicine."

- Trainee Victoria Riehl-Tonn

COMMUNITY ENGAGEMENT

Drs. Ahmed and Dumanski believe that inclusion of communities impacted by their research is a critical component of the research process. Patient partners are integral in the laboratory, and each study is developed in collaboration with patient advisors, who not only participate in study design, but also direct knowledge translation and future work. Important relationships with organizations and members of the kidney disease, cardiovascular disease, and transgender and gender-diverse communities have been developed, and have enriched the research environment.



SPOTLIGHT: TRANSGENDER CARDIOVASCULAR AND KIDNEY HEALTH OUTCOMES

The transgender, non-binary, and gender-diverse (gender identity does not align with sex assigned at birth) population is growing in Canada and internationally yet remains a medically underserved community. While limited studies have shown an increase in cardiovascular risk in transgender individuals, there is a lack of understanding about mechanisms that link transgender-specific factors, including gender-affirming hormone therapy, to cardiovascular health. Furthermore, how to optimally estimate kidney function in a transgender, non-binary or gender-diverse individual is unclear; whether sex assigned at birth or affirmed gender identity should be included in estimation equations, or whether changes in estimated glomerular filtration rate associated with gender-affirming hormone therapy use reflect true alterations in kidney function is unknown, leading to clinical uncertainty.

As a result of the lack of research specific to the transgender population, guidance with respect to health care is largely derived from the cisgender (gender identity aligns with sex assigned at birth), which runs counter to the goals of Precision Health.

As per the National Transgender Discrimination Survey Report on Health and Health Care, ≥80% of transgender individuals have either used gender-affirming hormone therapy or plan to use it. Working alongside the leadership at Skipping Stone, a community organization dedicated to supporting the transgender, non-binary and gender-diverse community in Calgary, Dr. Sofia Ahmed's Canadian Institutes of Health Research-supported program of research is examining the associations between gender-affirming hormone therapy and measures of cardiovascular and kidney health. By working with community partners, the research aims to address health knowledge gaps identified by individuals with lived experience, and ultimately provide key information for shared decision-making between transgender, non-binary and gender-diverse individuals and their health care providers.



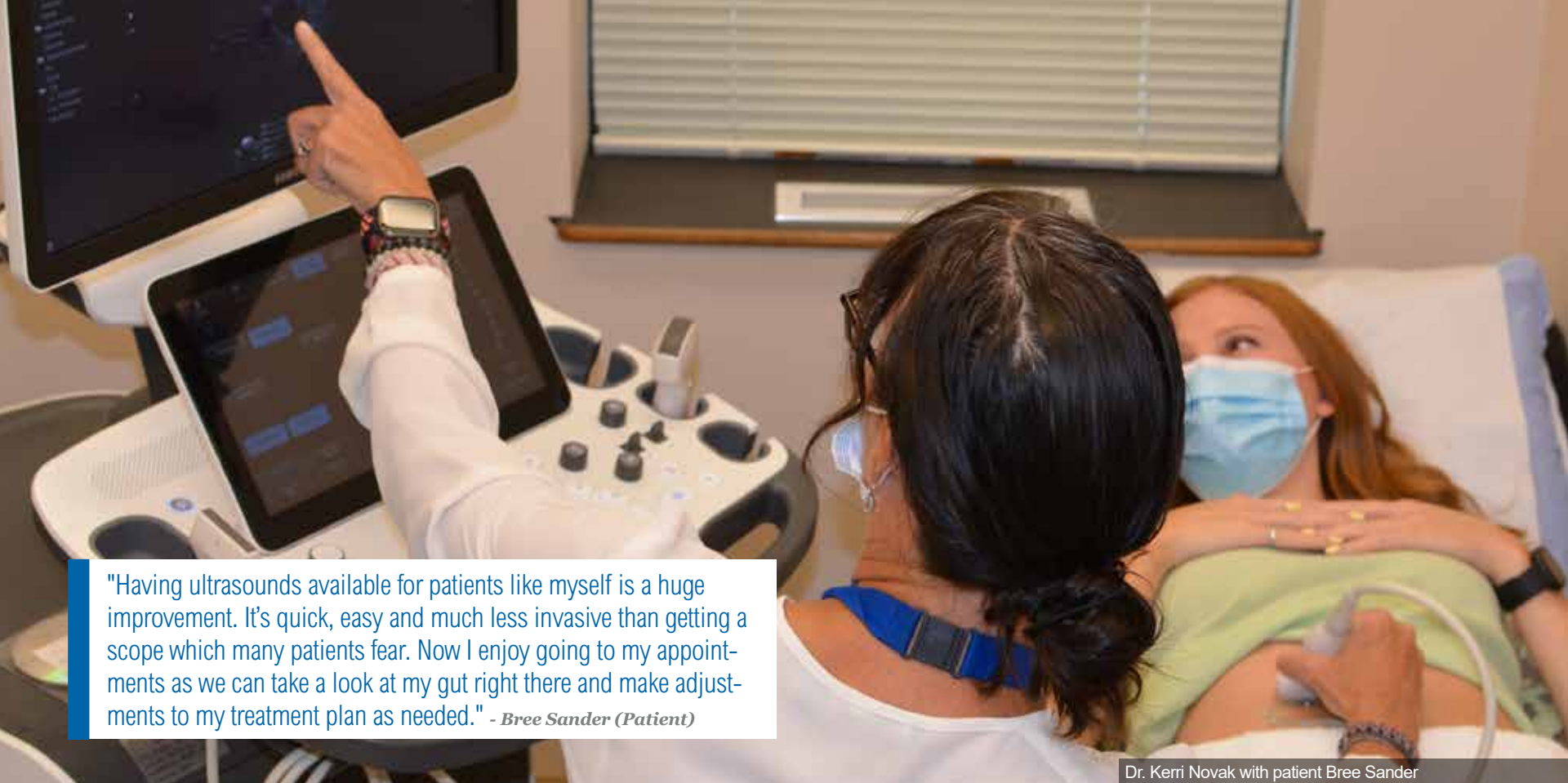
SPOTLIGHT: FEMALE FERTILITY, FERTILITY TREATMENT AND CARDIOVASCULAR RISK

Although cardiovascular diseases are largely considered a disease of older women, nearly one third of young, reproductive-aged women have cardiovascular disease, and are at a higher risk of cardiovascular death compared to young men. The reasons for this may be multifactorial, but sex-specific risk factors related to female reproductive health likely play an important role. Infertility (the inability to become pregnant) and assisted reproductive technology (commonly known as fertility treatment) may contribute to the cardiovascular health disparities demonstrated in young women. Drs. Dumanski and Ahmed are actively seeking answers to how infertility and fertility treatment influence the future cardiovascular health of young females.

Ovarian reserve is an important marker of female fertility, and can be estimated by the level of a hormone known as anti-Müllerian hormone (AMH). Women with lower levels of AMH appear to have an increased risk of cardiovascular disease, but the reason for this association is not yet known. Drs. Dumanski and Ahmed's ongoing work investigates the relationship between AMH and vascular health to better understand the mechanism of effect, in order to identify novel diagnostic or therapeutic targets to reduce cardiovascular risk.

In-vitro fertilization (IVF) is a common fertility treatment currently responsible for 2% of all live births in Canada. Administration of high doses of female sex hormones is an important part of IVF treatment. Although female sex hormones can impact the cardiovascular system, it remains unclear how hormone administration in IVF impacts a female's future cardiovascular health. Drs. Dumanski and Ahmed's ongoing work assesses the effect of hormone administration in IVF on important vascular outcomes, in order to understand the implications of IVF on the future cardiovascular health of females.

1) Kim & Menon. 2009. Arterioscler Thromb Vasc Biol.
2) Ms. Understood hs_2018-heart-report_en.ashx (heartandstroke.ca)
3) Original Image Marjorie R Jenkins (MD) - Professor of medicine, Texas Tech University Health Sciences Centre and CSO Laura W Bush Institute for Women's Health Sex and Gender In Medical Education Summit (2015)



"Having ultrasounds available for patients like myself is a huge improvement. It's quick, easy and much less invasive than getting a scope which many patients fear. Now I enjoy going to my appointments as we can take a look at my gut right there and make adjustments to my treatment plan as needed." - *Bree Sander (Patient)*

Dr. Kerri Novak with patient Bree Sander

Intestinal Ultrasound

Patient-centred approach to transform care and accurately monitor the bowel

WHY INTESTINAL ULTRASOUND?

Chronic immune-mediated diseases of the small and large bowel, known as inflammatory bowel disease (IBD) are common, affecting more than 34,000 Albertans today. The investigation of symptoms related to IBD is challenging, because the entire bowel, particularly the small intestine is long (can be 7-8m) and therefore difficult to visualize directly with endoscopy. Cross-sectional imaging is increasingly used to indirectly evaluate the bowel and the surrounding structures that can be affected by the disease. Access to the safest diagnostic imaging modalities, such as magnetic resonance is challenging, and wait times are long (>6 months). In addition, these tests are difficult to undergo, with need for oral and intravenous contrast and with some, like CT they impart radiation. As a result, the University of Calgary IBD Group was the first in North America, to start an innovative clinic using trans-abdominal, intestinal ultrasound (IUS) at the bedside to safely evaluate the bowel. Although interest in growing

globally, Calgary is the only site currently offering training to international experts in IBD from all over the world. This tool provides safe, accurate and timely information on the structure and function of the bowel, including bowel motility, helping physicians and patients understand the severity and extent of disease in a patient-centered manner, with emphasis on education and engagement.

Timely, accurate measures of inflammation in IBD during routine follow-up are essential to inform clinical-decisions to ensure patients reach the therapeutic target of intestinal healing. Attainment of these targets improves patient outcomes, such as reduced hospitalization, emergency room visits, and even surgery. In addition to these important outcomes, IBD care aims to enhance patient experience, improve patient quality of life, their productivity and reduce the limitations imparted by this chronic progressive disease. IUS offers a patient-centered, safe alternative means of monitoring patients routinely in clinic, so together these

goals can be achieved in a patient-centered way.

THE PATIENT PERSPECTIVE

Although considered the gold standard measure of bowel inflammation, direct visualization of the small and large bowel with video endoscopy is challenging, it is costly, invasive and requires conscious sedation and a full day to prepare the bowel for testing. As a result, although important, patients prefer other, less difficult non-invasive yet accurate tests. A recently conducted, international qualitative study using patient focus groups, attempted to understand patient experience and preferences for disease monitoring among those with Crohn's disease. The group was unanimous, wanting to have access to IUS in their center, given the ability to see their disease or lack thereof, with the physician who makes decisions about their care. Data published from Calgary demonstrates significant impact on timely clinical decision that improve disease control and limit invasive testing, particularly important during our recent global pandemic.

CHALLENGES & OBSTACLES

Despite the potential of IUS to transform routine, bedside monitoring of IBD in Canada, a number of challenges exist. First, performance of IUS requires specialized skill and training, with a steep learning curve. IUS training can be completed during IBD subspecialty fellowship, but most interested in IUS must accommodate training within their current active practice which is difficult. IUS machines are also expensive and require significant computing power for optimal resolution. Given the added time for IUS during clinic appointments, workflows need adjustment to optimize appropriate performance and time allocation. Finally, remuneration models are currently lacking, but several provinces are making progress with fees associated with clinic-based IUS which will facilitate provision in expert IBD centers.

TRAINING & DISSEMINATION

As the only site in North America currently accepting trainees, the University of Calgary hosts trainees from all over the world, including the Philippines, Uruguay, Costa Rica, Kuwait, Australia, the United Kingdom, United States and a number of regions in Canada. IUS is now available in most provinces in Canada, with many trainees getting their start here in Calgary. Dr. Hughie Fraser is a gastroenterologist who was the first to start an IUS-based clinic in the Maritimes, working just outside of Halifax. Dr. Kenneth Suarez an IBD specialist from Costa Rica who undertook training here in Calgary, is now working to implement IUS into clinical practice in Costa Rica and Latin America. "Understanding the bowel and IBD more comprehensively with IUS has helped me make decisions more efficiently and confidently in clinic. It also helps to show real-time objective information to our patients, making it easier for them to consider and accept our recommendations" Dr. Suarez explains.

Dr. Novak is a founding member of the International Bowel Ultrasound Group (IBUS), based in Berlin, Germany, who established the only credentialed training program for IBD-focused IUS monitoring in the world. The aim in Canada is to provide high quality, easy access IUS for both adults and children with IBD.

Dr. Cathy Lu monitoring patients bowel



RESEARCH NEEDS AND HIGHLIGHTS

The treatment of IBD has greatly evolved from monitoring clinical symptoms to targeting objective measurements on both endoscopic and cross-sectional imaging. Modalities such as IUS are rapidly growing in use and are highly favoured for their cost-effectiveness, patient tolerance, and easy repeatability for frequent monitoring of response to therapy. Access to IUS is limited to certain centres in the world due to a variety of reasons including lack of training, remuneration, and less available evidence in comparison to the well-known CT (computed tomography) and magnetic resonance imaging (MRI) modalities. As a result, a main driver of research in IUS is to increase scientific evidence to support the use of IUS in both diagnosis and monitoring of IBD.

The development of validated scoring indices on all forms of diagnostic imaging is a key component of developing treatment targets in IBD and following efficacy of therapies in both clinical practice and trials. More specifically, both Dr. Novak and Dr. Lu as principal investigators of individual grants have received over \$5.5 million dollars in combined grant funding from the Leona M and Harry B Helmsley Foundation.

Dr. Novak is leading an international study with 16 centres developing a validated IUS scoring index

PRECISION MEDICINE AND TRANSLATIONAL RESEARCH

In the field of translational research and precision medicine, Dr. Lu is leading the study of proteomic biomarkers combined with IUS to improve the diagnosis of fibrosis in patients with CD prior to overt stricture formation. In other words, as CD is progressive with no cure, asymptomatic patients with active deposition of fibrosis in early fibrostenosis not yet visualized on endoscopy, or diagnostic imaging are at risk of treatment delays and progressive bowel damage. Therefore, timely detection of disease behavior is paramount to improving CD outcome. Despite the revolutionary addition of biologic therapies over the past two decades, surgical resection estimates either remain unchanged, or have shifted from emergent to more elective procedures. Existing predictive tools for strictures lack the ability for clinicians to personalize therapy and identify those with early fibrosis, which may be contributing to this dilemma. Diagnostic imaging with MRI or IUS are first line investigations to diagnose CD strictures¹. This is a paradigm shift where it is now widely recognized that endoscopy for diagnosis is limited due to its ability to only examine the inner most bowel wall layer, its invasiveness, and inability to traverse through a narrowing.

To address this unmet need, Dr. Lu and her co-investigators, Dr. Simon Hirota and Dr. Tony Dufour, are using proteomics technology to develop a simple, clinical diagnostic blood test to precisely identify those who have a stricture in CD. As proteins are ubiquitous in disease, proteomics has exceptional promise for biomarker discovery as it can detect and quantify thousands of proteins simultaneously. Dr. Lu's aim is to provide a diagnostic protein panel that will guide

evaluating response to treatment in a prospective trial entitled USE-IT: Ultrasound Score To Evaluate Inflammation And Treatment Response In Crohn's Disease. Additionally, Dr. Lu is leading the development of an IUS index for small bowel Crohn's disease strictures (fibrostenosis) to devise clear definitions of strictures and treatment response at certain time points for use during clinical trials. In fibrostenosis, the bowel wall undergoes scarring (fibrosis) leading to narrowing (strictures) and eventual blockage. At this time, the integration of IUS into clinical trials is dependent on the development of these validated indices and both Dr. Novak and Dr. Lu with their teams are the drivers of these large international initiatives.

Upcoming areas in IUS also include defining if transmural healing and early IUS normalization improve long term outcomes. One of the greatest advantages of IUS is its ease of repeatability every 12 weeks that will allow for more rapid adjustments in therapy if necessary. Patient engagement is also an important area of study where Dr. Novak's qualitative research conducted in the USA, Canada, Australia and the UK, found that they wanted to help guide monitoring choices and didn't always have the chance. Although access to IUS in clinics is limited, patients believed this should be more widely available.

physicians to personalize treatment decisions, where earlier biologic therapy may be introduced or earlier surgical resection may be beneficial. In addition, a subset of patients with inflammatory (non-stricture) phenotype will transform to the fibrostenotic phenotype over time. These changes are unpredictable and provide Dr. Lu the opportunity to utilize IUS to closely monitor the transformation of the bowel combined with a protein panel to detect fibrosis prior to overt stricture formation. Overall, this signature protein panel may make medicine more personalized for the patient by guiding timing of medication initiation or cessation, and preventing unnecessary prolonged use of one therapy in favor of surgical approaches to improve quality of life.

Proteomics analysis of blood or tissue samples yields thousands of proteins as potential candidates for deciphering between stricture and non-stricture CD subtypes. The use of machine learning, a form of artificial intelligence, is an integral component to developing predictive tools to incorporate both proteomics and imaging data. With Dr. Lu's results and stricture imaging database, she is working with machine learning experts to develop a validated web-based calculator that is efficient and easy to use by clinicians to predict when patients will form strictures after diagnosis and following surgery. Precision medicine tools to stratify patients into low and high risk are absolutely necessary to assist physicians to transform current diagnostic strategies, optimize therapy, and to inform shared decision making with patients.



Fatima Macavinta, LPN using a Panoptic Retinal Fundus Imaging Device for Teleophthalmology

H

omelessness, Food Insecurity & Diabetes Care

Making Care More Accessible to Socially Disadvantaged Populations

CHALLENGES OF HOMELESSNESS & DIABETES CARE

Imagine how difficult it would be to have diabetes, even with an ideal support system around you. Now imagine being homeless, having diabetes and struggling to keep up with the necessary medical care needed to prevent negative outcomes of a complex disease. When you are homeless, your priorities become survival, when your next meal is or where you're going to sleep. Medical appointments and regular health checks become secondary and you have very little autonomy over what you eat. Food banks and shelters can provide food resources, however, these meals are often high in sugary and starchy foods which diabetics need to avoid.

OVER A DECADE OF OUTREACH DIABETES CLINICS AT THE ALEX COMMUNITY HEALTH CENTRE

Dr. Hanan Bassyouni saw the need to help address care gaps being experienced by this population, so over

a decade ago she started outreach clinics at the Alex Community Health Centre: The Addictions and Youth Clinic and the Seniors Clinic. She has also provided care on the Alex Bus, travelling downtown to provide easier access to those who face barriers to attending clinic visits. Both Type 1 and Type 2 Diabetes are commonly seen in this population. Historically it has been difficult for those who are experiencing homelessness to attend specialist appointments, due to transportation and access issues.

These outreach clinics are a multidisciplinary and collaborative effort between AHS and the Alex. A key member of the team in addition to Dr. Bassyouni, is Maureen Evans, RN. Maureen is a diabetes educator and experienced nurse. She offers education, insulin starts and supporting titration of medication on site. The clinic also has social work, physiotherapy and a pharmacy all built in – it makes things happen quickly for the population of this outreach clinic. Dr. Bassyouni holds a clinic every 3-4 months, as well as being available by phone for primary care doctors at the Alex.

EXPANSION OF ENDOCRINOLOGY SERVICES TO THE MUSTARD SEED

When Dr. David Campbell was a resident, prior to starting his Endocrine Fellowship, he had the chance to attend clinics with Dr. Bassyouni. He was inspired by her approach, which helped to develop his current research interests and focus. One of Dr. Campbell's first research projects was an environmental scan across Calgary, Ottawa, Toronto, Vancouver and Edmonton to see what similar programs existed – he was surprised to find that there was no specialists offering endocrine care to this particular population and Calgary was unique in having an endocrine outreach clinic.

While the Alex has a fantastic program in place supporting underserved populations, not all homeless people in Calgary access programs at the Alex. In January 2022, Dr. Campbell decided it was time to introduce a similar program to the Mustard Seed, in conjunction with the University of Calgary Student Run Clinic. Specifically, Dr. Campbell provides outreach endocrinology consultations once per month at this student run clinic in the inner city.

DIABETES-RELATED SCREENING CLINICS AND CONNECTION TO CARE AT THE CALGARY DROP IN

When a patient has Diabetes, they don't just need a diagnosis – they also require ongoing screening for diabetes-related complications: specifically related to their eyes, feet, and kidneys – this adds an additional layer of complexity for people who are experiencing homelessness or facing social disadvantage. Sometimes it can be years between appointments due to access issues, which can negatively impact the health outlook for a patient with diabetes. Dr. Campbell started a once-per-week diabetes-screening program at the Calgary Drop In Centre, also in January 2022.

This service is provided by on-site nurses (Fatima Macavinta, LPN and Sara Scott, RN) checking feet, eyes, A1C (blood sugar levels) and kidney protein levels on the spot. This allows them to diagnose complications and immediately refer these patients to specialists. The Drop In Centre also helps with transportation to get the patients to the immediate care they need. For example: a patient with diabetic eye disease can be referred to a retina specialist the next week through expedited clinical care pathways, rather than waiting an extra 3-6 months. One particular patient had their eyes checked for the first time and had advanced proliferative diabetic retinopathy. Because of this program, the patient was diagnosed, referred, and treated, thereby slowing the progression of eye disease. Without this care the patient may have ended up blind. Another patient had no idea they had Kidney Disease. During the screening, it was established that they were nearing end stage Kidney Failure and the program was able to get them connected to a Kidney Specialist right away. It is evident that this program helps vulnerable community members access services that may be routine for the majority of the population, by making screenings and resources much more accessible.

TEACHING THE NEXT GENERATION OF HEALTHCARE PROVIDERS

Through these initiatives, both Dr. Bassyouni and Dr. Campbell incorporate teaching to educate medical students and residents in providing care to these populations with unique needs. It is not just about clinical care, but also about teaching and training the next generation of internists who will serve this population. Dr. Campbell stated: "Dr. Bassyouni certainly influenced me and I hope I can pass this on to others" Dr. Bassyouni stated: "It is our duty as physicians to be educators and set good examples for our students and mentees".

RESEARCH AND CLINICAL FUNDING FOR THESE IMPORTANT INITIATIVES

Caring for this population is often challenging due to lengthy appointments and frequent no-shows. Furthermore, many people experiencing homelessness may have recently moved to the province or may not have health coverage but still need care. Funding through the AMHSP is what makes it possible for Dr. Campbell and Dr. Bassyouni to continue to provide this type of care in the community for this population. Dr. Bassyouni's clinics are run in collaboration with The Alex Community Health Centre, who have graciously covered overhead expenses for this practice. Similarly, Dr. Campbell's work has been generously supported by the Mustard Seed and the Student Run Clinic. Dr. Campbell's research projects into homelessness and diabetes have been supported by the AHS Diabetes, Obesity and Nutrition Strategic Clinical Network, the Petro Canada Young Innovator Award, a seed grant from the Cumming School of Medicine's Clinical Research Fund, the Cal Wenzel Cardiometabolic Fund, and the O'Brien Institute for Public Health. The Food Rx project is supported by research grants from Alberta Innovates (PRIHS), and CIHR Project Grants.



Example of a food basket provided by a food bank¹

COMMUNITY BASED PARTICIPATORY RESEARCH & FOOD INSECURITY

At the end of Dr. Campbell's training, he completed a post-doctoral fellowship in Toronto, at the MAP Centre for Urban Health Solutions based at St. Michaels Hospital. He wanted to understand the experiences of this community from their perspective through Community Based Participatory Research (CBPR). This involved recruiting members with lived experience in the community as researchers who were interviewed and trained to think like researchers to complete this CBPR project. This project has now moved to Calgary. One of the main issues raised by this CBPR project is that access to care, specialist and screening were all things that the community felt needed to be improved. While the screening and care are starting to be addressed in Calgary, the group also identified that accessing healthy food was a major challenge – even after people become housed. This spurred on another research project called Food Rx, which is a healthy food prescription program addressing food insecurity. Almost 600 adults experiencing food insecurity and persistent hyperglycemia are being recruited to take part in this study, and the team continues to recruit participants. For more information, check out: foodrxalberta.ca.

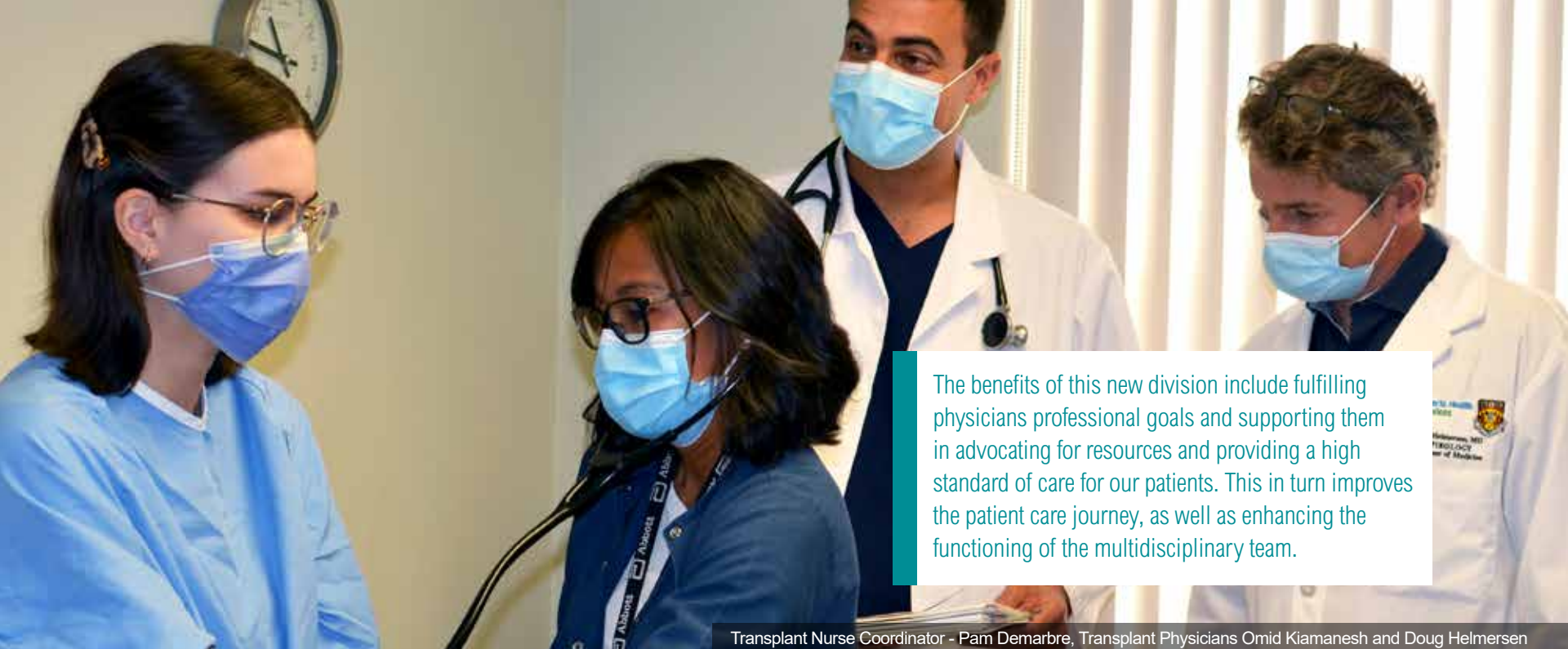
References (1) CMAJ193 (27) E1034-E1041; DOI: <https://doi.org/10.1503/cmaj.202537>



Dr. Hanan Bassyouni



Danielle Szabo, LPN; Eshleen Grewal, Research Associate; Dr. Campbell; Sara Scott, RN; Fatima Macavinta, LPN



The benefits of this new division include fulfilling physicians professional goals and supporting them in advocating for resources and providing a high standard of care for our patients. This in turn improves the patient care journey, as well as enhancing the functioning of the multidisciplinary team.

Transplant Nurse Coordinator - Pam Demarbre, Transplant Physicians Omid Kiamanesh and Doug Helmersen

New Division of Transplant Medicine

Creating a collaborative medical home for transplant specialists throughout the organization

The Division of Transplant Medicine is the first of its kind in Canada, offering a collaborative medical home for transplant physicians throughout the many divisions within the Department of Medicine and Department of Cardiology as well as collaborating with the Division of Transplant Surgery within the Department of Surgery. This new division enhances the foundations that the Southern Alberta Transplant program (ALTRA) has been working on for the past 20 years by offering a more collaborative network for transplant physicians to collaborate on education, research, recruitment and retention.

Renal and whole pancreas transplant surgery is performed in Calgary, and in the 2021-22 fiscal year we have performed these in record numbers. Non-renal transplant surgeries (heart, lung, liver) are performed in Edmonton, however the surgery itself is only one part of the spectrum of care for these patients. Pre-transplant and post-transplant management for all patients within the Southern Alberta Transplant Program takes place in Calgary, starting with evaluation of the patient for advanced therapies, determination of transplantation as an option, optimization of the patient, listing for transplantation and ongoing management to ensure the patient remains optimized for transplantation, and organ allocation. Long-term patient management after transplantation is also provided through this program.

The benefits of this new division include fulfilling physicians professional goals and supporting them in


advocating for resources and providing a high standard of care for our patients. This in turn improves the patient care journey, as well as enhancing the functioning of the multidisciplinary team. Members of this division have a common area of interest and expertise (transplant medicine) but have traditionally been separated from each other in different divisions. The Division of Transplant Medicine will provide an academic home for these physicians for the purpose of identifying opportunities for collaboration with research, education, best practices, and resource advocacy.

Dr. Isaac, the Division Head, explains that given increased transplantation activity and patient acuity, additional transplant-trained physicians are needed to meet the care needs of our patients. This is particularly critical in areas such as kidney and lung transplant, as well as addressing transplant infectious disease. The transplant medicine umbrella will provide a unified voice for recruitment and prioritization that is not always possible within a larger, non transplant-focused division. Recruitment and retention will also be positively impacted by formalized fellowship training in solid organ transplantation, and the Division of Transplant Medicine provides opportunities for sharing educational resources across the various organ transplant specialties. In addition, the division is currently in the process of finalizing a clinical ARP, to provide predictable and appropriate salary support for transplant specialists to provide care for these patients with complex and high care needs.

TIMELINE

- 1992 Southern Alberta Transplant Program started in Calgary
- 2018 Dr. Deb Isaac became Medical Director of the Southern Alberta Transplant Program (ALTRA)
- 2019 Work was started on the logistics of a Division of Transplant Medicine within the Department of Medicine
- 2020 COVID Delays
- 2021 Division of Transplant Medicine approved as part of the Department of Medicine. In November 2021 Dr. Debra Isaac appointed Division Head and recruitment to the division begins
- 2022 Division currently sits at 10 primary members and 20 secondary appointments (from across Infectious Diseases, Dermatology, Respiratory medicine, Nephrology, Gastroenterology and Cardiology)

Key Players: Medical Leads: Matt Sadler - liver transplant, Doug Helmersen - lung transplant, Jonathan Howlett - heart transplant, LeeAnne Tibbles - post-renal transplant, Jeff Ma - pre-renal transplant, Wenjie Wang - living donor program; Mauricio Monroy - Division Head, Transplant Surgery; Deputy Medical Director of ALTRA and Deputy Division Head - Mitesh Thakrar; Section/Division Head Transplant Medicine & Medical Director of ALTRA - Dr. Debra Isaac



"Mindfulness training is recognized as a best practice individual-targeted intervention for physicians to maintain their wellness. It's very exciting that members of the Department of Medicine now have access to mindfulness training."

- DOM Physician Wellness Team

Mindfulness and the Practice of Medicine

Healthy Doctors equals Better Outcomes for Patients through Physician Wellness

Humans are designed to think. Physicians are trained to think deeply (and at times exhaustively which can be exhausting). But we are not trained to be aware - we often go through our lives on automatic mode without even knowing it. Mindfulness helps us to wake up to this truism. It provides us with a choice to live more in the present moment rather than worrying about the future or reliving the past. Jon Kabat-Zinn, one of the early proponents and teachers of mindfulness defines it this way: "it is the awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally." This helps us navigate our relationships in a more productive, less reactive way - relationships with our patients, colleagues, friends and family. Mindfulness builds resiliency amongst its adherents, keeping them from being tossed around as much by life's inevitable ups and downs. An ever expanding body of research supports the many claimed benefits for both patients and providers alike. Dr. Ward Flemons is representing the Department of Medicine in multiple upcoming mindfulness initiatives, as well as recently hosting a 4-week course for Department of Medicine members on mindfulness.



MINDFULNESS FOR HEALTHCARE PROFESSIONALS COURSE

In early 2022 Dr. Flemons worked with Well Doc Alberta to offer a preliminary 4-week virtual course introducing participants from the Department of Medicine to the basics of mindfulness. The course included training in mindfulness using meditation techniques to demonstrate and learn about mindfulness of body and sensations, the breath, thoughts, and emotions. This particular approach to mindfulness also involved developing a compassion practice. The course wrapped up with instruction on incorporating mindfulness into daily life. The sessions were promoted through the Physician Wellness Team umbrella, which adds to the fantastic initiatives already provided by the team and Well Doc Alberta. Another course will be offered in the fall (2022). Those who completed the course evaluation strongly agreed that the course was worthwhile and would be interested in future session on the topic of Mindfulness.



CENTRE FOR MINDFULNESS

This is an exciting time for mindfulness in the Cumming School of Medicine. Under the direction of Dr. Todd Hill from the Department of Family Medicine, the medical school has recently launched its Centre for Mindfulness. The Centre aims to increase and improve access to mindfulness practice and scholarship to medical students, graduate students, residents, staff and faculty in the Cumming School of Medicine community. The Centre just opened its physical space in the med school (the Student Advising and Wellness SAW-HUB - Rm G740F), is mapping out quiet spaces in which mindfulness practice can be supported, and offers weekly in-person and online mindfulness session <https://cumming.ucalgary.ca/centres/centre-mindfulness/home>. Dr. Flemons has joined Dr. Hill and other faculty members as part of the Centre's leadership team.



WORKSHOP AT THE BANFF CENTRE

The Centre for Mindfulness has embarked on an amazing opportunity to introduce physicians and trainees in Calgary (and beyond) to the pioneers of evidence-based mindfulness in medicine, Drs. Ron Epstein and Mick Krasner from the University of Rochester School of Medicine and Dentistry. In March 2023 the three day 'Mindful Practice in Medicine' workshop will be offered at the Banff Centre for Arts and Creativity. This well known, well-respected workshop has been presented for many years across North America. It is designed to help medical practitioners and educators respond to the erosion of joy in their work. It also provides an experiential and interactive learning environment. The workshop addresses the effects of burnout, improves well-being, helps people become re-engaged with their work, and facilitates patient-centered compassionate care. The DOM plans to sponsor some department members to attend.



Total research revenue

2021-22: \$25,598,059

2020-21: \$15,741,935

2019-20: \$10,171,001

Total research revenue in Department of Medicine was \$25.6 Million in 2020-21. (See breakdown of statistics for an explanation of the methodology used for this year, previous years using the same methodology have been provided for comparison).

25.6
Million

“Despite these challenging times, department members continue to have a positive impact on the health and wellness of those living within the AHS Calgary zone and beyond.”

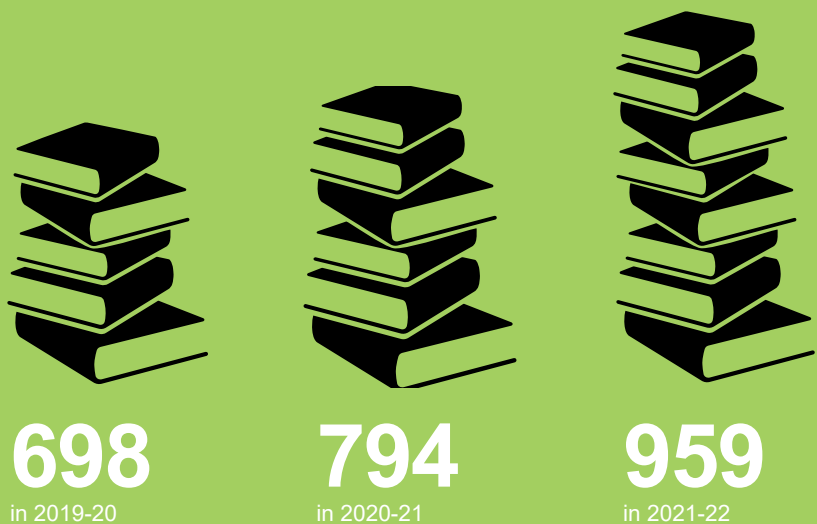
Dr. Jayna Holroyd-Leduc

In 2021-22 the Department of Medicine continued to make important research contributions, despite the changes in clinical service demands and disruptions to usual research processes created by the pandemic

16.82 publications per GFT RE

Primary GFT department members produced 16.82 publications per Research Equivalent (RE) in 2021-22

PUBLICATIONS



PUBLICATIONS

959 publications

2021-22 ↑20.78%

2021-22	959
2020-21	794
2019-20	698

Primary GFT department members produced a total of 959 publications in 2021-22. (See research publications statistics page for an explanation of the methodology used for this year, previous years using the same methodology have been provided for comparison).

430

MEMBERS

2021-22	430
2020-21	424
2019-20	387

The Department of Medicine consisted of 424 primary members in 2020-21

70

MEMBERS WITH CROSS-APPOINTMENTS

Cross-Appointment: 59*

Members hold cross-appointments within the Department of Medicine.

Cross-Appointments external: 11* outside of the department of medicine with secondary appointment in the DOM.

* Due to system limitations and database clean up this number is as accurate as we can get for 2021-22.

A number of our junior faculty members have begun to realize success at obtaining CIHR funding, which will positively grow the academic productivity of the department over the years to come.

RESEARCH REVENUE

\$449,088

per RE

2021-22

2021-22:	\$449,088
2020-21:	\$574,525*
2019-20:	\$617,713*

The Total Research Revenue per Research Equivalent (RE) in the Department of Medicine was \$449,088 in 2020-21.

*years 2020-21 & 2019-20 were both calculated using a different methodology to pull research revenues due to a rebuild of system processes and new analytics team - included for reference only but not comparison.

\$8.01 million in

CIHR revenue

2021-22 ↓4.58%

2021-22:	\$8,015,350
2020-21:	\$8,400,000
2019-20:	\$5,556,836

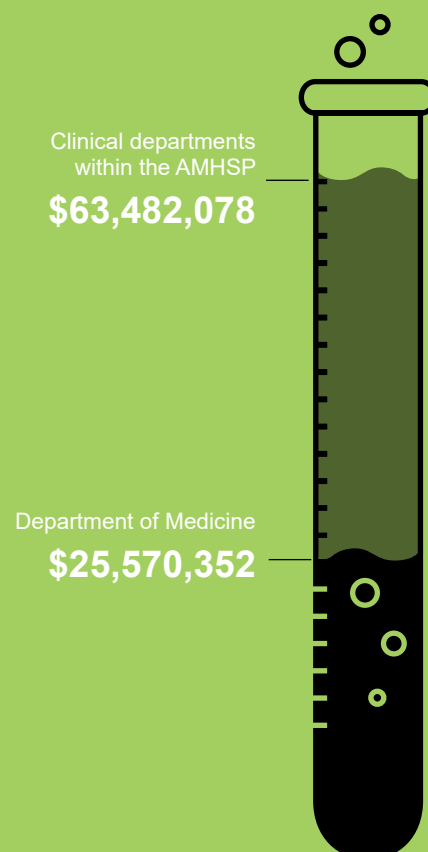
*Data system methodology has changed for 2021-22. Previous years used for reference only but not 100% reliable for comparison.

DOM AMHSP physician research 40.29% of Research Revenue within the South Sector AMHSP

Department of Medicine:
\$25,570,352

All South Sector Clinical AMHSP Departments: \$63,486,078.
Research Revenue from the Department of Medicine accounted for 40.29% of the revenue for all Clinical AMHSP Departments.

AMHSP RESEARCH REVENUE



76

FULL-TIME ACADEMIC (GFT) MEMBERS

2021-22	76
2020-21	77
2019-20	78

The department had 76 primary members with Full-Time Academic (GFT) appointments.

230

AMHSP MEMBERS (INCLUDING CARDIOLOGY)

2021-22	230
2020-21	213
2019-20	230

230 department members, including both primary department members and cross-appointed members from the Division of Cardiology within the Department of Cardiac Sciences, were part of the Internal Medicine Academic Medicine Health Services Program (AMHSP) Plan.

87

ALBERTA HEALTH SERVICES LEADERSHIP ROLES¹

15 AHS Strategic Clinical Network (SCN) Leadership Roles
10 AHS Provincial Leadership Roles (Non-SCN)
62 AHS Calgary Zone Leadership Roles

Outside of the Department of Medicine, department members held a total of 87 leadership roles (12.64FT) within Alberta Health Services in 2021-22, including a SCN Provincial Co-Director, an SCN Senior Medical Director and two SCN Medical Directors, an SCN Scientific Director. ¹Leadership data based on a snapshot in time in the 2021-2022 year

52

UNIVERSITY OF CALGARY LEADERSHIP ROLES¹

7 CSM Leadership Roles in the Office of the Dean
32 CSM UME/PGME/CME&PD Leadership Roles (outside the Dean's Office)
8 Leadership Roles in CSM Research Institutes or other Departments
5 University of Calgary Leadership Roles (outside the CSM)

Outside of the Department of Medicine, department members held a total of 52 Leadership roles (12.31 FTE) within the Cumming School of Medicine and the University of Calgary in 2020-21, including the Associate Vice-President of Health Research, the Dean and Vice Dean of CSM, Senior Associate Dean of Faculty Affairs. ¹Leadership data based on a snapshot in time in the 2021-2022 year

CLINICAL STATS

8.66 days in hospital

2021-22 ↓1.49%

2021-22	8.66
2020-21	8.80
2019-20	9.14

The average hospital length of stay (LOS) in the Department of Medicine was 8.66, a decrease of 1.49% from 2020-21

35,569 inpatient consults

2021-22 ↑2.79%

2021-22	35,569
2020-21	34,603
2019-20	34,700

Department Members provided a total of 35, 569 inpatient consults in Calgary hospitals in 2021-22, an increase of 2.79% from 2020-21.

14,452 inpatients admitted

2021-22 ↓12.99%

2021-22	14,452
2020-21	16,610
2019-20	16,069

Department Members were the admitting physicians for 14,452 inpatients in the four Calgary Adult Hospitals in 2021-22, an decrease of 12.99% from 2020-21.

14,701 inpatients attended

2021-22 ↓11.49%

2021-22	14,701
2020-21	16,610
2019-20	16,069

Department Members were the attending physicians for 14,701 inpatients in the four Calgary Adult Hospitals in 2021-22, a decrease of 11.49% from 2020-21.

47,915 CAT outpatient clinic referrals

2021-22 ↑14.9%

2021-22	47,915
2020-21	41,738
2019-20	51,665

Central Access & Triage (CAT) for Endocrinology, Gastroenterology, General Internal Medicine, Hematology, Respiratory Medicine, and Rheumatology received a total of 47,915 outpatient referrals, an increase of 14.8% from 2020-21.

3,565 Seniors Health outpatient clinic referrals

2021-22	3,565
2020-21	2,414
2019-20	2,712

Geriatric Medicine received a total of 3,565 outpatient referrals from Seniors Health One-line in 2021-22 and increase of 47.7% from 2020-21.

EDUCATION

185 Residents

In 2021-22, there were a total of 185 Residents in the Department's Core and Subspecialty Residency Training Programs, with 113 Residents in our core IMRP Program (PGY1 – PGY4) and 72 Residents in our ten Subspecialty Training Programs (PGY4 – PGY6).

DERMATOLOGY

The Section of Dermatology consists of 7 full-time AMHSP members and 27 community-based dermatologists providing comprehensive consultative services across 5 acute care sites. Dermatologists, nursing staff, and allied health care professionals offer a collaborative care model for patients with skin disease. Section members are actively involved in clinical and basic science research and are committed to training the next generation of dermatologists.



DR. REGINE MYDLARSKI
Division Head
Dr. Régine Mydlarski is the Division Head of Dermatology and an Associate Professor in the Department of Medicine. She founded the University of Calgary Dermatology Residency Program and is currently Chair of the Specialty Committee in Dermatology for the Royal College of Physicians and Surgeons of Canada. As a clinician-investigator, Dr. Mydlarski leads the Precision Medicine and Translational Research Program in Dermatology. She is recognized internationally for her work on autoimmune blistering disorders, and has expertise in immunodermatology, transplant dermatology, and the skin microbiome. Dr. Mydlarski considers it an honour and a privilege to work with the accomplished, committed, and diverse faculty members that make up the Section of Dermatology.

CLINICAL
The Section of Dermatology continues to provide Albertans outstanding care in inpatient and outpatient settings. Multi-disciplinary, specialized clinics offer comprehensive care to patients with immunobullous disease, connective tissue disease, contact dermatitis, solid organ transplants, wounds, vulvar disease, pediatric skin disease, high-risk pigmented lesions, non-melanoma and melanoma skin cancers, and cutaneous lymphomas. The division also improved access to care for underserved populations. Dr. Jori Hardin offers dermatologic services at the Siksika Nation and the Alex Community Health Centre, and Dr. Michele Ramien supports patients at the Stoney Health Centre in Morley, Alberta.

Dr. Ilya Shoimer joined Dr. Habib Kurwa at the Richmond Road Diagnostic and Treatment Centre (RDDTC), expanding Mohs micrographic surgery to four days per week. Furthermore, the Calgary Cutaneous Lymphoma Program, led by Dr. Jori Hardin and Dr. Lesley Street, grew, enhancing collaboration between subspecialists and streamlining the patient care experience.

Members are committed to training the next generation of dermatologists by respecting inclusion, diversity, equity, and accessibility in education, research, and clinical service.

ADMINISTRATIVE
The Section of Dermatology has representation on regional, national and international committees. Dr. Mydlarski is the Chair of the Specialty Committee in Dermatology for the Royal College of Physicians and Surgeons of Canada (RCPSC) and an ex officio member of the RCPSC Examination Board. Dr. Laurie Parsons currently holds the position of Vice-Chair of the Specialty Committee, and Dr. Nicole Hawkins is on the Executive of the RCPSC Examination Board. Dr. Kirk Barber serves as Editor-in-Chief of the Journal of Cutaneous Medicine and Surgery and Vice President of the Camp Liberté Society. Dr. Michele Ramien is the Vice President of Camp Liberté Society and the incumbent Vice President of the CDA. Dr. Laurie Parsons is Medical Director of the Sheldon M. Chumir Wound Clinic, Dr. Habib Kurwa is the Director of Dermatologic Surgery, Dr. Michele Ramien is the Director of Pediatric Dermatology, Dr. Richard Haber is the Chair of the Evaluations Committee and TUCFA Department of Medicine representative and Dr. Jori Hardin is the Chair of Dermatology Residency Competence by Design and Mentorship/Wellness committees.

RESEARCH
The Division of Dermatology has several researchers thriving in early, mid, and senior career stages. The members have demonstrated ongoing success in clinical and basic science research. In the 2021-2022 academic year, they published over 75 papers and conducted over 60 clinical trials. Clinical trials were conducted at the Skin Health & Wellness Centre, Calgary Dermatology, Beacon Dermatology, Northwest Dermatology and Laser Centre, and the Richmond Road Diagnostic and Treatment Centre. Our division members form the largest clinical trial groups in Western Canada. Members held funding from the Canadian Institutes of Health Research (CIHR), the Canadian Dermatology Foundation, the Susanne V. Gibson Research Fund, and industry partners. Dr. Fatemeh Jafarian and Dr. Régine Mydlarski were co-investigators on the top-ranked \$1,060,000 million CIHR Project Grant examining a treatment to prevent skin cancer in solid organ transplant recipients. As part of the Skin Investigation Network of Canada (SkIN Canada), Dr. Nicole Hawkins co-led a national initiative to develop monitoring guidelines for keratinocyte carcinomas. Several division members, including Dr. Michele Ramien, Dr. Jori Hardin, Dr. Laurie Parsons, and Dr. Susan Poelman demonstrated remarkable advocacy and policy development skills at local, provincial, and national levels.

Subspecialty
Training
Program
Residents.

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EDUCATION

The Dermatology Residency Program, led by Dr. Lynne Robertson, is a highly coveted hospital and community-based 5-year training program. The program, consisting of 15 residents, consistently attracts the top 5% of candidates. It is committed to excellence in clinical medicine, research, and education by respecting inclusion, diversity, and equity. Dr. Jori Hardin capably prepared faculty, residents, and ancillary staff for dermatology's official Competence by Design (CBD) launch in July 2022.

At the undergraduate level, Dr. Laurie Parsons and Dr. Jori Hardin co-chaired Course 2 (Musculoskeletal and Skin) and continued to refine this highly-rated course. At a national level, Dr. Régine Mydlarski co-chaired the RCPSC Competence by Design workshops for dermatology. Moreover, Dr. Michele Ramien served as an examiner for DRIVE (Dermatology Residents Innovation and Vision in Education). Lastly, Dr. Kirk Barber also hosted the national Canadian Dermatology Association (CDA) journal club.

KEY CHALLENGES

The Section of Dermatology showed tremendous resilience during the COVID-19 pandemic. Though largely beneficial, the rapid adoption of virtual platforms sometimes limited providers' ability to promptly and accurately manage dermatological diseases, given inconsistent access to in-person tools. Virtual care consultations also disadvantaged specific patient populations, and patients required increased technical support to navigate virtual platforms. The lack of in-person care resulted in diagnostic uncertainties and therapeutic delays. The backlog created by the pandemic led to negative outcomes for patients with skin cancer and inflammatory skin disease. Expansion of Dermatology's footprint at RRDTTC is required to meet societal needs; however, such growth is challenging during a pandemic and a time of fiscal restraint.

KEY SUCCESSES

As COVID-19 catapulted us into the world of virtual care, we promptly recognized opportunities for the Canadian health care system to address issues of population density and health care access. The sudden implementation of virtual care allowed dermatologists to provide essential medical services during the pandemic. However, it also facilitated the expansion of health care access to underserved populations by eliminating traditional barriers to care such as transportation needs, distance from specialty providers, and approved time off from work. From an educational perspective, Dermatology residents gained first-hand experience about the necessity, importance, and limitations of telehealth services to the future of Dermatology.



EXPANSION OF MOHS SURGICAL SERVICE

Non-melanoma skin cancers (NMSC), such as basal cell carcinomas and squamous cell carcinomas, are the most common forms of cancer worldwide, and their incidence is increasing. The Canadian Cancer Society estimates that 80,000 Canadians are diagnosed with NMSC annually, and 440 patients die from the disease. By 2031, the economic burden of NMSC is predicted to reach \$922 million annually. RRDTTC's Dermatologic Surgery Unit, led by Dr. Habib Kurwa, offers Mohs micrographic surgery. This advanced

surgical technique allows dermatologic surgeons to carefully remove skin cancer cells while preserving as much healthy skin as possible. A cost-effective surgery performed under local anesthetic, Mohs offers high cure rates, low recurrence rates, and reduced scarring. Unfortunately, the COVID-19 pandemic resulted in diagnostic and therapeutic delays, resulting in a backlog of patients requiring skin cancer surgery. With the recruitment of Dr. Ilya Shoimer, the Mohs surgical unit became operational four days per week. This expansion

rapidly improved access to care, reducing wait times by almost 50%. In addition to performing valued clinical service, surgical team members conduct basic science and clinical research, including cutting-edge clinical trials. As part of our educational mandate, the planning for a Mohs surgical fellowship is underway. The division will continue to work towards integrating the care of high-risk skin cancer patients into a single center to ensure the provision of a comprehensive, multi-disciplinary patient care approach.

TRANSPLANT DERMATOLOGY SERVICE

The Transplant Dermatology Clinic, established in 2007, provides comprehensive skin care to solid organ transplant recipients. Emphasis is placed on skin cancer prevention as organ transplant recipients, such as those with a lung, heart, kidney, pancreas, or liver transplant, have a 100-fold increased risk of developing squamous cell carcinoma (SCC). Further, organ transplantation has been associated with a high incidence of recurrence, metastasis and, ultimately, mortality from skin cancer. Specialist dermatology clinics for organ transplant recipients have significantly improved outcomes. Dr. Fatemeh Jafarian joined Drs. Jori Hardin and Régine Mydlarski

at the Transplant Dermatology Clinic within the Southern Alberta Transplant Program. Our transplant dermatologists provide pre-transplant evaluations and post-transplant surveillance, focusing on skin cancer prevention and early diagnosis. Using novel technologies, they evaluate suitability for the non-invasive diagnosis of skin cancer and pre-cancerous lesions. Further, they use field-based therapies for pre-cancerous lesions and provide individualized treatment for skin cancer, including a multidisciplinary approach for high-risk tumours. Their practice also encompasses the multimodal therapy of unique and diverse transplant-related dermatological complications.

The Transplant group has recently established an active research network. Drs. Fatemeh Jafarian and Régine Mydlarski are co-investigators on the top-ranked \$1,060,000 CIHR Project Grant entitled: "Nicotinamide chemoprevention for keratinocyte carcinoma in solid organ transplant recipients: a multicentre, pragmatic randomized trial." Moreover, Drs. George Song-Zhao, Markus Geuking, and Régine Mydlarski received additional funding from the Canadian Dermatology Foundation for their study entitled: "Metagenomic and culturomic microbial profiling of keratinocyte carcinomas in solid organ transplant recipients."

ADDRESSING THE UNMET NEEDS OF DERMATOLOGY PATIENTS

Dermatology, like other specialties, is faced with challenges in providing and accessing care. These challenges are, at least in part, driven by increased demand, a diverse populace, and population density imbalances. The Indigenous population, for instance, is affected by distinct conditions and determinants of health, such as social barriers, housing, education, employment, food, and environmental security. They are placed at an increased risk of adverse health outcomes as compared to the broader population of Canada. Other patient groups, such as newcomers to Canada (including those with refugee status), individuals with substance use, and people experiencing homelessness, have unique dermatologic needs. To improve access to dermatologic care, Dr. Jori Hardin offers outreach clinics at the Siksika Nation and the Alex Community Health Centre. Dr. Michele Ramien now provides dermatologic services to patients at the Stoney Health Centre in Morley, Alberta. Dr. Richard Haber and Dr. Laurie Parsons also conduct teledermatology clinics at several rural sites. Further, section members offer advice through Specialist Link to support family doctors and nurse practitioners in providing dermatologic care.

From an educational perspective, our division members participated in a six-part accredited Canadian Dermatology Association skin diversity learning program. They were also fortunate to learn about Canadian Indigenous Dermatology from Dr. Rachel Asiniwasis of Origins Dermatology Centre.

The Section of Dermatology prioritizes clinical, educational, and research initiatives that facilitate equitable access to dermatologic care through care transformation, discovery and innovation, and patient partnerships.

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Applications from
Prospective
Subspecialty
Training
Program
Residents.



ENDOCRINOLOGY & METABOLISM

The Division of Endocrinology & Metabolism is a diverse group of physician researchers, clinical educators, and expert clinicians that are internationally recognized as leaders in Diabetes, Hypertension, Reproductive Endocrinology, Endocrine Disorders of Pregnancy, Gender Health, Pituitary Disorders, Osteoporosis and Thyroid Cancer.



DR. DOREEN RABI
Division Head

Dr. Doreen Rabi is a clinician researcher with expertise in cardiovascular risk reduction, social determinants of health and health equity. She is a Professor within the Department of Medicine with cross appointments to Cardiac Sciences and Community Health Sciences. Dr. Rabi is well known for her activities in developing guidelines for the care of persons living with hypertension and diabetes and leads the Canadian Collaboration for Complex Care- an international, multidisciplinary team that is dedicated to promoting equity-focused transformation of health care.

CLINICAL

The Division continues to be a national and international leader in the delivery of high quality, innovative care for persons living with endocrine disorders. Over the past year, our Diabetes in Pregnancy Program (under the leadership of Dr. Lois Donovan) was distinguished internationally by Newsweek Magazine as being one of the World's Best Specialized Endocrinology Care Centers.

in collaboration with Alberta Precision Laboratories to provide specialized endocrine investigative and diagnostic testing for patients in Southern Alberta. As Alberta Health Services continues to roll out the ConnectCare initiative in Calgary, Division member Dr. Karmon Helmle continues to play a lead role in the implementation of Canada's most ambitious project in digital health integration.

After the pandemic necessitated a limitation of services, we have reopened our Endocrine Testing Unit under the medical direction of Dr. Chris Symonds. This unique program works

The Division continues to grow the multidisciplinary Lipid Disorders Clinic which has the capacity to assess up to 25 new consults per month for suspected genetic lipid disorders.

ADMINISTRATIVE

The Endocrinologists of the Department of Medicine are well represented in administrative and clinical leadership in both the Cumming School of Medicine and in Alberta Health Services. Dr. Rabi continues to serve as the Deputy Head (Academic) within the Department of Medicine. Dr. Karmon Helmle is one Alberta Health Services' Medical Informatics Leads that is coordinating and implementing the Provincial Implementation of ConnectCare. Dr. Helmle, along with Drs. Shelly Bhayana and Chris Symonds serve as site leads at the South Health Campus, Peter Loughheed Center and RRDTTC respectively. Dr. Nathalie Saad leads the Gender Program and coordinates multidisciplinary, gender-affirming care for gender-diverse adults. Dr. Sonia Butalia transitioned from her role as Scientific Director at the Diabetes, Obesity and Nutrition SCN to the Medical Director of the Cumming School of Medicine Physician Learning Program. Drs. Julie McKeen and Greg Kline continue to lead innovative care programs at the Diabetes Care Center and the Dr. David Hanley Osteoporosis Center respectively.

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publications

KEY CHALLENGES

The Division continued its tradition of working collaboratively and creatively though all the challenges imposed by COVID-19 Pandemic and provincial budgetary cuts. The Endocrinology Site Leads (Drs. Bhayana, Helmle and Symonds) worked very well with AHS operations to problem solve around unprecedented staffing difficulties related to the pandemic.

RESEARCH

The Division continues to grow as a research-intensive Division within the Department. Drs. Greg Kline and Alex Leung are internationally recognized for their work in Endocrine hypertension and collectively published 28 unique publications in the 2021-2022 academic year. Dr. Emma Billington is an emerging leader in the field of osteoporosis with 11 publications this year in her discipline. Dr. David Campbell is establishing an international reputation for expertise in social determinants of diabetes and hypertension and care interventions for persons experiencing homelessness. Drs. Jamie Benham and Ron Sigal are Canadian leaders in physical activity in persons with insulin resistance and diabetes. Together, they have contributed over 30 publications to their fields in the past academic year. Dr. Lois Donovan continues

her outstanding work in Diabetes in Pregnancy and obtained funding for the CIRCUIT trial from Diabetes Canada. Drs. Doreen Rabi, Sonia Butalia, Alex Leung, David Campbell, Ron Sigal, Jamie Benham, and Lois Donovan contribute significantly to the development of clinical practice guidelines in the fields of diabetes, hypertension and dyslipidemia both in Canada and internationally. Drs. Ralf Paschke and Sana Ghaznavi continue to contribute to innovative practice in their work on the diagnosis, surveillance, and treatment of differentiated thyroid cancers.

Our clinical faculty are also contributing significantly to the production of new knowledge with Drs. Kirstie Lithgow, Erik Venos, Nathalie Saad, Amita Mahajan and Zaina Albalawi having publication and funding successes.

EDUCATION

The Division of Endocrinology and Metabolism has a proud history of excellence in medical education. Through the years, the Endocrine and Renal course has been chaired by outstanding and dynamic teachers including Drs. Bernard Corenblum, Greg Kline and Hanan Bassyouni. Dr. Bassyouni's dedication to undergraduate students is well recognized with numerous teaching awards. Dr. Vicky Parkins continued to lead an exceptional specialty training program and successfully guided the program through a very positive internal review process. Drs. Laura Hinz and Shelly Bhayana joined our PGME education team as Assistant Program Directors. Dr. Zaina Albalawi joined the PGME education team as the Competency by Design Committee Chair and will support our transition to Competency By Design training.

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Subspecialty
Training
Program
Residents.

KEY SUCCESSES

Our Division continues to demonstrate success in all domains, and this success is very much related to a culture of positivity, collaboration and gratitude. This unique working environment has elevated our scholarship, clinical work and teaching as well as sparked a remarkable spirit of innovation when faced with challenges. Our Divisional Wellness Committee (Drs. Laura Hinz, Shelly Bhayana, Nathalie Saad and Amita Mahajan) deserve special recognition for their work ensuring our physician team always feel valued.

ENDOCRINE TESTING UNIT

The Endocrine Testing Unit was founded at the University of Calgary Division of Endocrinology and Metabolism over 40 years ago. The unit was supervised, nurtured, and expanded by Dr. Bernie Corenblum during his many years of service with the Division. His legacy now serves almost 40 Calgary endocrinologists performing high level stimulation, suppression and special access endocrine tests at our Richmond Road site. These tests are helpful in characterizing possible endocrine abnormalities in patients that are potential candidates for surgical intervention or in patients that have had surgery and may have endocrine consequences as a result of surgery. Over the past 6 years, we have performed 2765 individual tests on patients. We are fortunate to have 3 highly skilled and dedicated nurses who provide expert and compassionate care to our patients. We also work in partnership with Alberta Precision Labs to review

existing protocols and test performance, lending an evidence-based eye to any needed changes. Two new specialized tests have recently been added to our available menu of over 20 endocrine-specific tests. We have instituted a structured CME program to provide an enhanced professional experience for the Endocrine Testing Team and support learning about physiology, rationale for testing and best practices. We strive for ongoing reassessment of the performance and utility of each test cognizant of the importance that patients are seen and tested in an appropriate time frame.

This year, Dr. Corenblum retired, and Dr. Chris Symonds is now serving as Medical Director of this testing program. The division would like to recognize and thank Dr Corenblum for his innovative vision in establishing this best-in-class testing center

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Applications from
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DR. DAVID HANLEY OSTEOPOROSIS CENTRE (DHOC)

The Dr. David Hanley Osteoporosis Centre (DHOC) aims to deliver accessible, patient-centred bone health care to Albertans. Since 2016, the DHOC has offered an award-winning shared medical appointment for osteoporosis (the Self-Consult Program). This program has been shown to empower patients to engage in decisions about drug therapy, and to vastly improve medication adherence amongst those who choose to initiate pharmacologic management.

Nonpharmacologic management strategies—such as nutrition and exercise—also play an important role in bone health. However, most individuals with and at risk of osteoporosis do not follow dietary or physical activity guidelines. We conducted focus groups at the DHOC to identify reasons for this within our patient population. With respect to nutrition, our patients indicated that they face several barriers to following dietary recommendations, including lack of motivation, difficulty cooking for one, and dietary restrictions or intolerances. Many of our patients expressed a desire to participate in a practical, hands-on cooking program focused on bone health. Accordingly,

our team has drawn upon the emerging field of Culinary Medicine, which aims to improve diet quality and health outcomes via delivery of practical, evidence-based nutrition and cooking skills in a group environment. Culinary Medicine programs have been shown to improve cooking self-efficacy, home cooking frequency, dietary quality, and health outcomes in a variety of medical conditions. However, there is currently no recognized Culinary Medicine curriculum for bone health. The DHOC multidisciplinary team has partnered with the Wellness Kitchen at South Health Campus to develop the Eating Well for Bone Health program, a 1.5 hour virtual cook-along, co-facilitated by a culinary dietitian and an osteoporosis dietitian. The feasibility and acceptability of the Eating Well for Bone Health program is currently being evaluated in a randomized controlled pilot study, with the view of integrating this program into the menu of clinical offerings at the DHOC.

Dr. Emma Billington (research clinician in osteoporosis) leads the innovative Culinary Medicine program from DHOC (of which Dr. Greg Kline is the Medical Director).

DIABETES IN PREGNANCY (DiP) PROGRAM

The Diabetes in Pregnancy (DiP) Program is a multidisciplinary, interprofessional clinical program that provides specialized diabetes care to people with gestational, type 1 and type 2 diabetes during pregnancy. In 2021, the DiP Program at the Foothills Medical Center (Dr. Lois Donovan, Medical Director) was recognized internationally for being one of the World's Best Specialized Endocrinology programs by Newsweek magazine. Other Department Members that provide care in this program are Drs. Hanan Bassyouni, Amita Mahajan, Jamie Benham and Zaina Albalawi.

The Calgary DiP program is also a clinical research centre and supports pregnant people with diabetes to participate in clinical trials of innovative therapies to help optimize care outcomes for both mother and infant. Despite significant advances in diabetes care over the past 3 years, pregnancy continues to be a time of elevated risk for pregnant persons. Research completed at the DiP

program has contributed important new knowledge on how technology (such as continuous glucose sensing) can reduce the risk of adverse maternal and fetal outcomes. This year, Dr. Donovan received funding from Diabetes Canada to conduct the CIRCUIT trial, which will determine if automated pumping systems can provide even more protection for pregnant people with type 1 diabetes from adverse events in pregnancy (such as birth trauma and stillbirth) while simultaneously lessening the burden of diabetes self-care.

Dr. Donovan's academic and international contributions to the field of Endocrine Disorders in Pregnancy have significantly elevated the profile of the Calgary Zone DiP program. The outstanding clinical and research programs in DiP have attracted outstanding specialty fellows that facilitated the expansion of the Calgary model of research and care to centers across Canada.

GASTROENTEROLOGY & HEPATOLOGY

The Division of Gastroenterology & Hepatology prioritizes high quality clinical care in conjunction with innovation, high research impact and excellence in teaching. Across four adult hospital sites the Division functions as a cohesive group, which is relatively unique in Canada. We are leaders in the areas of inflammatory bowel disease (IBD), diseases of the liver, colorectal cancer screening, gastrointestinal motility disorders and advanced endoscopy. Furthermore, we are pioneers of innovative patient care models. Finally, many of our division members are renowned in their disciplines and are frequently invited to speak across Canada and internationally.

CLINICAL

Digestive health has been profoundly affected by the COVID-19 pandemic. The incidence of alcohol-related liver disease has increased substantially and the consequences of delays in the management of chronic diseases and preventive health care, including screening, will be evident for years to come. With the intensity of the pandemic hopefully now behind us, the Division of Gastroenterology & Hepatology will leverage its growing single point of referral model (Centralized Access and Triage - CAT) and primary care clinical pathways to manage a high volume of referrals. Other groups across the province who continue to struggle with unacceptable wait times have looked to Calgary for leadership in this important area.

EDUCATION

Many of our Division members are heavily involved in teaching and educational leadership. Dr. Sylvain Coderre is the Director of Teacher Development for the Office of Faculty Development. He is also the Lead of the Curriculum and Clinical Presentations Working Group for Undergraduate Medicine Education's (UME) Re-Imagining Medical Education (RIME) initiative.

Dr. Remo Panaccione is the Assistant Dean, MD Admissions (UME) at the University of Calgary. Dr. Edwin Cheng is a Master Teacher and the Course One Director. Dr. Melanie

Stapleton is the Director of the Gastroenterology Residency Training Program.

The Division also offers highly sought-after subspecialty fellowship programs in IBD (Director – Dr. Remo Panaccione), advanced biliary endoscopy (Dr. Nauzer Forbes), advanced luminal endoscopy (Dr. Heitman), hepatology (Dr. Meredith Borman) and motility (Dr. Mathew Woo). Drs. Kerri Novak and Cathy Lu run a novel training program in intestinal ultrasound (IUS), which trains IBD experts from around the world in IUS.

Our residency training program remains one of the most sought after in the country and each year physicians from around the world come to Calgary to acquire additional training in one of our acclaimed subspecialty fellowship programs.



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Subspecialty
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Program
Residents.



DR. STEVEN HEITMAN
Division Head

Dr. Heitman is Professor of Medicine and currently holds the N.B. Hershfield Chair in Therapeutic Endoscopy. In addition to his leadership role in the Department of Medicine, he is also the Scientific Director for the Digestive Health Strategic Clinical Network of Alberta Health Services. Dr. Heitman's research interests are focussed in the areas of colorectal cancer screening, colonoscopy quality and outcomes of advanced endoscopy.

ADMINISTRATIVE

Dr. Bob Hilsden was selected to be the Medical Director of the Forzani & MacPhail Colon Cancer Screening Centre (CCSC). Dr. Paul Belletrutti is the Therapeutics Lead at CCSC, Medical Lead of Endoscopy and GI Site Lead at FMC. Dr. Shane Devlin is the Site Lead at PLC, Dr. Laura Stinton is the Site Lead at RGH and Drs. Milli Gupta and Michelle Buresi shared the Site Lead role at SHC during the 2021 – 2022 academic year. Dr. Carla Coffin was the Lead for Hepatology and Dr. Rachid Mohamed continues as Head of Therapeutic Endoscopy. Dr. Matthew Mazurek is the Medical Lead of GI Central Access and Triage. Dr. Maitreyi Raman is the Director of the University of Calgary's Clinician Investigator Program (CIP). Lastly, Dr. Kerri Novak is the Zone Medical Administrative Committee (ZMAC) Chair for AHS.

In addition, we saw several Division members leave prominent administrative roles. Dr. Jennifer Williams was the Clinical Deputy Department Head finishing June 2022. Dr. Kelly Burak completed a 5-year term as Associate Dean of Continuing Medical Education (CME) and Professional Development in addition to serving as the Medical Director of the Physician Learning Program. Finally, Dr. Johnathan Meddings completed his second 5-year term as Dean of the Cumming School of Medicine ending June 20, 2022.

RESEARCH

The Division of Gastroenterology and Hepatology continues to excel in research. Across the division, 180 unique manuscripts were published by one or more members. In addition, multiple investigators were newly awarded Tri-Council funding as Principal or Co-Principal Investigator.

Dr. Carla Coffin received 2 CIHR Grants, one being a Project Grant as nominated Principal Investigator (891K): Investigation of Hepatitis B Virus Immunopathogenesis Using Intravital Microscopy in the Woodchuck Hepatitis Virus (WHV) Model of Hepatitis B; as well as a Special Call/Catalyst Grant (100K) as Principal Investigator: Development of a Canadian Hepatitis B Virtual Centre of Excellence.

Dr. Aziz Shaheen was awarded a CIHR Operating Grant (423K) as Principal Investigator: Understanding and Responding to the COVID-19 Pandemic Effect on the Magnitude of Alcohol-Related Liver Disease in Alberta.

Dr. Forbes (nominated Principal Investigator and Dr. Heitman (Co-principal Investigator) were awarded a CIHR Project Grant (578K): Machine Learning Design of a Post-ERCP Pancreatitis Clinical Decision Tool (PEP-CADET).

KEY CHALLENGES

The biggest challenges of the 2021 – 2022 academic year arose from continued disruptions related to the COVID-19 pandemic. We continue to be impacted by absenteeism due to illness and health care provider fatigue and burnout. With referral volumes now back to pre-pandemic levels that outmatch our ability to supply consultative and endoscopic services, we are once again experiencing a steady rise in our outpatient waitlists. Calgary has also become more formally involved in referral management for the Bow Valley and there is mutual interest in providing outreach clinic and endoscopic services in Canmore. Finally, we are facing unprecedented demands from Central Zone after several physicians have left or are nearing retirement.

Unfortunately, given other priorities, and barriers, hiring had slowed over the last few years but is now a focal point within the Division. More than ever, we must prioritize quality care, efficiency and appropriateness of endoscopy. Moreover, single point of entry models (CAT) and primary care clinical pathways are critically important to ensuring those most in need of care are seen in a timely manner.

The introduction of Connect Care (CC) also negatively impacted our ability to provide timely care. While we remain hopeful that CC will eventually result in system advantages, the disruptions experienced during Launch 4 at the PLC impacted our ability to see outpatients and complete procedures. We anticipate similar problems during each of the upcoming launches that collectively will amplify our waitlist problems.

COVID-19 severely affected the ability to conduct clinical research. Instead, the CCSC Research Group used this enforced downtime to develop infrastructure and personnel to support completion of multiple systematic reviews, transition from paper-based data collection to electronic data collection through web-based portals and to develop data standards and practices for all CCSC studies and databases.

EXPANSION OF GI & HEPATOLOGY CENTRALIZED ACCESS AND TRIAGE (GI/HEP CAT)

Until recently, the physicians at the Rockyview General Hospital were largely independent of GI/Hep CAT, a significant gap highlighted in last year's annual report. However, since January four new members at RGH have joined GI CAT for a total of 5 of 13 physicians. Furthermore, the remaining members at RGH have expressed interest and intend to join GI CAT soon. Finally, the first RGH-based AMHSP physician in the division was also hired (Dr. Suqing Li) who will run an on-site outpatient clinic at RGH.

THERAPEUTIC ENDOSCOPY GROUP

The Division's pancreaticobiliary endoscopy research program continued to make significant strides. Most recently, the Calgary Registry for Advanced and Therapeutic Endoscopy (CReATE), founded in 2018 and led by Dr. Forbes has resulted in a surge of academic output along with a pipeline of promising future productivity. CReATE is a unique high-fidelity prospective database capturing over 300 data fields per procedure on patients across 9 centres in Canada, the United States and Europe. Its operations have been funded by the N.B. Hershfield Chair in Therapeutic Endoscopy, several active research grants and support from industry. Over 4,500 patients have been enrolled to date, with CReATE serving as a rich data scaffold for impactful multi-centre prospective observational studies and randomized trials studying innovation, outcomes, and educational aspects of advanced endoscopy. CReATE has been leveraged to yield significant successes in acquiring competitive peer-reviewed funding, with two CReATE-based projects having been funded by CIHR, one in 2021 and another in 2022. CReATE investigators hope to usher in a new era of methodologically rigorous research in advanced endoscopy, thereby further bolstering the rich research reputation of the University of Calgary's Division of Gastroenterology and Hepatology.

FORZANI & MACPHAIL COLON CANCER SCREENING CENTRE (CCSC)

Clinical Operations: The CCSC is budgeted to perform 17,400 procedures annually. Due to COVID-19 associated reductions in clinical operations, 16,625 procedures were performed in fiscal year 2021. Furthermore, despite a complete shutdown of the unit for 2 months in 2020, CCSC's programmatic model of care and CAT ensured acceptable wait times for those at higher risk of colorectal cancer. For example, those with a positive fecal immunochemical test had a median wait time from

referral to colonoscopy of approximately 48 days in 2021-2022. This is substantially lower than all other major endoscopy units across the province, highlighting the importance of CAT.

Research: The CCSC has an active research group conducting epidemiologic, clinical and health services research. COVID-19 severely affected the ability to conduct clinical research. Instead, the CCSC Research Group used this enforced downtime to

develop infrastructure and personnel to support completion of multiple systematic reviews, transition from paper-based data collection to electronic data collection through web-based portals and to develop data standards and practices for all CCSC studies and databases. Many high impact papers were published, and research group members hold multiple active grants from CIHR, Alberta Innovates, the Canadian Cancer Society and the Alberta Cancer Prevention Legacy Fund.

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GENERAL INTERNAL MEDICINE

General Internists diagnose patients with undifferentiated disease and manage conditions when it is unclear as to which organ system is involved or many organ systems are involved. They are suited to care for patients who have acute or chronic multiple system disease. The ability to adapt allows a general internist to provide high quality subspecialty care when not available in non-metropolitan areas. General internists also provide medical care during critical periods such as before surgery or during pregnancy. General Internists working in academic centers often are well-suited to be educators, researchers and administrative leaders.



DR. LEANNE REIMCHE
Division Head

Dr. Leanne Reimche is a specialist in General Internal Medicine and is a clinical associate professor (UCalgary). She has completed formal training in patient safety/quality improvement/informatics/leadership (Harvard Medical School) and obesity medicine (Diplomate of the American Board of Obesity Medicine).

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**Subspecialty Training
Program Residents.**

CLINICAL

Our members continue to attend on the Medical Teaching Unit, providing care to some of the most complex patients admitted to the hospital. General Internal medicine clinical services have expanded at all 4 Calgary Regional Hospitals due to an increase in volume and complexity of patients needing admission. In addition to attending on the medical teaching units and general medical units, our section also covered inpatient consultation services,

obstetrical medicine consultations, vascular medicine consultations, thrombosis consultations, addiction recovery and community health team, vulnerable population clinics and vaccination policy development and obesity medicine clinics at the Calgary Adult Bariatric Clinic. Outpatient general internal medicine clinics also included complex chronic disease management clinics, fellows clinic and urgent assessment clinic.

limited to: Medical Informatics Leads (Drs. Evan Minty and Caley Shukalek), Medical Director of AHS Calgary Zone Seniors, Palliative and Community Care (Dr. Michelle Grinman), AHS Senior Medical Directors of Medicine SCN (Strategic Clinical Network) (Dr. Anna Purdy) and Diabetes, Obesity and Nutrition SCN (Dr. Peter Sargious).

Three out of the four Department of Medicine Hospital Leads are general internists (Drs. Caley Shukalek, Kathryn Watson and Jolene Haws). Other Department of Medicine leadership positions held by general internists are in the DOM Vice Chair Workforce Planning, (Dr. Kelly Zarnke), DOM Vice Chair Physician Wellness and Vitality (Dr. Jane Lemaire) with Associate Vice Chair (Dr. Shannon Ruzyski), Executive Director Alberta International Medical Graduates Program (Dr. Maria Bacchus), Assistant Dean, Evaluation and Research within CSM (Dr. Janeve Desy), Vice President of Research, University of Calgary (Dr. Bill Ghali).

ADMINISTRATIVE

Many members in our section hold administrative positions within Calgary Zone, Cumming School of Medicine, University of Calgary and provincial level. General Internists have unique perspectives on many areas in our healthcare system due to their broad range of clinical services. They are well-suited for leadership in healthcare services, medical education and other academic areas.

Some examples include and are not

108

publications
in 2021/2022

RESEARCH

There are currently 10 GFT researchers in the section of general internal medicine. \$8.9 million dollars of research funding was awarded in the section of GIM with \$3.1 million dollars awarded to principal investigators. There were 112 publications in 2021/2022 with 19 first-authored. Topics of research included COVID-19, Obstetrical Medicine, Epidemiology, remote delivery of medicine and supplies, clinical services, Point of care ultrasound during COVID-19, thrombosis, refugee health/vaccination policy, cardiovascular prevention in high-risk post-partum population, medical leadership and equity, diversity and inclusion research.

\$8.9 Million
Research Funding
awarded in the section of
GIM with 3.1 million to
principal investigators.

EDUCATION

Involvement of general internists in medical education include many hours taught at the undergraduate and postgraduate level in addition to medical education research, innovation, ultrasound and simulation educational programs. General internists are involved in curriculum development and hold director level position of teaching innovation. Point of Care Ultrasound education has been developing formally with a rotation now offered at the PGME level and fellowship training for R5 level General Internal Medicine Fellows. Simulation education has received Royal College of Physicians and Surgeons Accreditation.

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Applications from Prospective
Subspecialty Training
Program Residents

KEY CHALLENGES

Again, the major clinical challenge in 2021 and 2022 is the increased demand for our clinical services. We have increased recruitment to meet this demand with the aging population and the rising prevalence of chronic disease in the community. We have expanded our coverage of non-teaching general internal medicine patients at the Foothills and Peter Lougheed Site and have expanded our inpatient consultation services.

KEY SUCCESSES

Many of our members have worked collaboratively with hematology in the thrombosis clinic which now has a central triage process to help streamline care. This has been a valuable clinical service and is continuing to grow exponentially. Simulation education has received Royal College of Physicians and Surgeons accreditation and has evolved to include faculty education in areas such as personal protective equipment protocols during COVID-19.

LONG-COVID FOLLOW UP CLINIC (IPOP)

The long-covid clinic was established in 2022 to address the needs of patients with prolonged symptoms post COVID. This is a multidisciplinary clinic that brings together allied health professionals (physiotherapists, occupational therapists) to work with a nurse practitioner and general internal medicine physician to address the many undifferentiated symptoms that patients experience following a covid infection. The clinic will also attempt to study the effect of various treatments on the outcomes of these symptoms. It is now accepting new referrals and is a welcome addition to the General Internal Medicine outpatient clinics. The objective is to triage and treat those with post-COVID symptoms so that they are seen by the right Department of Medicine subspecialty clinic to ensure more timely care by the right specialist.

COMPLEX CARE HUB - CALGARY ZONE, ROCKYVIEW GENERAL HOSPITAL AND SOUTH HEALTH CAMPUS

The Complex Care Hub was the recipient of the Health Quality Council of Alberta 2022 Awards. The Complex Care Hub (CCH) provides a Home Hospital care model as an alternative to traditional hospitalization for patients with complex conditions who require hospital-level care but are able to sleep at home. Hospital-based doctors and nurse navigators together oversee the care plan, coordinate services, and connect with primary care. Daily visits occur either in patients' homes by community paramedics who consult with the doctors, or through virtual doctor appointments. The program aims to envelope patients with the medical care and services they need to heal from their acute illness and empower them to manage their chronic conditions, regain their function and independence, and reduce their risk of readmission. General Internists have been working on the complex care hub, under the leadership of Dr. Michelle Grinman since it's inception. Academic work in this model includes conducting a Randomized Clinical Trial of virtual care in Wetaskiwin that will be conducted in partnership with Harvard University.

GLOBAL HEALTH

There are several members of our section involved with caring for underserved populations. One Global Health Project includes the work in Lao. In addition to her contributions to medical education in the field of physician wellness, Dr. Jane Lemaire has also been involved in a global health collaboration between the Cumming School of Medicine University of Calgary and the University of Health Sciences, Lao PDR for almost 20 years. The current focus is on expanding the Family Medicine Specialist training program from a 2 year to a 3 year curriculum, to better train physicians who will work in rural areas of the country.

GERIATRIC MEDICINE

The Section of Geriatric Medicine has 23 members who specialize in the care of older adults living with frailty. This includes providing specialized clinical care in acute care and community settings administered through AHS Calgary Zone Specialized Geriatric Services program. The section is also actively engaged in leadership at multiple levels, medical education at all levels and clinical research and program development relevant to the population we serve.



DR. KAREN FRUETEO
Division Head

Dr. Fruetel became the Division Head starting September 2021. She previously held this position from 2008-2016, along with other positions including Medical Director of Specialized Geriatric Services and Medical Leader Seniors, Palliative and Continuing Care. She subsequently became the Vice Chair of Education for the Department of Medicine. In 2021 she obtained a Graduate Certificate in Executive Coaching from Royal Roads University and is providing coaching services to Department Members.

CLINICAL

The Division supports clinical activities through Specialized Geriatric Services (SGS). Acute care services include hospital consultations and the Acute Geriatric Unit. We are active in ambulatory services including Seniors Health clinics, Falls Clinic, Geriatric Peri-operative clinics, Rural clinics and the Geriatric Day Hospital. Members provide clinical support to programs outside of SGS including the Movement Disorders Clinic, the Wound Clinic, the Alex Seniors Clinic and HIV clinics. Recently a multidisciplinary task force with Emergency Medicine was formed with input from many of our members with the goal to optimize care of older adults in the ED.

ADMINISTRATIVE

Several of our members hold significant leadership positions in Geriatrics locally and provincially. This includes Medical Director of the Seniors Health SCN (Dr. Silvius), Medical Lead AHS Provincial Fracture Liaison Service (Dr. Dempsey), Medical Director of Specialized Geriatric Services and Transition Services (Dr. Fruetel), Medical Director of Home Care (Dr. Kwan) and the Director of the Brenda Stafford Centre on Aging (Dr. Hogan). Members are also providing leadership to the Department of Medicine, including Head, Department of Medicine (Dr. Holroyd Leduc), Vice Chair of Virtual Health (Dr. Dempsey) and Vice Chair of Education (Dr. Fruetel).

RESEARCH

Our section has four researchers who had 70 peer reviewed publications and a total of 7.8 million dollars in grants in 21/22. Dr. Holroyd-Leduc is the Brenda Stafford Foundation Chair in Geriatric Medicine and starting in June 2022 will take on the role of Academic Lead of the Brenda Stafford Centre on Aging. Dr. McMillan has taken on the role of Co-Chair for the CIHR Clinical Trials Group HIV and Aging Research Development Team and Dr. Hogan has joined the CIHR Institute of Aging Advisory Board.

In the last year a highlight has been a research focus on improving care for residents in continuing care. Dr. Goodarzi received CIHR funding to develop a clinical pathway for Depression in LTC, and continues to work on pathway development for other neuropsychiatric symptoms. Dr. Holroyd Leduc has led a PRIHS project focused on improving

acute care for long-term care residents. Drs. Goodarzi and Holroyd-Leduc received funding from CIHR, Healthcare Excellence Canada and Alberta Health to develop and implement evidence informed clinical care pathway for older adults living with frailty in long-term care. Dr. Holroyd-Leduc led the re-submission of a Canadian Foundation for Innovation (CFI) 2023 Innovation Fund grant to support the purchase of infrastructure to rethink continuing care (RCC), which included Drs. Goodarzi, Hogan and McMillan as project team members. The RCC project will create an experiential ecosystem for innovation within the BSF Cambridge Manor continuing care facility and beyond. Funding from the BSF Chair has been allocated to develop an associated Qualitative Lab and a Therapeutic Outdoor Lab within Cambridge Manor, as well as to support a number of innovative studies within continuing care.

4 Subspecialty Training Program Residents

EDUCATION

Our Division makes a significant contribution to education across the spectrum of medical education (UME, PGME, CME/CPD). Three members are Master Teachers in UME. Members are involved in a wide range of direct teaching in UME beyond our course (Course V). Within PGME, not only do members support our own residency program but have made significant contributions as academic advisors in the Internal Medicine Program. Members who hold important education roles include Dr. Burbach (Chair of the IMPR Competency Committee), Dr. Dempsey (Course V Co-chair and Associate PD), Dr. Fruetel (Vice Chair, Education DoM), Dr. Goodarzi (PD Leaders in Medicine Program), Dr. Hall (Associate PD, IMRPC), Dr. Pearce (PD, Geriatric Medicine and Chair of PGME resident appeals committee) and Dr. Schmaltz (CME lead and lead for the Geriatrics Update annual conference)

KEY SUCCESSES

The Geriatric Day Hospital (GDH) program at the Glenmore Park Carewest is a multidisciplinary, case management-based program that aims to optimize the quality of life of community-dwelling older adults by focusing on "what matters most" to our seniors. This program was impacted by the COVID-19 pandemic and recognized the impact on older adults, including isolation, deconditioning, and medical, cognitive, and mental health issues. The GDH program has identified this need and made changes to increase the program's capacity by accommodating separate groups of clients in the morning and afternoon. The day hospital program consists of a team of physiotherapists, an occupational therapist, a social worker, a registered nurse, a pharmacist, geriatric medicine, and geriatric psychiatric specialists. This inclusive program accepts referrals from all healthcare providers for community-dwelling seniors older than 65 who would benefit from rehabilitation and comprehensive care led by a multidisciplinary team.

Thanks to the efforts of Drs Holroyd-Leduc, Persaud and Ewa, a Clinical ARP for Specialized Geriatric services was successfully negotiated and implemented in January 2022.

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Applications from Prospective Subspecialty Training Program Residents.

KEY CHALLENGES

The structure and function of the Acute Geriatric Unit (AGU) has been a challenge. The impact of COVID with holding inter-hospital transfers and the creation of a hospitalist hub on the unit have raised concerns about AGU as a zonal resource. There is also concern that metrics being collected through Operational Best Practice may not align with the purpose of the unit. Given the increase of patients admitted with frailty and multimorbidity, the AGU is a valuable zonal resource that benefit not only patients but improves access to all acute care programs in Calgary. AGU leadership is working with the Design Lab and Divisional members on optimizing the use of AGU beds through a careful review and revision as needed of admission criteria. The positive impact of the AGU on individual patients and the efficiency of the hospital sector in the Calgary zone will be widely shared.

GERIATRIC EMERGENCY MEDICINE TASK FORCE

Dr. Zahra Goodarzi has co-lead a multidisciplinary, multi-site collaborative team with Dr. Margaret McGillivray from Emergency Medicine. This group includes physicians, and allied health professionals from all acute care sites representing both Geriatric Medicine and Emergency medicine. The task force is focused on identifying, studying, and developing tools to address concerns for older adults in the ED, with a goal to improve quality of care, access to care and increased evidenced based approaches in the ED. This includes several key issues including examining agitation and restraint use in the ED, non-drug and rational drug approaches to managing agitation in the ED, an approach to reduce NPO status in the ED, and an

approach to increase mobility in the ED for older adults.

The team is also working on larger scale advocacy for Geriatric Emergency Management (GEM) Nursing in the ED and is engaged in research on the same. We have also piloted several interventions in the ED including the SUPER Volunteers (now a permanent fixture at the SHC ED with goals of expanding to other sites), GEM NP at South Health Campus, and See the Person training for ED staff. Our next goals are to continue to examine how we can incorporate GEM nursing in Calgary EDs, and improve our approach to agitation and delirium in the ED.

A Clinical ARP for Specialized Geriatric services was successfully negotiated and implemented in January 2022.

CREATION OF A COACHING PROGRAM

Dr. Fruetel returned from sabbatical in September 2021 after completing an 8-month program at Royal Roads University and obtaining a Graduate Certificate in Executive Coaching. She is now a Certified Executive Coach and is offering coaching services to faculty members in the Department of Medicine, AHS Leadership and faculty members of the Cumming School of Medicine. Dr. Fruetel is the first certified coach in the DoM.

Coaching is defined as a partnering with clients in a thought-provoking and creative process that inspires them to maximize

their personal and professional potential. It differs from mentoring as it is non-directive, and the client sets the agenda for what they want to discuss and achieve. The outcomes from coaching in general include improved self-esteem and self-confidence, improved relationships, and communication skills, improved work performance and improved work/life balance and wellness. Specific to physicians, coaching has been shown to significantly reduce burnout, improve resilience and enhance leadership skills.

Reasons to consider a coach include career development, managing conflict,

finding meaning in work, work-life balance, prevention or management of burnout, a desire to change something, or just feeling stuck or uncomfortable with a situation or a decision. All coaching relationships are considered confidential.

Since her return from sabbatical, Dr. Fruetel has provided coaching services to 26 physicians within the CSM and AHS. She has also reached out to other physician coaches in Calgary to create a community of practice. Dr. Fruetel is available to provide coaching services or provide information on how to access an external coach.



HEMATOLOGY & HEMATOLOGICAL MALIGNANCIES

The Section of Hematology consists of 28 physicians based out of three acute care sites in Calgary. Our physicians also operate clinics at the Tom Baker Cancer Centre, the Richmond Road Diagnostic and Treatment Centre and the Holy Cross Centre. Expertise in the Section extends across the entire spectrum of blood disorders. Our section includes the Southern Alberta Rare Blood and Bleeding Disorders Program, the Alberta Blood and Marrow Transplant Program and the Calgary Thrombosis Program.



DR. ANDREW DALY
Division Head

Dr. Andrew Daly is a hematologist with special interest in allogeneic hematopoietic stem cell transplantation, acute leukemia and lymphoma. He completed his medical training at McGill University in Montreal, Quebec, and trained in stem cell transplantation at the University of Toronto. Research interests include the use of alternative donors for stem cell transplantation and the use of cellular therapy to improve the outcome of patients with blood cancers.

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Subspecialty Training
Program Residents

CLINICAL

The COVID pandemic forced our section to adopt new ways of providing patient care. Hematology joined Specialist Link in April 2020 and quickly rose to the ranks of the most frequently consulted services. Between April 1, 2021 and March 30, 2022 hematologists answered 2080 calls through Specialist Link. Previous call volumes had already justified the creation of a separate Specialist Link Thrombosis Service which started receiving calls in June 2021. In the 2021-22 fiscal year the Section of Hematology received 4749 new referrals for patients through Hematology Central Access and Triage and 994 for patients with hematological malignancy were referred directly to the cancer center. These numbers do not include patients seen in the Thrombosis Clinic. Referrals to hematology were substantially higher than the previous year as access to primary care and laboratory services recovered from COVID-related slowdowns.

ADMINISTRATIVE

Last year we piloted a new role within our section, the Unit 57 Medical Director. This individual works closely with operational leadership of the unit to address issues of patient flow, timely discharge and improved communication between medical and nursing staff. The role is assigned 0.05 FTE and we plan to continue this role.

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RESEARCH

Research productivity increased as COVID restrictions were lifted and section members adapted to the new reality of pandemic life. Members of the Section of Hematology published 110 unique publications this year and were first or last author on 41. Section members were successful in obtaining peer-reviewed grant funding, including CIHR, Terry Fox Research Foundation and the Alberta Cancer Foundation. The Section of Hematology continues to accrue the largest number of patients to clinical trials at the Tom Baker Cancer Center, providing patients with novel treatment options for newly-diagnosed or relapsed hematological malignancy. In addition to saving lives, this research activity saves the healthcare system millions of dollars each year in drug costs.

EDUCATION

The Section of Hematology provides medical education at the UME, PGME and CPD levels. There were twenty-four teaching awards (14 Dean's letters, two platinum, three silver and five bronze awards) granted to members of the Section of Hematology for undergraduate teaching in Course 1 and Clerkship this year. Internal Medicine trainees continue to rotate through Hematology inpatient service, outpatient clinics and consult service.

This year the Section of Hematology benefited from four core hematology residents and two Advanced Oncology Fellows (a Lymphoma Fellow, Dr. Rob Puckrin, and a Plasma Cell Disorder Fellow, Dr. Holly Lee).

Dr. Kareem Jamani continues in the role of Course 1 Chair for the incoming medical school class (Class of 2025).

KEY CHALLENGES

As with most sections, the Section of Hematology faced significant challenges in dealing with the COVID-19 pandemic. From restrictions on in-person clinic attendance for patients to changing hospital visitor policies for family members to staff members isolating at home for exposure or ILI symptoms the pandemic challenged our flexibility and resourcefulness.

Short-term but intensive projects, like planning for Connect Care and the New Calgary Cancer Center, used time and resources that could have been spent on other projects within the Section.

Hematology is a research-intensive discipline and competition for research resources within the Department of Oncology, at the University of Calgary and on a national level continues to limit capacity for scholarly inquiry.

This year the Section of Hematology lost four members through retirement or relocation. Given the national shortage of hematologists, multiple vacancies nationally and within Alberta, and the shortage of AMHSP positions in our section it will likely take several years to fill these positions.

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Publications (41 First or Last Author)

LYMPHOMA DIAGNOSIS PROGRAM

Patients with lymphoma who are diagnosed after long delays experience poor outcomes. The Lymphoma Diagnosis Program was established in order to streamline the diagnosis of patients with presentations that have a high likelihood of being a lymphoma. Patients with a likely lymphoma diagnosis (criteria available on the Specialist Link Website at www.specialistlink.ca/clinical-pathways-and-specialty-access) are referred directly for the appropriate biopsy by the program. When a diagnosis is confirmed, staging investigations are arranged and an appointment with a Hematologist or Oncologist is booked. The program is a joint effort of the Cancer Strategic Clinical Network, the Primary Care Network and the Hematology Tumour Group. Last year the Lymphoma Diagnosis Program accepted 421 referrals and diagnosed 239 (56.8%) patients with lymphoma and 53 patients with other cancers. Non-cancer diagnoses were made in 129 patients. Dr. Dough Stewart (Senior Medical Director, Cancer SCN) and Dr. Carolyn Owen (Provincial Hematology Tumour Group Lead) are integral to this work.



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INCREASED CAPACITY IN THE SOUTHERN ALBERTA RARE BLOOD AND BLEEDING DISORDERS PROGRAM

The Southern Alberta Rare Blood and Bleeding Disorder (RBBB) Program provides life-long comprehensive care to patients with Sickle Cell Disease, among other conditions. Sickle Cell Disease represents the fastest growing patient population in the RBBB program. Patients with Sickle Cell Disease may experience painful episodes, known as vasoocclusive crises that require hospitalization for pain control. They may also experience strokes, pulmonary complications, retinal disease and orthopedic problems. The only Health Canada-approved disease modifying treatment for Sickle Cell Disease is hydroxyurea, an oral chemotherapy agent that alters the hemoglobin composition of red blood cells.

In January 2020 a 0.2 FTE pharmacist position was created in the RBBB program using grant funding. The position was intended to support the administration and supervision of

hydroxyurea treatment for patients with Sickle Cell Disease. The role of the pharmacist includes patient education, drug access and patient monitoring. At the start of the trial only 32% of eligible patients were receiving hydroxyurea, while currently 60% of these patients are on treatment, the majority near or at their maximum tolerated dose. We anticipate that as hydroxyurea utilization becomes more common in the program patients will require fewer ED visits and admission to treat the complications of their disease.

The RBBB program is currently seeking operational funding to ensure that this pharmacist position continues after the grant funding runs out.

Members involved in this initiative include Dr. Natalia Rydz (Medical Director, Southern Alberta Rare Blood and Bleeding Disorders Program), Dr. Dawn Goodyear (Hematologist) along with Mr. Cam Roessner (Pharmacist).

THE COLLABORATIVE IMMUNOLOGY PROGRAM

Primary Immune Deficiencies (PID) are a group of over 400 inborn errors on immunity that affect the ability of one or more parts of the immune system to function properly. They are chronic illnesses that may present to several specialties (gastroenterology, rheumatology, respirology, infectious diseases) and require lifelong care. Delayed or misdiagnosis can lead to significant morbidity and mortality. Prior to 2014 patients with suspected PID were treated by hematologists with no training in these diseases. In 2014, after returning completing her PID fellowship at the National Institutes of Health, Dr.

Grossman established the first adult PID clinic in Canada at the Foothills Medical Center. Although there is no established standard of care for patients with PID many of these patients receive immunoglobulin replacement therapy to decrease the risk of infection.

In 2021 the Collaborative Immunology Program received funding from Alberta Health to improve access to specialist and multidisciplinary care, improve quality of life, productivity and improve health outcomes. The grant provides case management, access to allied health (social work, psychology and pharmacy),

patient education and improved access to timely diagnosis and advanced diagnostics. The program will also reduce unnecessary health expenditures by ensuring that use of expensive treatments like immunoglobulin replacement and stem cell transplantation are only used by patients likely to benefit from treatment. The key contributors to this program are Dr. Jennifer Grossman (Medical Director, Collaborative Immunology Program), Dr. Davinder Sidhu (Transfusion Medicine), Yolanda Mitchell (Manager, University of Calgary Medical Clinic) and Tara Redfern (Nurse Clinician SCIg Home Infusion Program).

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Applications from Prospective Subspecialty Training Program Residents.



INFECTIOUS DISEASES

The division of infectious disease (ID) provides independent inpatient consultative services across each of Calgary’s four adult hospitals as well as providing immediate consultation and follow-up to those individuals with severe/complicated infections followed through the Home Parenteral (antibiotic) Therapy Program (HPTP). In addition to in-hospital clinical care, division members provide care via a number of multi-disciplinary ambulatory subspecialty clinics including HIV (SAC), Tropical Medicine, Sexually Transmitted Infections, Cystic Fibrosis, Hepatitis C, Wound Care and General Infectious Diseases.



DR. MIKE PARKINS

Division Head

Mike Parkins has been Infectious Disease Section Head since 2019. He is also the Director of the Calgary Adult Cystic Fibrosis Clinic and co-director of the Home Parenteral Therapy Program (HPTP). Dr Parkins is a clinician-scientist with research interests supported by CIHR, the Cystic Fibrosis Foundation, Genome Canada, CFI, NIH and Alberta Health.

RESEARCH

The division of infectious disease was thrilled to recruit Dr. Raynell Lang, MD, MSc FRCPC as an infectious disease clinician-scientist during the 2022 year. Dr. Lang has just completed a 2-year post-doctoral fellowship at Johns Hopkins University with the North American HIV collaborative cohort – NA-ACCORD. Within HIV, Dr. Lang’s research interests are diverse – and include epidemiology, phylogenetics, co-infections and opportunistic infections. In addition, Dr. Lang has developed a significant interests in SARS-CoV-2 and is working in areas as diverse as gauging immune response in impaired hosts and addressing vaccine hesitancy. Since joining the division, Dr. Lang has already secured research funding from a number of sources including CIHR where she serves as a co-Principal Investigator with her mentor Dr. M. John Gill studying antibody and cellular immune response as a function of telomere length in HIV-infected and control cohorts.

CLINICAL

The division of infectious disease continues to undergo significant changes. In the last few years we have had several excellent clinicians retire from our team, and most recently this includes Dr. Andy Pattullo. Dr. Pattullo will be sorely missed after having been a pillar of the Rockyview General Hospital community for many years. We were thrilled to recruit Dr. Brett Edwards in late 2021. Dr. Edwards is well known to us, having completed his Infectious Diseases training here in 2020 and Internal Medicine training in 2018 (where he was a co-chief resident). Dr. Edwards has recently completed a prestigious Fellowship at the University of Toronto in Mycobacterial Disease where he was supported by a Helios UCMG Post-Fellowship award. Dr. Edwards works across hospital sites doing inpatient general infectious diseases, HPTP and TB and non-TB mycobacterial disease.

ADMINISTRATIVE

Dr. Kristen Brown has led our group through several new AHS administrative hurdles – the most recent of which is the onboarding of Connect Care. Dr. Brown works half time within the Division of Infectious Diseases, and in the other half her time as a medical microbiologist with Alberta Precision Laboratories. As such, she was particularly well suited to the task of administrative problem solving. Serving as the co-director of the Home Parenteral Therapy Program, Dr. Brown has ensured the adaptation of the unique nature of this clinic to the novel complexities offered through Connect Care. Dr. Brown, together with the other ID Connect Care “Super User” Dr. Alejandra Ugarte-Torres, assisted in onboarding all ID physicians who work at or cross cover the PLC, and will be doing the same at the FMC in November 2022.

4 Subspecialty Training Program Residents.



EDUCATION

The infectious disease division is especially proud of their two graduating PGY-5 trainees. Dr. Anthony Lieu has moved to Montreal in order to pursue additional training in Medical Microbiology at the University of McGill and intends thereafter to complete a transplant infectious disease clinical fellowship. Dr. Jordan Mah has recently relocated to California and is enrolled in a Medical Microbiology Residency Program at Stanford University. Our current trainees, Dr. Daniel Doyle and Carolina Diaz Pallares are joined by two incoming PGY-4s – Dr. Teagan King (Calgary IM) and Dr. Brandon Christensen (Toronto IM).

KEY CHALLENGES

The ongoing COVID-19 global pandemic remains particularly impactful on the division of infectious diseases. Owing to the nature of the disease many division members were forced to rapidly adopt and maintain prominent roles required for understanding the epidemiology and pathobiology of SARS-CoV-2, infection transmission potential – and means of preventing and treating the disease – in addition to their routine duties. These additional responsibilities have proven taxing, and have resulted in an over extended workforce. Despite this, our members continue to provide excellent care, and work collaboratively to ensure the high standard of care is maintained.

16 Applications from Prospective Subspecialty Training Program Residents.

INFECTION PREVENTION AND CONTROL (IPC)

The Infectious Disease Physicians that lead Infection Prevention and Control (IPC) across the Calgary zone had another tremendous year. Dr. Oscar Larios serves as the Acting Medical Director Lead of Infection Control across the Province and Dr. John Conly serves as the Calgary Zone Lead. Infection Control Medical Directors at each of the hospitals include; Drs John Conly (Foothills Medical Centre), Bayan Missaghi and Jamil Kanji (Peter Lougheed Centre), Joseph Kim (Rockyview General Hospital), and Oscar Larios (South Health Campus). These ID Division members, and their partnered infection control practitioners – continue to effectively prevent, control and mitigate outbreaks across each site, saving lives and preserving limited health resources.

Dr. Conly leads their combined research efforts into COVID-19 which remain diverse and include; case identification and definitions, environmental modelling of the stability of potentially infectious particles and the prevalence and risk of secondary infections. Furthermore, the group partakes in a number of clinical trials including those evaluating the efficacy of various forms of personal protective equipment.

KEY SUCCESSES

These same ongoing challenges posed by COVID-19 are areas where our membership has risen to the occasion. Members of the Infectious Disease Division are actively involved in therapeutic research trials, infection prevention measures trials, and basic science experiments studying the epidemiology and pathobiology of SARS-CoV-2. Members are involved in work to develop better diagnostic tests, and better understand the burden of disease in the community. Division members participate in a wide range of COVID-19 related committees including the Provincial Scientific Advisory Group, Drugs and Therapeutics Advisory Committee, ZEOC, MSEC, hospital-based emergency commands, and continue to regularly deal with media requests and provide COVID-19 CME to Alberta's health care workers

ID Division members, and their partnered infection control practitioners – continue to effectively prevent, control and mitigate COVID-19 outbreaks across each site, saving lives and preserving limited health resources.

WASTEWATER MONITORING AND ANTIMICROBIAL STEWARDSHIP

Several offshoots of the pan-Alberta wastewater monitoring program are underway. A team from the DOM led by Drs. Parkins, Conly, Rennert-May, Kanji, Missaghi, Meddings & Kim in collaboration with other UofC researchers including; Drs Leal (Community Health Sciences) Achari (Engineering), Lu and Chekouo (Mathematics & Statistics), Pitout (Laboratory & Pathology Medicine), Vayalumkal & Dunn (Pediatrics), Frankowski (UCalgary's ACWA) and Ruecker (City of Calgary) are monitoring hospital wastewater for a number of transmissible infections. In order to facilitate comprehensive monitoring, wastewater is being collected from three separate areas of the FMC, two areas of the ACH, and each of the RGH and PLC. SARS-CoV-2 monitoring (funded by CIHR) has demonstrated a strong correlation between spikes wastewater RNA levels and confirmed hospital-acquired cases of COVID-19 and unit specific outbreaks - demonstrating the profound potential of this technology for infection control surveillance. Similarly, this group is monitoring the changing burden of antibiotic resistant organisms in hospital populations by measuring hospital wastewater. In addition to comprehensive metagenomic assessments, several real-time tools to monitor for changing prevalence of organisms such as *C. difficile*, vancomycin resistant Enterococci and specific multi-drug resistant Gram-negatives have been developed and are actively being deployed. The group intends to adapt this technology as a tool for infection control and antimicrobial stewardship. This work is supported by two CIHR pilot grants.

PAN-ALBERTA WASTEWATER SURVEILLANCE PROGRAM

The Pan-Alberta Wastewater Surveillance program has continued to grow and evolve. This program is divided across two University campuses; UCalgary, led by Drs Parkins (Medicine), Hubert (Science) and Frankowski (UCalgary's ACWA) and UAlberta, led by Drs Pang, Lee and Hrudey. A \$3.44 million investment from Alberta Health last year enabled the development of a public facing data sharing platform coordinated by UCalgary's Centre for Health Informatics (Danielle Smith, Alexander Krusina, and Drs. Tyler Williamson and Jon Meddings). This program monitors SARS-CoV-2 RNA from wastewater of 43 communities across Alberta, representing >80% of Alberta's population. This surveillance programs generates data that serves as a leading indicator of clinical COVID-19 case burden across municipalities. A second investment of \$3.44 million from Alberta Health this year, has enabled continued SARS-CoV-2 surveillance, and supporting funds from Genome Canada and other agencies have allowed the investigators to expand the targets that are reported on our public facing website to include the variants of SARS-CoV-2 and influenza; <https://covid-tracker.chi-csm.ca>. This real-time data sharing tools is the first and most comprehensive of its kind across North

America. Many additional infectious analytes are targeted to be onboarded this year – allowing greater insight into matters of public health importance - as the technology continues to evolve.

This same team of investigators in collaboration with Drs. Black (Engineering) and Henderson (Community Health Sciences) also monitors for SARS-CoV-2 in three First Nations communities across Alberta in partnership with local community leaders. In addition, several high-risk facilities including long-term care, homeless shelters and correctional facilities are monitored, enabling real-time identification of outbreaks. Leveraging this logistic network, Dr. Parkins and Kevin Frankowski (UCalgary's ACWA) are working in collaboration with Dr. Monty Gosh (DOM and Community Health Sciences) to advance wastewater testing to assess for substances of abuse including drug metabolites, toxic byproducts and potentially harmful contaminants and cutting agents across a range of scales. This initial pilot program is supported from the Matheson Centre of UCalgary's O'Brien Institute and is intended to secure longer term investments in this technology enabling real-time data sharing and harm reduction.

[the division & partners]... are advancing wastewater testing at high-risk facilities to assess for substances of abuse including drug metabolites, toxic byproducts and potentially harmful contaminants.



NEPHROLOGY

The Division of Nephrology includes 37 nephrologists (12 women), of whom 7 provide dedicated transplant care. As leaders in kidney medicine, research and education, we provide integrated kidney care to improve quality of life and outcomes for our patients and their families using innovative, and collaborative strategies. The Division encompasses a diverse group of individuals all of whom are united by the drive to improve the lives of people living with kidney disease. In addition to providing excellence in clinical care, our group is engaged in research activities ranging from sex and gender influences, shared decision making, acute kidney injury, creating kidney organoids and innovating new COVID therapies.



DR. JENNIFER MACRAE
Division Head

Dr. Jennifer MacRae was appointed the new Section Chief of Nephrology and Medical Director for Alberta Kidney Care South as of September 2021. She is a Professor within the Department of Medicine and the Department of Cardiac Sciences and a member of the Libin Institute. Dr. MacRae's other leadership role is as the Kidney Health Section Lead for the Medicine Strategic Clinical Network.

2

Subspecialty Training Program Residents.

CLINICAL A main priority is to encourage the uptake of home dialysis with a goal of 40% of all dialysis patients to be on a home therapy by 2025. A sustained effort from operations and front line staff is achieving this through initiatives including the Dialysis Transition Unit, START program and the Peritoneal Dialysis assist program. Our program, at over 30% home dialysis, (one of the highest rates in Canada) not only leads to better quality of life but also substantial cost savings to the health system. We have approximately 1340 people on hemodialysis in Southern Alberta with a main focus on patient-safety and person centered care. Many Quality Improvement innovations have been initiated including teaching self-management skills and reducing frequency of bloodwork resulting in significant cost savings without negatively affecting patient care.	ADMINISTRATIVE Nephrology members have active leadership roles at the University of Calgary, the Strategic Clinical Networks and Alberta Health Services. A novel initiative is the development of the Transplant Section of Medicine in which several Nephrologists are members.	RESEARCH Research, innovation and evaluation are foundational elements that represent our division's approach. Under the leadership of Dr. Pietro Ravani, the Roy and Vi Baay Chair in Kidney Disease has had significant accomplishments over the past year. The inclusion of a Senior Analyst from the Center for Health Informatics onto the team allows researchers to utilize population-based data platforms within AHS to support operational priorities. Another initiative to catalyze patient engagement was to involve patients and caregivers in developing research that addresses the needs/values of people living with kidney and chronic diseases through a core patient partner advisory committee, patient partner training and relative resources. The Roy and Vi Baay Research Day was a resounding success which highlighted emerging researchers through trainee presentations along with established investigators.
	"Our program, at over 30% home dialysis, (one of the highest rates in Canada) not only leads to better quality of life but also substantial cost savings to the health system."	EDUCATION Educating the next generation is a guiding principle of the division. We are working with Dr. Cheryl Barnabe to incorporate principles of reconciliation into our Fellowship training program. At the end of June 2022, two residents will graduate from our program having met all of the requirements of their residency training. One of these trainees will start as a Nephrologist in Edmonton while the other is a HELIOS award recipient who is enrolled in an Advanced Clinical Fellowship in kidney transplantation at the University of Toronto.

KEY CHALLENGES

The ongoing toll of the pandemic has impacted the resiliency and morale of health care providers everywhere including within our Division. Our members made significant contributions to the inpatient COVID wards at FMC and PLC and appreciated an increase in the complexity of admitted patients to the Nephrology ward. This past year has marked significant increases in the number of patients on home dialysis and in the number of kidney transplants but without a corresponding increase in resource allocation thus, adding to the health care strain.

The Kidney ReACH initiative will provide new foundational knowledge that will directly inform clinical decision-making with respect to cardiovascular disease prevention in the kidney disease population.

DR. SOFIA AHMED AND DR. SANDI DUMANSKI: SEX & GENDER

Kidney and cardiovascular health is not only influenced by an individual's biological sex (being male, female, or intersex), but also by their gender (a sociocultural construct that describes the identities, expression, and roles of men, women, and gender-diverse individuals). Drs. Sofia Ahmed and Sandi Dumanski endeavor to investigate the influence of both sex and gendered factors on important kidney and cardiovascular outcomes in cis-gender, transgender, and gender-diverse people.

Cardiovascular risk reduction has been identified as an urgent research priority by Canadians living with kidney disease. Though reproductive health abnormalities have been implicated in increased cardiovascular risk in the general population, the relationship between reproductive health and cardiovascular disease is not well understood in the kidney disease population. Drs. Ahmed and Dumanski's internationally-recognized expertise in the complex interplay between sex hormones and cardiovascular outcomes, including recent novel work investigating the relationship between anti-Mullerian hormone and vascular health outcomes in women with kidney disease, has generated improved insight into the interface between

reproductive and cardiovascular health in people living with kidney disease.

To further develop an understanding of the intricate relationship between sex- and gender-related reproductive factors and cardiovascular risk in kidney disease, the Kidney ReACH (Reproductive And Cardiovascular Health) Initiative has recently been established. This novel initiative, led by Dr. Dumanski and supported by the Kidney Foundation, is guided by patient-identified health and research priorities. The Kidney ReACH Initiative employs innovative transdisciplinary research methods that aim to:

- 1) describe and characterize reproductive health and sex hormone abnormalities at all stages of kidney disease,
- 2) examine the mechanistic relationship between reproductive health, sex hormones, and future cardiovascular risk using translational physiology methods,
- 3) identify individuals with kidney disease at highest risk of cardiovascular disease, and
- 4) implement cardiovascular risk reduction strategies for high risk individuals.

The Kidney ReACH initiative will provide new foundational knowledge that will directly inform clinical decision-making with respect to cardiovascular disease prevention in the kidney disease population.

KEY SUCCESSES

There have been many successes for the division across the CARE pillars including increased numbers of people living with a kidney transplant and living with home dialysis, the successful engagement of new students in the field of nephrology research (summer and graduate students), successful tri council funding accomplishments and creative responses to COVID driven changes in medical care.

RANDOMIZED TRIAL OF COMPUTERIZED CLINICAL DECISION SUPPORT WITH AUDIT AND FEEDBACK IMPROVES KIDNEY OUTCOMES AFTER CARDIAC PROCEDURES IN ALBERTA

Acute kidney injury (AKI) is a common complication of coronary angiography and percutaneous coronary intervention (PCI) that has been associated with high costs and adverse long-term outcomes. In a Partnership for Research and Innovation in the Health System (PRIHS) project, supported by Alberta Innovates, AHS, the Kidney Health SCN, and Cardiovascular Health and Stroke SCN, Dr. Matthew James and research team worked with patients, front-line clinicians, and leadership at all three cardiac catheterization centres in Alberta to systematically implement a multifaceted intervention, including computerized clinical decision support with audit and feedback, for prevention of AKI.

The project was evaluated in a cluster-randomized, stepped-wedge trial, with all invasive cardiologists in Alberta randomized to various start dates for the intervention. Eligible patients were adults who received non-emergency coronary angiography, PCI, or both; were not receiving dialysis; and had a

predicted risk of AKI >5%. Thirty-four physicians performed 7,820 procedures among 7,106 patients who met the inclusion criteria during the study. The intervention reduced the proportion of procedures in which excessive contrast volumes were used by 23% and reduced the proportion of procedures in which insufficient intravenous fluid was given by 32%. The incidence of AKI was reduced from 8.6% in the control group to 7.2% in the intervention group; a statistically significant 28% reduction in the incidence of AKI. Patients also reported high satisfaction with follow up care and little anxiety related to the risk stratification process following its implementation.

The decision support tools have been implemented within Connect Care to sustain kidney protective interventions in all cardiac catheterization centres and to facilitate continued measurement of AKI preventive care and kidney outcomes across Alberta.

23

Applications from
Prospective Subspecialty
Training Program
Residents.

RESPIRATORY MEDICINE

The Division of Respiratory Medicine provides comprehensive inpatient and outpatient care to patients in Southern Alberta at all four adult acute care sites in Calgary. The Division staffs nine on-call inpatient services and assists with a tenth (cystic fibrosis) and Division members also see many patients in subspecialty clinics.

CLINICAL

The Division continued to support GIM in leading COVID teams during COVID waves and led the introduction of outpatient clinics to evaluate patients with Long-Covid symptoms. When the GIM clinics for Long-Covid were established, the respiratory clinic referral pathways were integrated with those for GIM clinics.

The Division was sorry to see Dr. Jason Weatherald relocate to the University of Alberta, returning to his roots for family reasons. We will miss his leadership and his research on pulmonary hypertension and Covid. The Division was able to support Dr. Mithum Kularatne to study in France with same internationally renowned pulmonary hypertension research group that Dr. Weatherald worked with several years ago. Dr. Kularatne

will return to the PLC in early 2023. The PLC group were also excited to welcome Dr. Nicholas Romatowski. This year also saw the retirement of Dr. Karen Rimmer who was a longtime member of the Division and was responsible for establishing the Chronic Ventilation and Neuromuscular program. Dr. Kevin Solverson will take over as the Medical Director of that program working with Dr. Andrea Loewen.

With the creation of the new Division of Transplant Medicine, four members of Respiratory Medicine had their primary appointment within the Department changed to that Division. They continue to have strong collaborations and work closely with Respiratory Medicine.

RESEARCH

The Division has six members whose careers involve a substantial (> 40%) amount of research time. Many other members make major research contributions. Division members authored / co-authored over 100 unique peer-reviewed publications; in 40% of these the members were first or senior author. One member co-authored a book. Division members participated in 31 peer reviewed, nationally funded research grants; in eight of these the division member was the principal applicant.

For his many years of dedicated service to Canadian research and leadership, Dr. Richard Leigh was elected as a Fellow of the Canadian Academy of Health Sciences.



DR. WARD FLEMONS
Division Head

Dr. Ward Flemons has been Division Head for six years. He practices at the Foothills Medical Centre providing general respiratory inpatient and outpatient care; he also sees patients in the sleep clinic and the bone-marrow transplant clinic. Dr. Flemons is the Department of Medicine Vice-Chair, Health Analytics and Safety and is the Quality and Safety Lead of the Cumming School of Medicine's Precision Health Certificate / Diploma / Masters Program. He is also a Collaborator with Well Doc Alberta and a member of the Cumming School of Medicine's new Centre for Mindfulness.

10 Subspecialty
Training
Program
Residents

EDUCATION

The majority of Division members continued to contribute hundreds of teaching hours in the undergraduate curriculum. Dr. Tara Lohmann continued doing an outstanding job of co-chairing the Cardio-Respiratory course (MDCN 307). The Division implemented the Royal College's CBD into its core postgraduate training program under the leadership of Drs. John Chan and Charlene Fell. The program continues to attract outstanding trainees from across the country.

The Division has also expanded its advanced subspecialty training programs to four, including: interventional pulmonary medicine, sleep and neuromuscular, severe asthma, and interstitial lung disease.

ADMINISTRATIVE

Several members of the Division continued have senior administrative positions within the university and AHS. Dr. Richard Leigh continued his leadership as Senior Associate Dean, Faculty Affairs for the Cumming School of Medicine, Dr. Chris Mody continued as the Department Head of Microbiology, Immunology and Infectious Disease, Dr. Ward Flemons continued his role as Department of Medicine Vice-Chair, Health Analytics and Safety while Dr. Mitesh Thakrar continued serving as the Deputy Medical Director of ALTRA and DOM Site Lead at PLC. Dr. Alain Tremblay is the co-chair, Alberta Thoracic Oncology Program. The important positions of site leads for each of the four adult hospitals are: Drs. Brandie Walker (FMC), Alex Chee (SHC), Dina Fisher (PLC) and Kristin Fraser (RGH).

Many division members serve in leadership roles for provincial, national, and international organizations. To name just two: Dr. Richard Leigh became the president-elect of the Canadian Thoracic Society and Dr. Kerri Johansson serves as an Associate Editor for Annals of the American Thoracic Society and is an international advisory member to Lancet Respiratory Medicine.

KEY CHALLENGES

Covid continued to represent the largest challenge to the Division and its members. Helping to lead inpatient Covid teams, create back-up call schedules and maintain existing programs of service delivery presented many difficult scenarios to manage over the year. The PLC group was the most stretched over the past year as one member relocated to Edmonton and four other members joined the new Transplant Division. There is an urgent need for recruitment at the PLC as well as an urgent need for enhanced outpatient clinic space and office space. In addition to having both a very busy inpatient admitting service, the PLC group also runs a separate consult service in addition to having many subspecialty outpatient programs that they are responsible for including: TB services, the Non-tuberculous mycobacteria clinic, the chronic ventilation program and neuromuscular clinic, and the pulmonary hypertension clinic in addition to a very large outpatient general respiratory practice.

100+

Publications (40% of these, the members were first or senior author)

KEY SUCCESSES

Division members contributed hundreds of teaching hours in the undergraduate curriculum. Dr. Tara Lohmann continued doing an outstanding job of co-chairing the Cardio-Respiratory course (MDCN 307). The Division implemented the Royal College's CBD into its core postgraduate training program under the leadership of Drs. John Chan and Charlene Fell.

Dr. Erik Vakil was successful in getting approval for starting the medical pleuroscopy program approved, working collaboratively with the Division of Thoracic Surgery and the Department of Anesthesia. This was the culmination of three years of work and provides new options for the management of patients with complex pleural diseases.

Under the leadership of Drs. Alain Tremblay and Jason Weatherald, the Division continued have a strong role in Covid related research both at the national and international levels.

Dr. Brandie Walker successfully launched the Severe Asthma advanced fellowship.

FMC Sleep Centre is leading the studies on the contribution of Obstructive Sleep Apnea to the development of cognitive impairment and chronic kidney disease. Six papers have been published in high level journals from analysis of the baseline data and several more will be submitted from the longitudinal data that is currently being collected.

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Applications from prospective Subspecialty Training Program Residents

THE FMC SLEEP CENTRE

The FMC Sleep Centre has an active research program, which includes leadership in the Canadian Sleep and Circadian Network (CSCN). This multi-centre network was originally funded by a Community Development grant from the Canadian Institutes of Health Research (CIHR: 2015-2020) and included support for sub-specialty fellowship training in Sleep Medicine and a variety of clinical research projects. Two of the three clinical fellowships were awarded to the University of Calgary, one each to the adult and the pediatric Sleep Medicine programs. FMC Sleep Centre has played a major role in one of the research projects through the development of a database of adults with obstructive sleep apnea (OSA). OSA is a chronic medical disorder in which individuals stop breathing during sleep due to collapse of the upper airway, resulting in sleep disruption and intermittent hypoxemia. In addition to causing symptoms of poor sleep and impaired daytime function, OSA can also increase the risk of long-term health disorders such as hypertension, cardiovascular disease, stroke, dementia, diabetes and chronic kidney disease.

The focus of the CSCN adult OSA database is to investigate the prevalence, pathogenesis and impact of OSA treatment on these long-term health consequences. Patients with suspected OSA recruited at 6 academic sleep centres in Canada (Universities of British Columbia, Calgary, Saskatchewan, Ottawa, McGill and Laval) are currently being followed (CIHR Project grant: 2021-2026). In addition to diagnostic testing for OSA, participants complete a detailed sleep and medical history questionnaire, cognitive assessment, and provide blood and urine samples both for routine testing, such as

serum creatinine and proteinuria, and for the storage at the Canadian Sleep Research biobank (University of Montreal) and the Biobank for the Classification of Kidney Disease (University of Calgary).

To date, 2,096 (623 from FMC Sleep Centre) patients have been enrolled in this observational cohort study. FMC Sleep Centre is leading the studies on the contribution of OSA to the development of cognitive impairment and chronic kidney disease. Six papers have been published in high level journals from analysis of the baseline data and several more will be submitted from the longitudinal data that is currently being collected. This Canadian database provides an opportunity to collaborate with other investigators across the world. One upcoming example is our collaboration with investigators in the United States which will provide whole genome sequencing, epigenetic and metabolomic analysis on the bio-banked blood samples that we can correlate with our clinical phenotyping and outcomes data.

This national research program has PIs from six leading research centres in Canada. In addition to Dr. Patrick Hanly here in Calgary, the other PIs include Drs. Najib Ayas (UBC), Rob Skomro (USask), Rebecca Robillard (UOttawa), John Kimoff (McGill) and Fredric Series (Laval). In Calgary – all of the sleep physicians (Drs. Pendharkar, Fraser, Loewen, Tsai, Povitz) play a role as do the PSG technicians, the Sleep Clinic's Respiratory Therapists and administrative staff. Jill Raneri is the research coordinator in Calgary and Andrew Beaudin (PhD), a post-doctoral research fellow, have been instrumental to Calgary's successful participation.

RHEUMATOLOGY

The Section of Rheumatology’s membership consists of 15 AMHSP physicians and 22 Fee-For-Service community physicians who provide an integrated musculoskeletal program of clinical care using a patient centered collaborative care model with rheumatologists, nursing and Allied Health professional staff in Southern Alberta. We also have several honorary members, including a growing non-physician academic and clinical doctorate contingent.



DR. PAUL MACMULLAN
Division Head

The Section of Rheumatology was formed in 1975 and is the oldest within the Department of Medicine. It was established by Dr Doug Kinsella and has flourished under his and the leadership of those that followed, namely; Dr Marvin Fritzler, Dr Martin Atkinson, Dr Liam Martin, and Dr Dianne Mosher. Dr Paul MacMullan has taken on this role since 2019, fully aware that he is standing on the shoulders of giants, and grateful for the collegiality shown by the entire division in ensuring the continued delivery of quality care despite the difficulties imposed by the COVID-19 pandemic.

6 Subspecialty
Training Program
Residents

The Rheumatology
Residency training program
consists of 2 PGY4 and 4
PGY5 residents in 2021-
2022.

CLINICAL

In the 2021-22 year the section of Rheumatology saw the launch of ConnectCare. Dr. Steven Thompson has provided great leadership and guidance to the Division through the platform transition.

The division has seen continual growth of rheumatology practices in the community and their contribution to resident teaching, as well as bringing Dr. Jason Lee to the South Health Campus Rheumatology Clinics.

ADMINISTRATIVE

In the 2021 - 2022 year the section of Rheumatology has established the Dr. Christopher Penney/Linda McNeil Rheumatology Fund. The fund was created in honour of the late Linda McNeil with the purpose of continuing Linda’s legacy in helping others through supporting research, training, education and professional development of rheumatologists and residents.

Vision: Creating the future
of Rheumatology care in
the Calgary Zone



RESEARCH

The division has successfully recruited the new JE Arthur Child Chair in Rheumatology, Dr. Cheryl Barnabe. Dr. Megan Barber was recruited to AMHSP position as Clinical Assistant Professor joining the successful Lupus Centre of Excellence, led by Dr. Ann Clarke. Dr. Claire Barber was appointed as the new Scientific Director of the Alberta Bone & Joint SCN.

Our major research contingent continues its stellar record with several members successful in obtaining Tri-Council/CIHR grant funding.

EDUCATION

The division successfully held the annual Academic Education Day in Rheumatology on November 19th, 2021 in a hybrid model, both in-person and virtual delivery. All Rheumatology residents successfully passed Royal College exams. The division is continuing to work on preparations for the Royal College external review of Residency Program scheduled for September, 2022.

KEY SUCCESSES

In conjunction with our operational partners, the establishment of the new nurse-led case management model at the RRDTC clinic has been a resounding success.

Mission: Controlling the impact of rheumatic disease with the Right treatments for the Right patients at the Right time, and fostering a culture of education, research and innovation.

CHALLENGES

Coming out of the pandemic was difficult, especially with the re-establishment of COVID teams during the Omicron wave. Many thanks to all our members who tirelessly stepped up once again. Getting back to normal functioning has been difficult, particularly regarding recruitment for research activities at the operational level.

22

Applications from prospective Subspecialty Training Program Residents.

CITY WIDE CALL COVERAGE

The Division of Rheumatology provides city wide call coverage to all four hospitals in Calgary. To do this efficiently, we provide care in a split care model with one physician providing inpatient (hospital) care services and a second physician responding to concerns regarding outpatient services. With increasing call volumes, we have expanded the outpatient call coverage which was initially 8 am to 5 pm, Monday through Friday, to 8 am to 12 am, Monday through Friday. This has led to less pressure on the physician providing inpatient call coverage. A special thanks to our members who provide outside call coverage for their willingness to take on additional duties to increase our capacity to provide excellent patient care.

NURSE LED CASE MANAGEMENT MODEL RRDTC

The 2021/22 fiscal year saw the successful launch of nurse led case management model at RRDTC. The Rheumatology nurses adapted really well to the change in practice role and have thrived throughout the implementation and optimization phases. All are ready to take on the expected increase in post-pandemic workload.

All Rheumatology nurses at RRDTC and the Clinic Operations Management team (Kyla Craig, Clinic Manager, Becky Job, Unit Manager and Kelly Osinski, Clinic Nurse Educator) with support from the RRDTC based Rheumatology physicians have contributed to the launch of this new management model.



Internal Medicine Residency Program (IMRP)

The 2021-22 year remained a challenging but rewarding one for the Internal Medicine Residency Program at the University of Calgary. While there was ongoing disruption by the challenges of COVID-19, there was also ongoing innovation, a focus on resident wellness and a return to some much needed in-person events (as things improved in the spring of 2022).. The highlights of our Program are noted below.

OUR TRAINEES

We have 36 PGY1's; 42 PGY2's; 33 PGY3's and 2 PGY4's. We typically accept: 30 Canadian Medical Graduates, 5 Alberta International Medical Graduates and 1-2 transfer trainees per year.

We recruit Canadian trainees from BC to Newfoundland and are known as a highly sought after program for the many reasons illustrated below, as well as the collegiality of the trainees and the Departmental Members. We have international trainees who have attended medical school from far away countries. This year there was 521 CaRMS applicants for the 35 available positions. We interviewed 321 people and conducted 642 virtual interviews over 4 days. IMRP is grateful and appreciates the support from the members of the department and our IMRP residents in making this a huge success

FELLOWSHIPS

Most of our trainees pursue Fellowship programs and are highly successful in the Medical Subspecialty Match. **Last year (for the July 2022 start) we had local trainees matched to the following.**

General Internal Medicine: 6, with 4 staying in Calgary
Endocrinology: 1
Rheumatology: 2, with 1 staying in Calgary
Hematology: 3, with 2 staying in Calgary
Respiratory Medicine: 3, with 2 staying in Calgary
Infectious Diseases: 2, with 1 staying in Calgary
Cardiology: 5, with 2 staying in Calgary
Gastroenterology: 2, with 1 staying in Calgary
Nephrology: 5, with 2 staying in Calgary
Medical Oncology: 1
Geriatrics: 1
ICU: 1

21 of the 32 trainees who entered the Medical Subspecialty Match, are staying in Calgary. Members of the Department should be proud to have so many trainees wanting to remain in the city after their core training.

LEADERSHIP TEAM



The Residency program is fortunate to have the strong support and leadership of **Dr. Jayna Holroyd-Leduc**. We have been able to pursue many important initiatives as a result of her support and mentorship.



Program Director: Dr. Paul Gibson: Dr. Gibson assumed the leadership of the IMRP in June 2021. He has been able to bring forth lessons from his 20+ years of clinical work and teaching, along with his extensive leadership experience, to support and promote many positive changes in the program.

Associate Program Directors: **Dr. Stacey Hall** (RGH-also Curriculum Committee Chair & OSCE Lead), **Dr. Edwin Cheng** (PLC, Trainees in Academic Difficulty); **Dr. Jolene Haws** (SHC, PGY-4 Program); and **Dr. Maria Bacchus** (FMC, Scheduling)



Assistant Program Directors: **Dr. Irene Ma** and **Dr. Janeve Desy** (PO and Procedural Skills Leads); **Dr. Ghazwan Altabba** (Simulation Lead); **Dr. Shannon Ruzycki** (Research Director & EDI); and **Darren Burback** (Competence by Design).



Four Chief Residents for 2021-22: **Dr. Kaity Lalonde**, **Dr. Leigha Rowbottom**, **Dr. Angela Sneider** and **Dr. Lenka Stafil**. New Chiefs will be selected and announced in October 2022 and will start on January 1, 2023.



In addition, there are numerous groups and committees that help with the day-to-day support of the program including: the Curriculum Committee, the MTU Committee, the Assessment Committee, the Research Committee and the Wellness Committee. There has also been strong administrative support with Stacey Dickinson (Team Lead), Trudi Jersak, Lynette Lipinski, Edita Skoric and Arshpreet Hansra

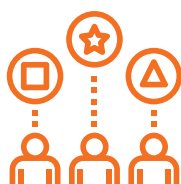
PROGRAM HIGHLIGHTS



Simulation Program: There is a strong simulation program for our trainees at RGH, developed and led by Dr. Ghazwan Altabba, and an evolving simulation program at SHC led by Dr. Alejandra Boscan. Activities include a Transition to Senior curriculum, weekly simulation scenarios for trainees at RGH, a Simulation OSCE, as well as a Safety Curriculum.



Point of Care Ultrasound: (POCUS): Drs. Irene Ma and Janeve Desy are the leaders in POCUS/Procedural Skills for the IMRP. Our residents are very fortunate to have POCUS training and procedural skills training at an internationally-recognized level.



Equity & Diversity: Over the past couple of years the IMRP in conjunction with the Department of Medicine has developed a very active Equity and Diversity working group that has touched on aspects of bystander interventions, implicit bias training workshops, EDI Grand Rounds, and inclusive language and imagery guidelines for presenters within the Cumming School of Medicine.



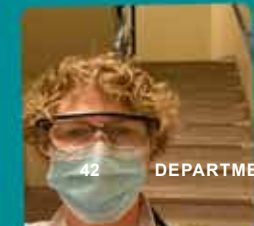
Wellness Initiatives: The IMRP has had an ongoing focus on resident wellness - which was particularly important during the days of the COVID pandemic. While many initiatives needed remain in a virtual format, the IMRP Wellness Committee successfully promoted the importance of mental health awareness and personal health. In person activities included hiking, resumption of in-person social nights and Ice-Cream Rounds, as well as a much anticipated in-person Resident Retreat (Banff in May 2022). The group benefitted from the support and leadership of Dr. Tania Pannu during this time.





OUR COMMUNITY

We were able to get back to some normalcy of in person events including celebrating our team members at our retirement celebration (left), starting our strategic planning with a retreat at the Calgary Zoo (above/right) and have some friendly competition during our february Healthy Hearts Challenge (below).



Department of Medicine

Annual Awards Celebration

Virtual DOM Awards Ceremony 2021

We were very hopeful to have an in person Annual Fall Awards Dinner in 2021 and postponed into the new year with hopes that it might be possible. For the second year in a row we pivoted to a fully online virtual awards ceremony. Our Department support staff jumped into action to turn the planned inperson awards dinner into an online evening full of acknowledgement, community, food and laughter!

AWARD WINNERS

INTERNAL MEDICINE CLERKSHIP: UNSUNG HERO'S AWARDS

Dr. Paul Maceachern
Dr. Nimira Alimohamed

IMRP FACULTY AWARDS

Rookie of the Year Award:

Dr. Sidra Javed

Silver Tongue Award:

Dr. Michael Bosch

Silver Finger Award:

Dr. Parabhdeep Lail

Golden Bull Award:

Dr. Marcy Mintz

Repeat Offenders Award:

Dr. Hanan Bassyouni

Work Life Balance Award:

Dr. Stacey Hall

Dr. Kerri Novak

Research Perceptor Award:

Dr. Chris Ma

Ectopic Award:

Dr. Jeff Shaw

Rural Teaching Experience Award:

Dr. Tavish Barnes

IMRP RESIDENT AWARDS

Benevolent Heart Award:

Dr. Mannat Dhillon

Resident Professionalism Award:

Dr. Ainslie McBride & Dr. Daman Goondi

Resident Medical Education Award:

Dr. James Kiberd & Dr. Na'ama Avitzur

Resident Wellness Award:

Dr. Kim Moore

Resident Research Award:

Dr. Waleed Rahmani

Resident Leadership Award:

Dr. Aatif Qureshi

DEPARTMENT OF MEDICINE: SITE SPECIFIC CLINICAL EXCELLENCE AWARDS

Dr. John Dawson Award for Clinical Excellence at FMC:

Dr. Fiona Dunne

Dr. Howard McEwen Award for Clinical Excellence at PLC:

Dr. Michael Wong

Dr. Terry Groves Award for Clinical Excellence at RGH:

Dr. Laura Stinton

Award for Clinical Excellence at SHC:

Dr. Elaine Dumoulin

Dr. Martin Atkinson Award for Clinical Excellence at RRDTC:

Dr. Chris Symonds

Dr. Tom Enta Award for Clinical Excellence in the Community:

Dr. Shane Devlin

DEPARTMENT OF MEDICINE: SPECIAL DEPARTMENTAL AWARDS

Dr. Brenda Hemmelgarn

Professionalism Award:

Dr. Caley Shukalek

Team Builder of the Year Award: Long COVID Clinic Team (Dr. Kate Skolnik, Dr. Rachel Lim, Dr. Joel Chen, Dr. Jonathan Liu)

Patient Safety and Quality Improvement Award:

Dr. Anshula Ambasta

Dr. John Conly Innovation Award:

Dr. Sonia Butalia

Equity, Diversity and Inclusion Award:

Dr. Shannon Ruzycski

Early Career Award:

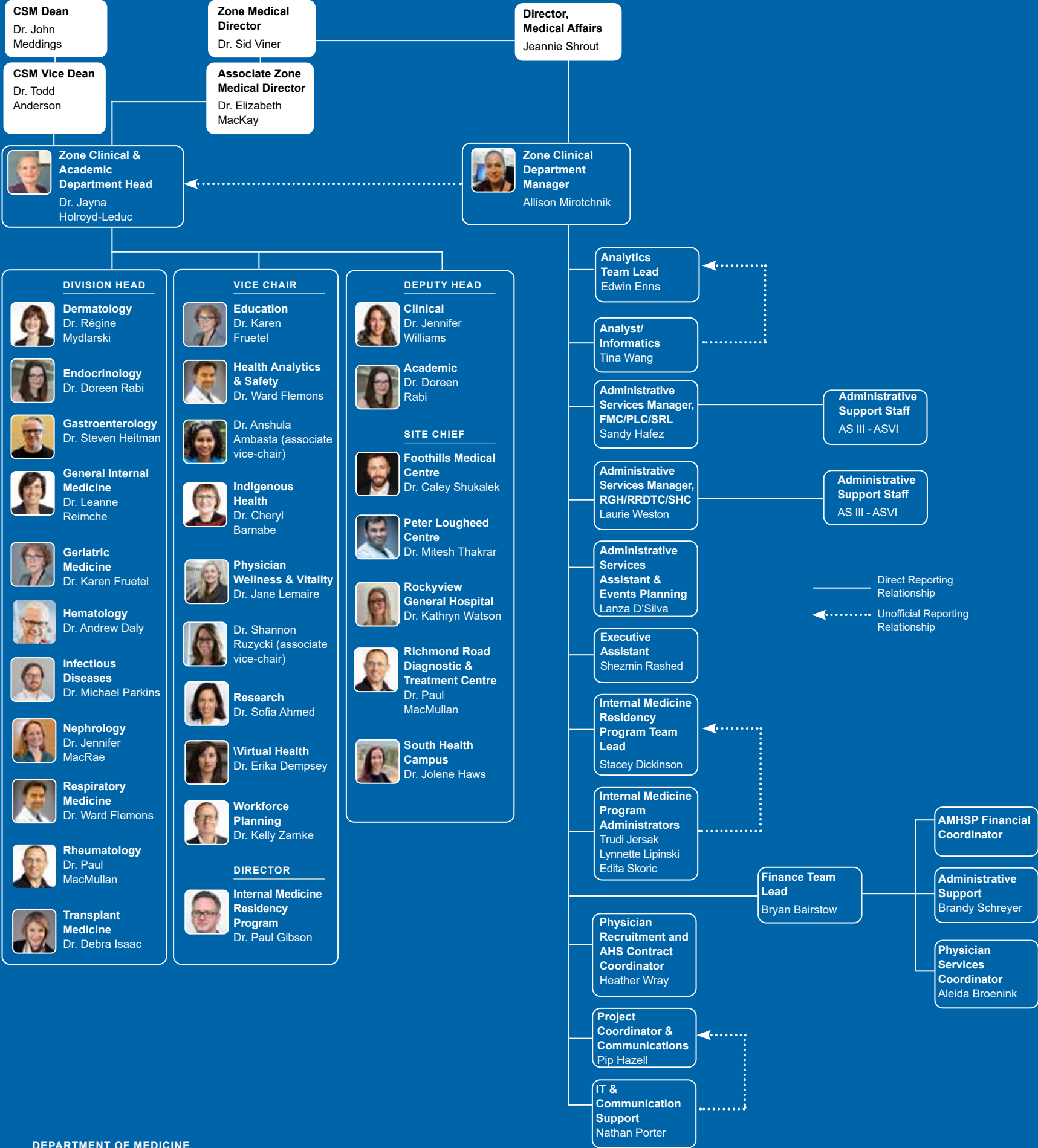
Dr. Kerri Johansson

Dr. Jane Lemaire Award for Physician Wellness:

Dr. Jane Lemaire

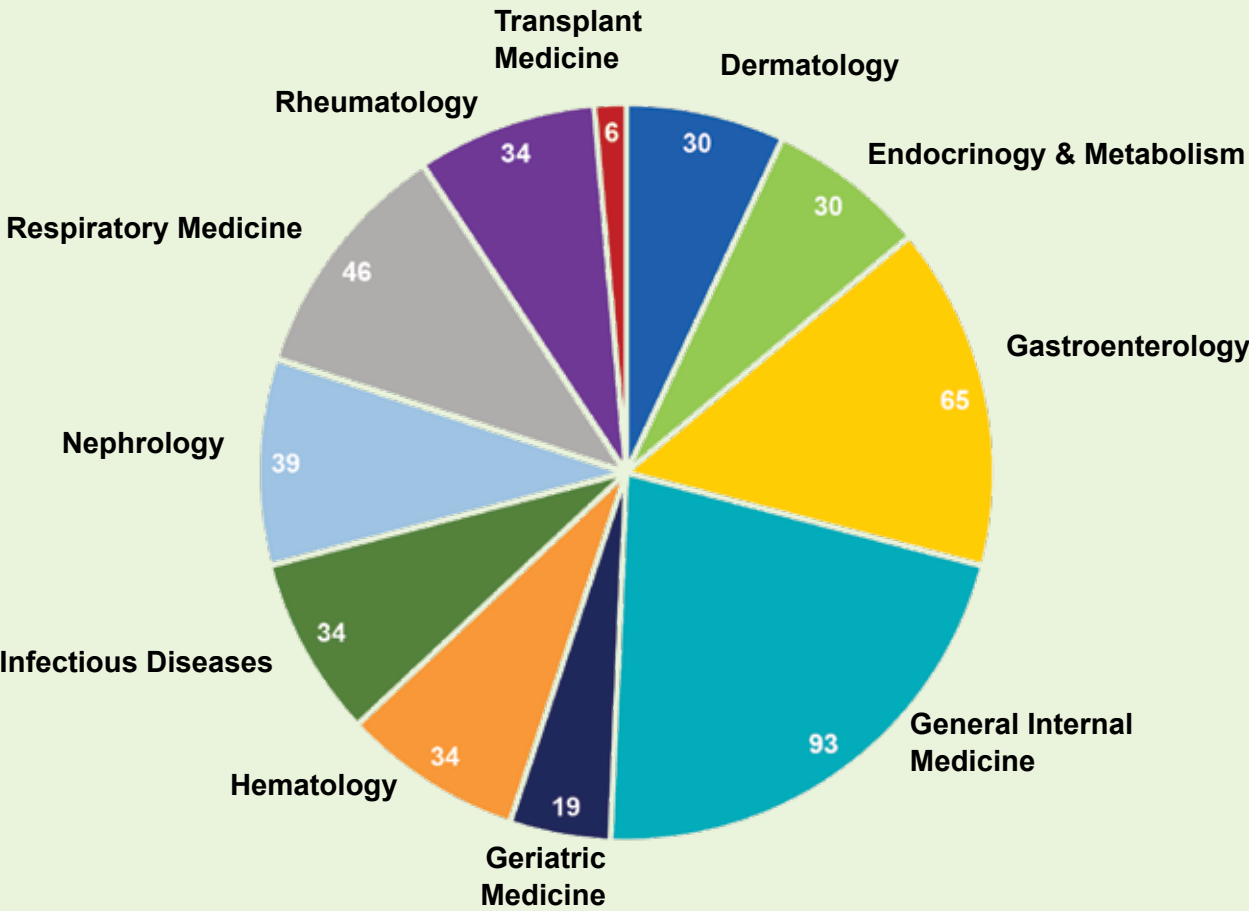
ORGANIZATION CHART

AS OF MARCH 31, 2022
UNLESS OTHERWISE NOTED



Membership Data

DEPARTMENT OF MEDICINE SUBSPECIALTIES PRIMARY APPOINTMENTS ¹

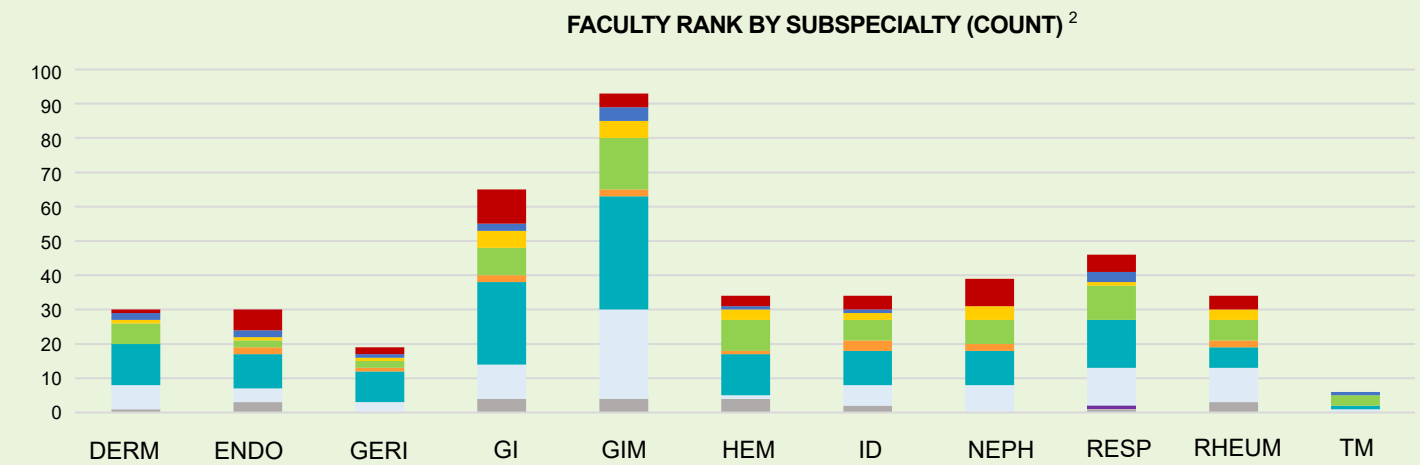
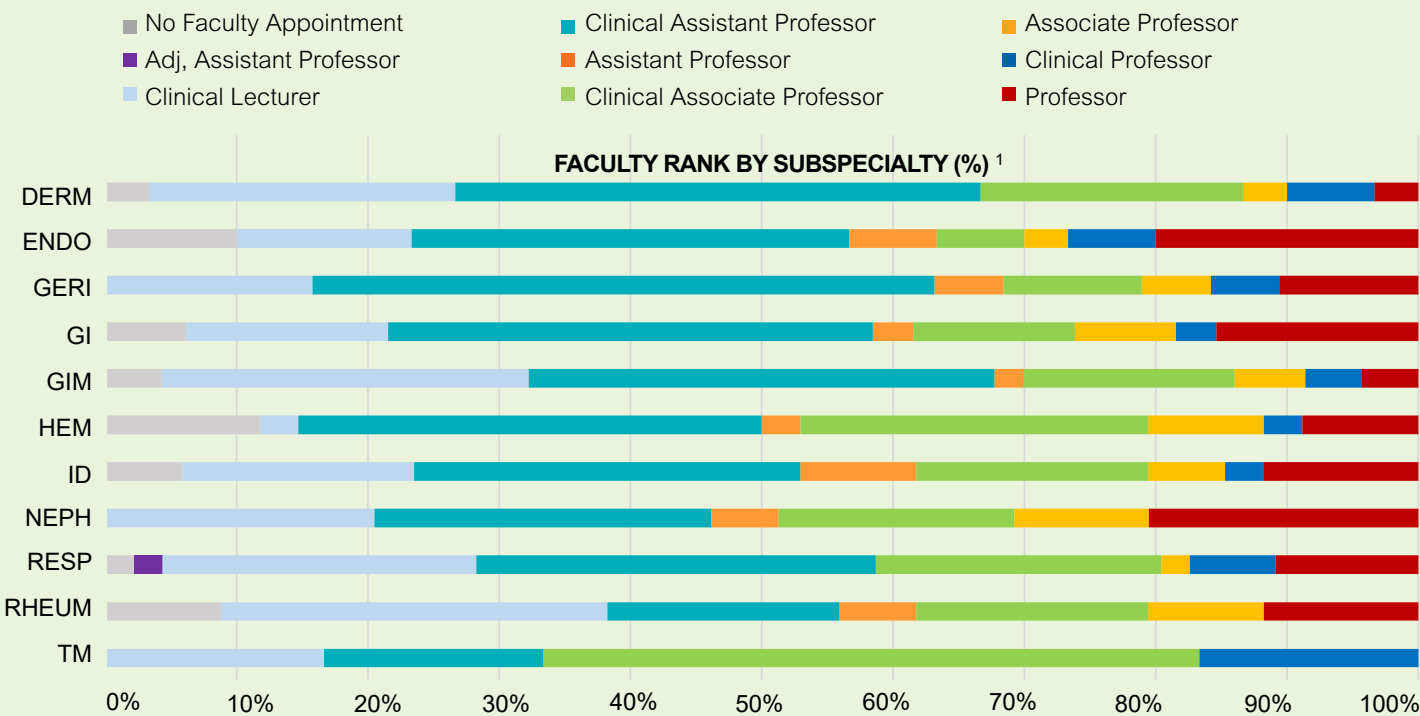


DEPARTMENT MEMBERS WITH A PRIMARY APPOINTMENT

DERM	ENDO	GI	GIM	GERI	HEM	ID	NEPH	RESP	RHEUM	TM	Grand Total
30	30	65	93	19	34	34	39	46	34	6	430

All Source: Department of Medicine Gizmo

Faculty Appointment Data

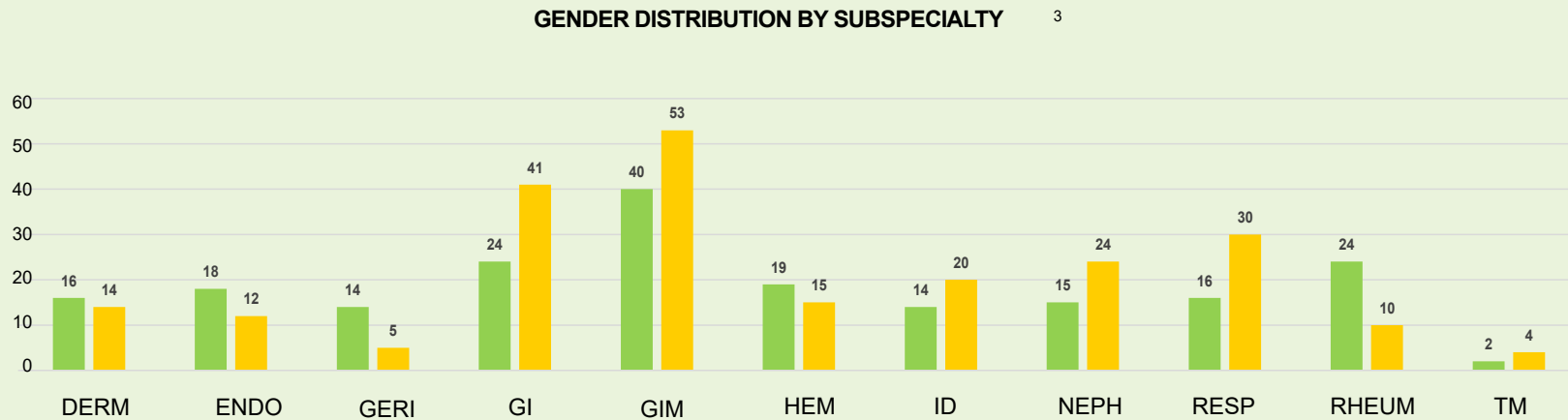
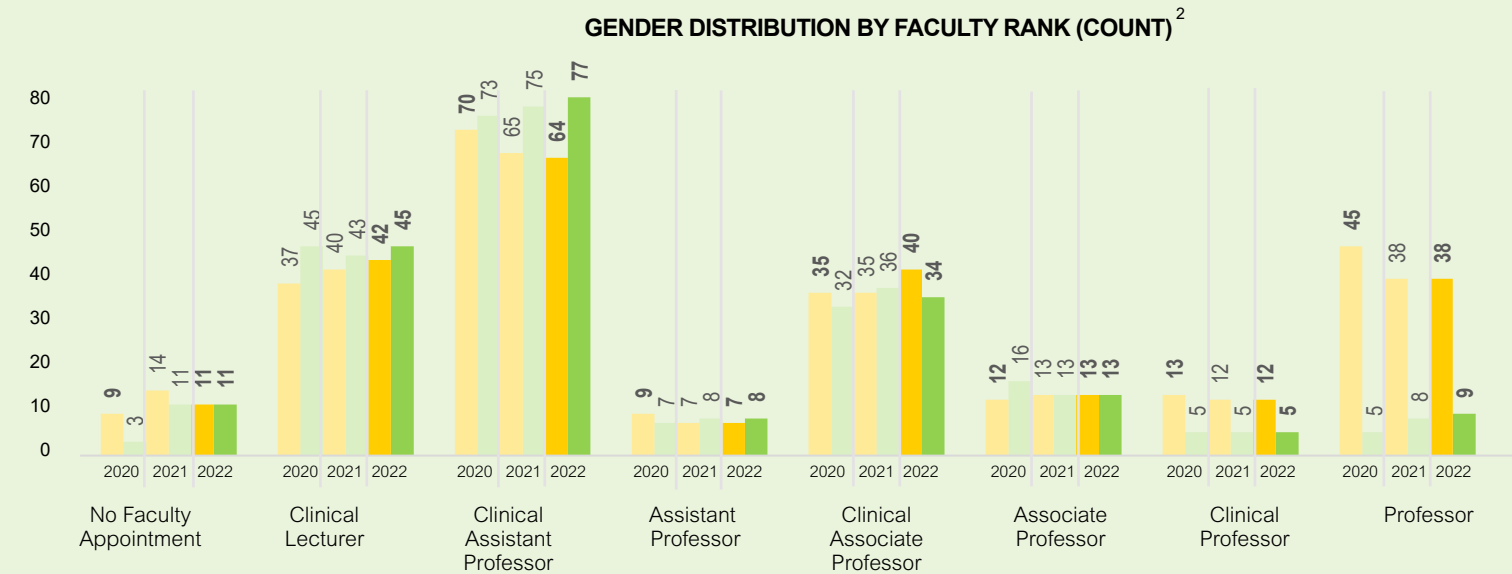
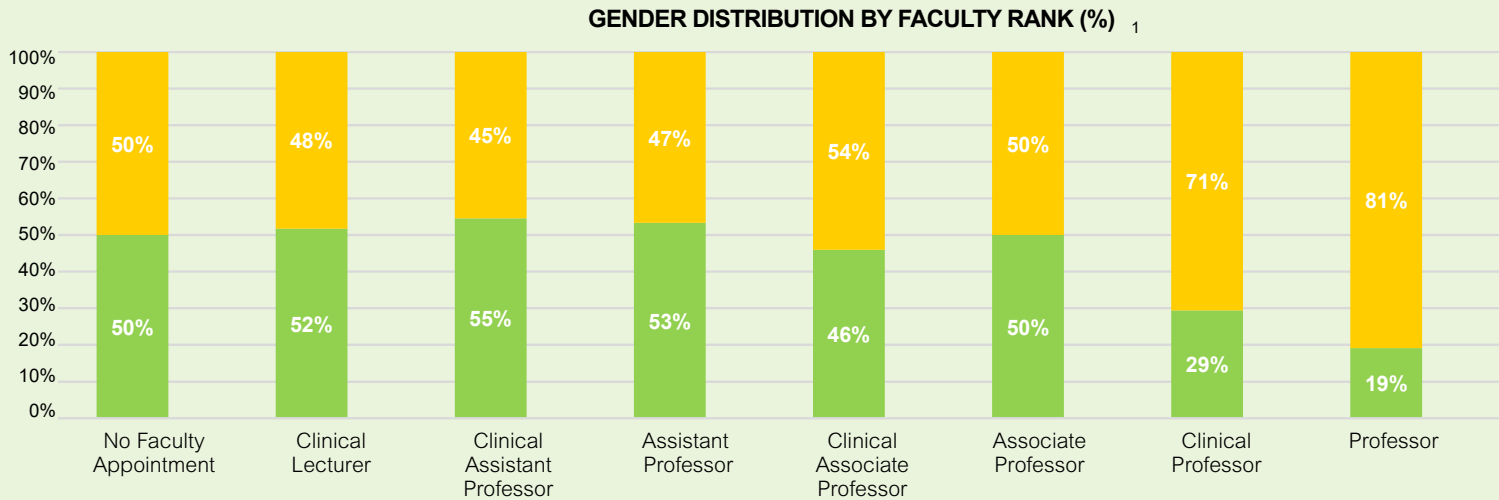


Faculty Rank	DERM	ENDO	GERI	GI	GIM	HEM	ID	NEPH	RESP	RHEUM	TM	Grand Total
No Faculty Appointment	1	3		4	4	4	2		1	3		22
Adj. Assistant Professor									1			1
Clinical Lecturer	7	4	3	10	26	1	6	8	11	10	1	87
Clinical Assistant Professor	12	10	9	24	33	12	10	10	14	6	1	141
Assistant Professor		2	1	2	2	1	3	2		2		15
Clinical Associate Professor	6	2	2	8	15	9	6	7	10	6	3	74
Associate Professor	1	1	1	5	5	3	2	4	1	3		26
Clinical Professor	2	2	1	2	4	1	1		3		1	17
Professor	1	6	2	10	4	3	4	8	5	4		47
Grand Total	30	30	65	65	93	34	34	39	46	34	6	430

1. Source: Department of Medicine Gizmo
2. Source: Department of Medicine Gizmo

Gender Equity Data

Female
Male

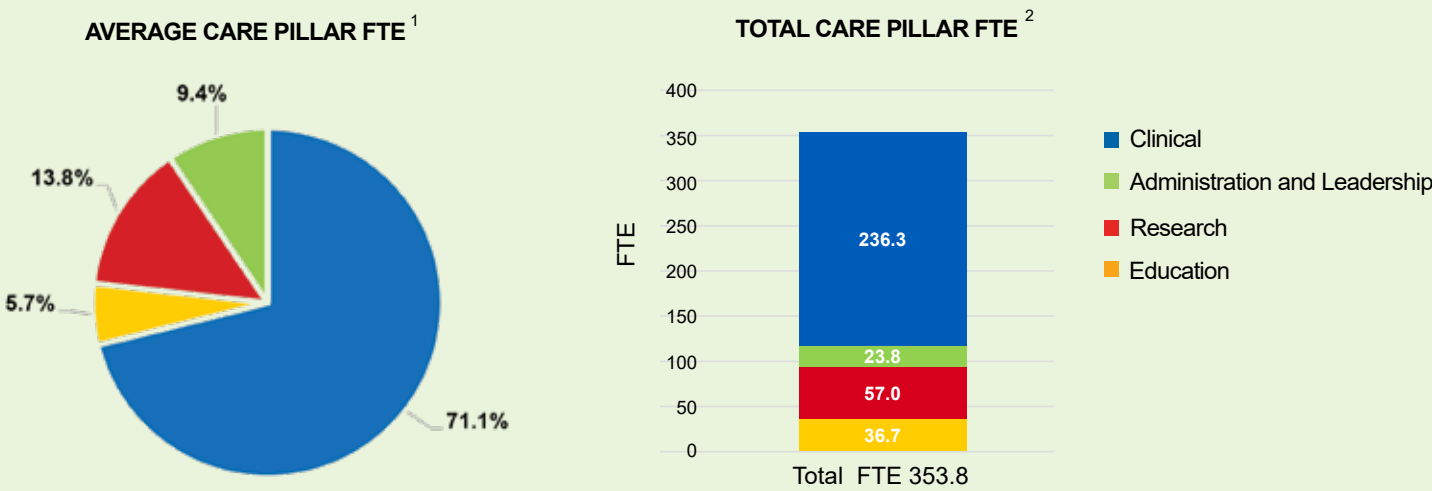


1. Source: Department of Medicine Gizmo

2. Source: Department of Medicine Gizmo

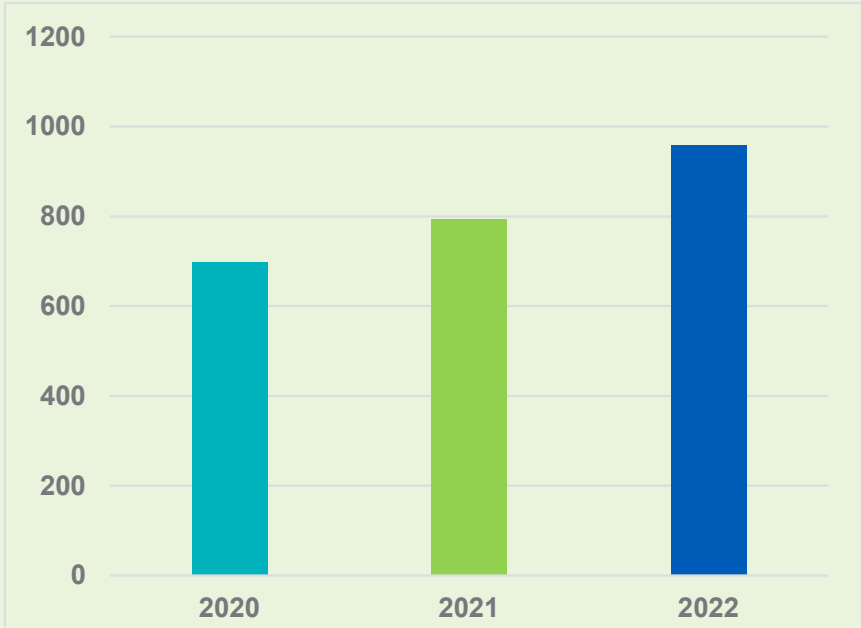
3. Source: Department of Medicine Gizmo

ISA & FTA Data



Publication Data

YEAR OVER YEAR PUBLICATIONS COMPARISON ³



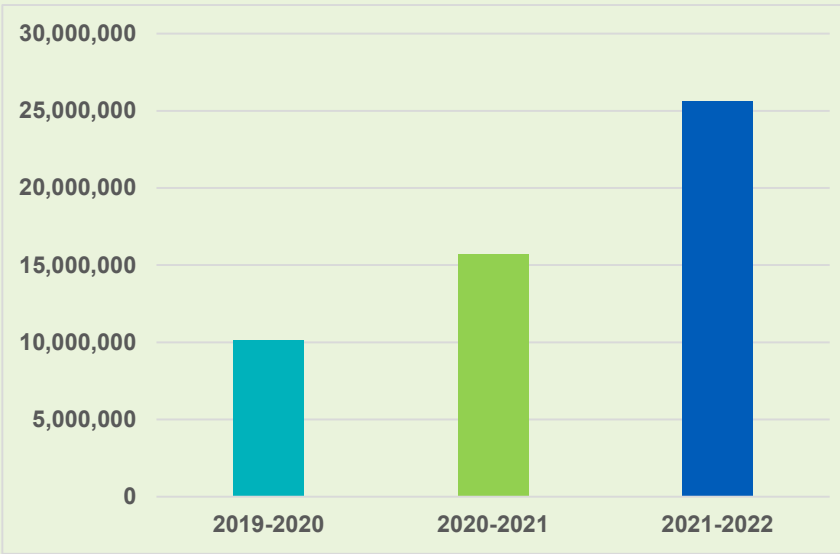
1. Source: Department of Medicine Gizmo
2. Source: Department of Medicine Gizmo
3. Publications for the DOM Extracted from Scival on 11/15/2022. The methodology for retrieving these stats has changed, therefore a year over year comparison is provided all using this new methodology.

Research Revenue Data ¹

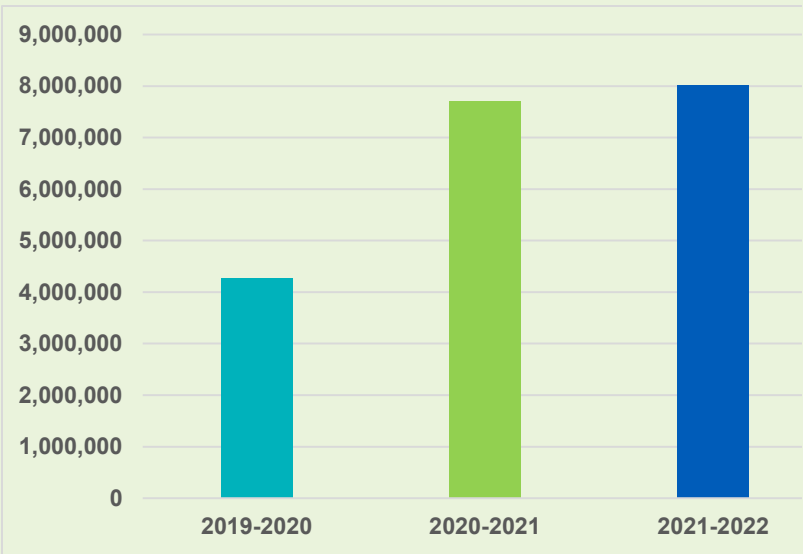
RESEARCH REVENUE BREAKDOWN COMPARISON YEAR OVER YEAR

Revenue Type	2019-2020	2020-2021	2021-2022
CIHR	4,266,470	7,704,069	8,015,350
NSERC		36,000	36,000
SSHRC			158,056
Indirect Tri-Council ²	1,374,236	387,730	1,152,920
Not Tri-Council	4,530,295	7,614,136	16,235,733
Grand Total	10,171,001	15,741,935	25,598,059

TOTAL RESEARCH REVENUE COMPARISON YEAR OVER YEAR



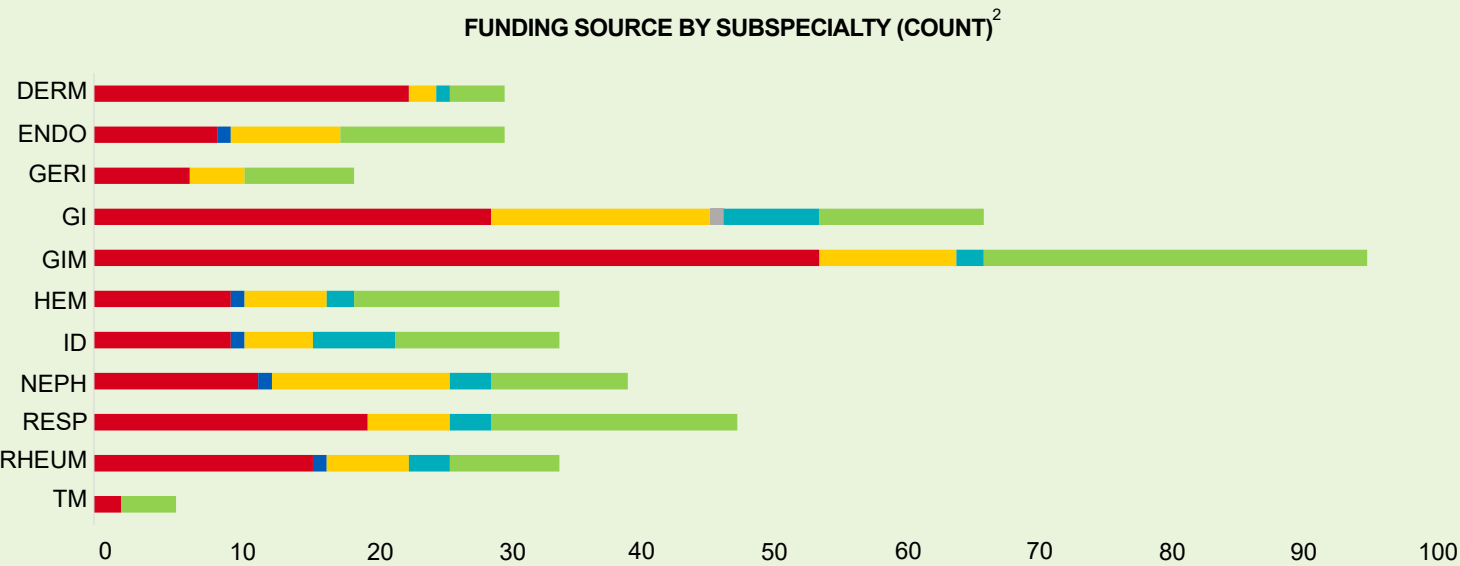
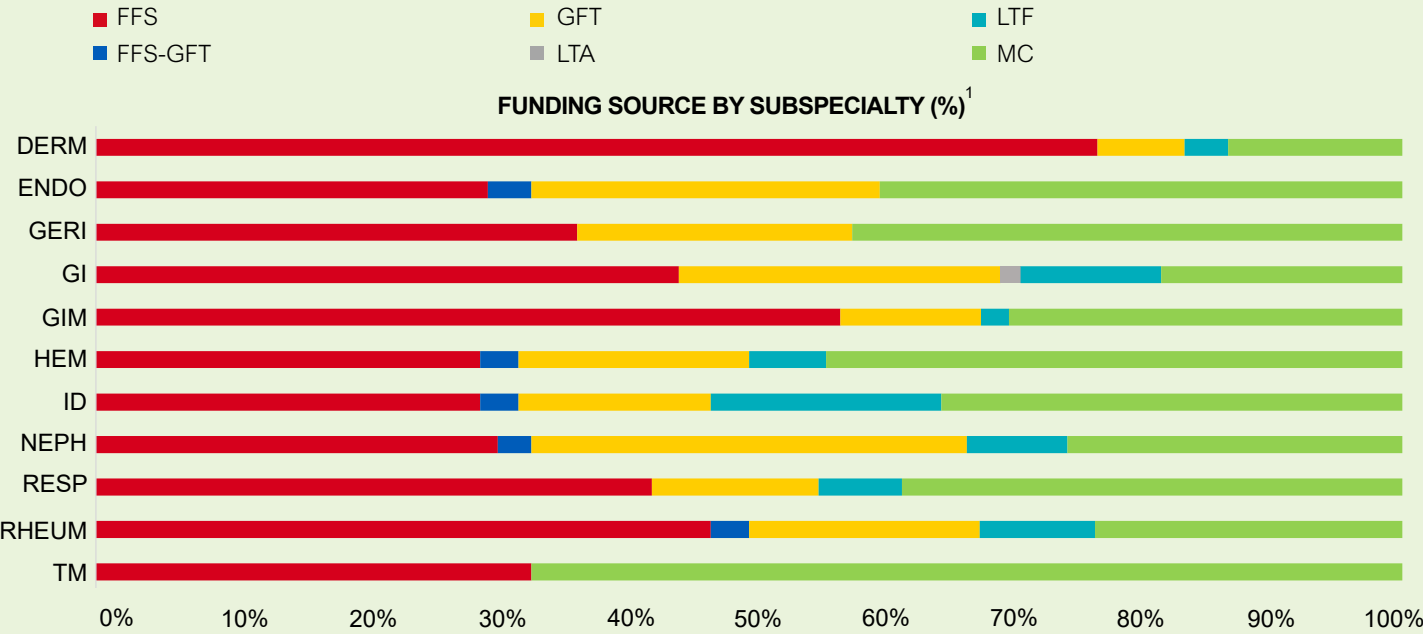
TOTAL CIHR REVENUE COMPARISON YEAR OVER YEAR



1. Data provided by UofC Analytics The source of the fund is CSM funds received. The methodology for 2022 has changed and different systems are retrieving the information. Therefore a comparison year over year with the same methodology is included all using this new methodology.

2. Indirect tri-council means the project was marked as tri-council project but the sponsor was not CIHR/NSERC/SSHRC. The sponsor could be Canadian Frailty Network, McMaster University etc.

Physician Funding Data



Faculty Rank	DERM	ENDO	GERI	GI	GIM	HEM	ID	NEPH	RESP	RHEUM	TM	Grand Total
FFS	23	9	7	29	53	10	10	12	19	16	2	190
FFS-GFT		1				1	1	1		1		5
GFT	2	8	4	16	10	6	5	13	6	6		76
LTA				1								1
LTF	1			7	2	2	6	3	3	3		27
MC	4	12	8	12	28	15	12	10	18	8	4	131
Grand Total	30	30	19	65	93	34	34	39	46	34	6	430

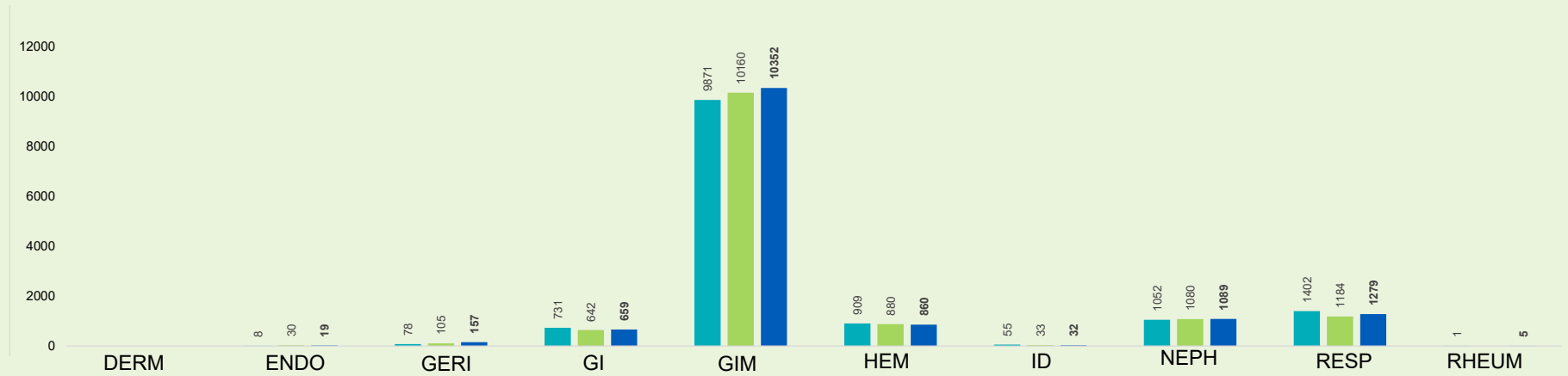
1. Source: Department of Medicine Gizmo

2. Source: Department of Medicine Gizmo

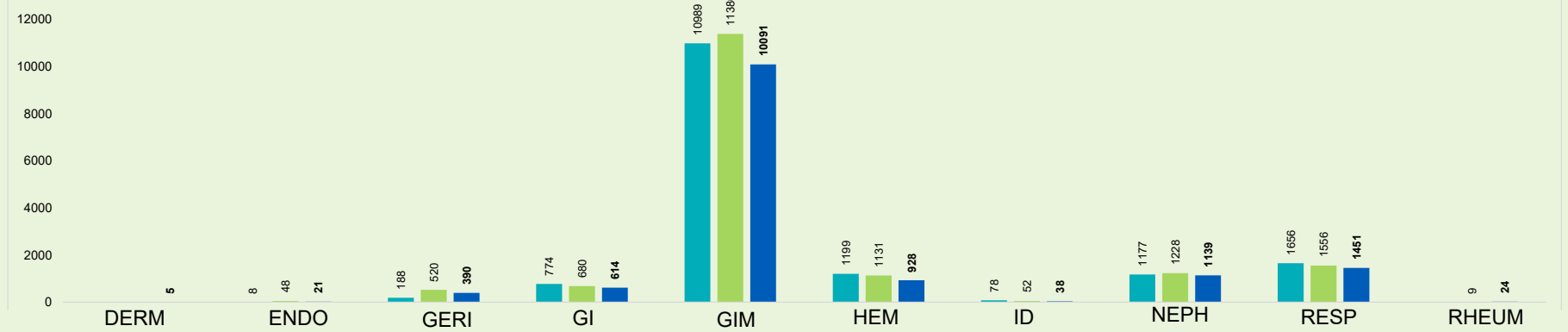
Inpatient Data

2019/20 2020/21 2021/22

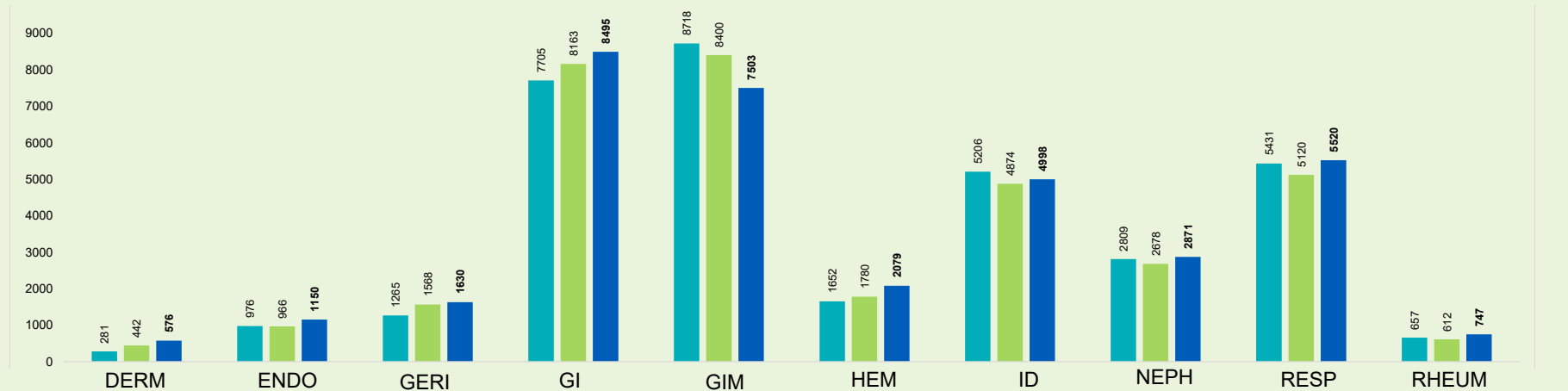
INPATIENTS ADMITTED ¹



INPATIENTS ATTENDED ²



INPATIENT CONSULTS ³



1. Source: Sunrise Clinical Manager.

2. Source: Sunrise Clinical Manager (SCM). Inpatients will have consecutive attending physicians during their hospital stay. The "attending" is the physician responsible for the patient during the attending period. This table captures all the patients for which any Internal Medicine subspecialty physician was an attending physician during the patients' stay.

3. Source: Sunrise Clinical Manager (SCM). Consults ordered for inpatients are as per SCM data. Usually, the consult is ordered with a physician's name attached. However, sometimes the order includes only a group name (e.g. SHC GIM Medical Teaching Unit). Either are accepted but restricted so that there is no double counting. Consults do not reflect how many patient encounters occurred. The rate table is based on Physician Billing data and shows for each consult ordered and how many face to face encounters are likely to occur. .

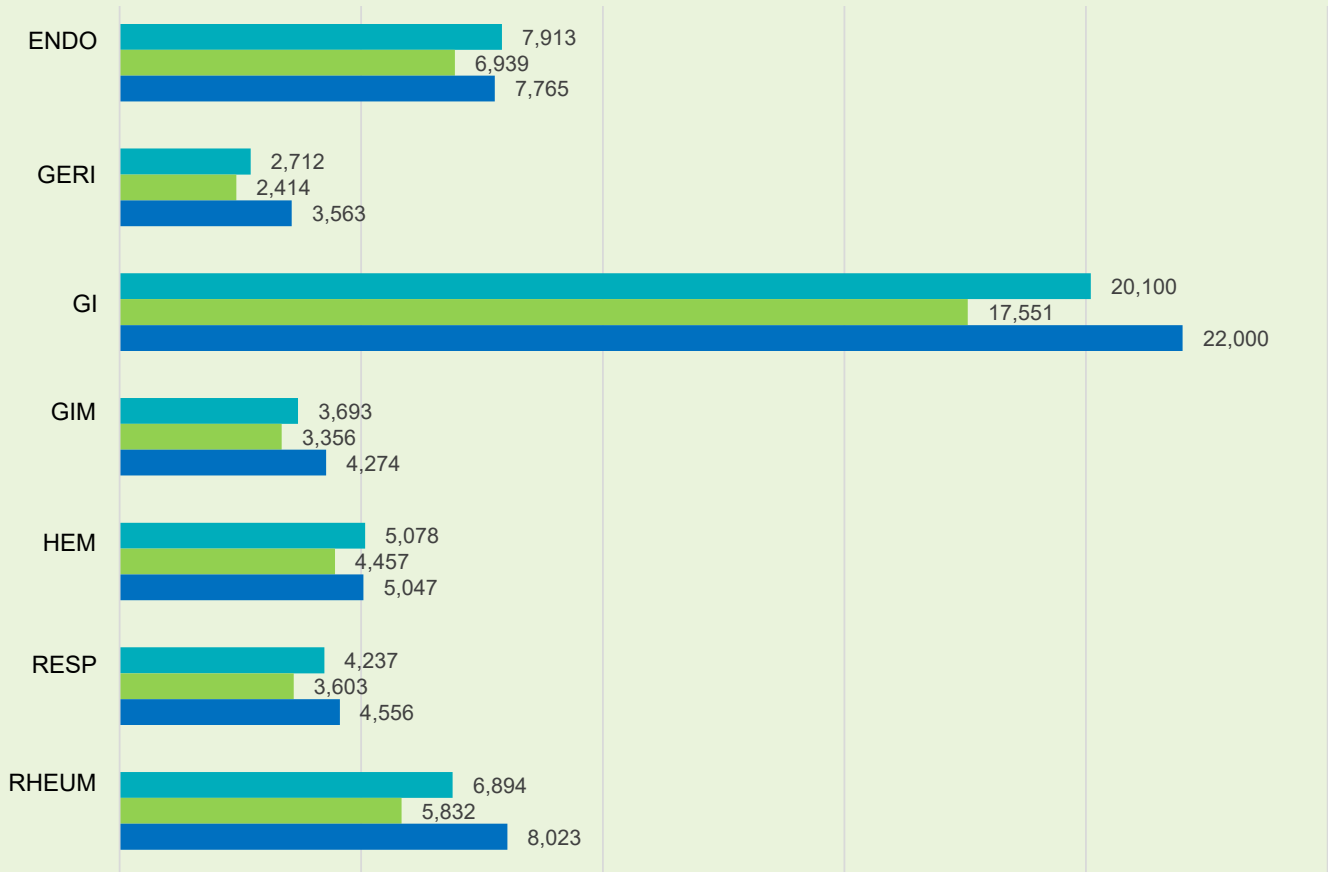
Inpatient Data (Continued)

RATE OF FACE TO FACE PATIENT ENCOUNTERS PER SCM INPATIENT CONSULT 2021/22²

Subspecialty	FMC	PLC	RGH	SHC
DERM	1.7	2.2	1.7	1.3
ENDO	4.6	1.5	1.4	1.3
GERI	3.2	2.6	3.6	2
GI	2.8	1.5	1.7	2.6
GIM	3.7	3.6	2.6	3.2
HEM	3.2	2.3	2	1.8
ID	3.5	3.7	2.9	3.1
NEPH	6.4	8.5	5.9	4.7
RESP	2	3.4	3.2	3
RHEUM	2	1.5	1.7	1.7

OUTPATIENT DATA

2019/20 2020/21 2021/22
CENTRAL ACCESS & TRIAGE (CAT) OUTPATIENT CLINIC REFERRALS²

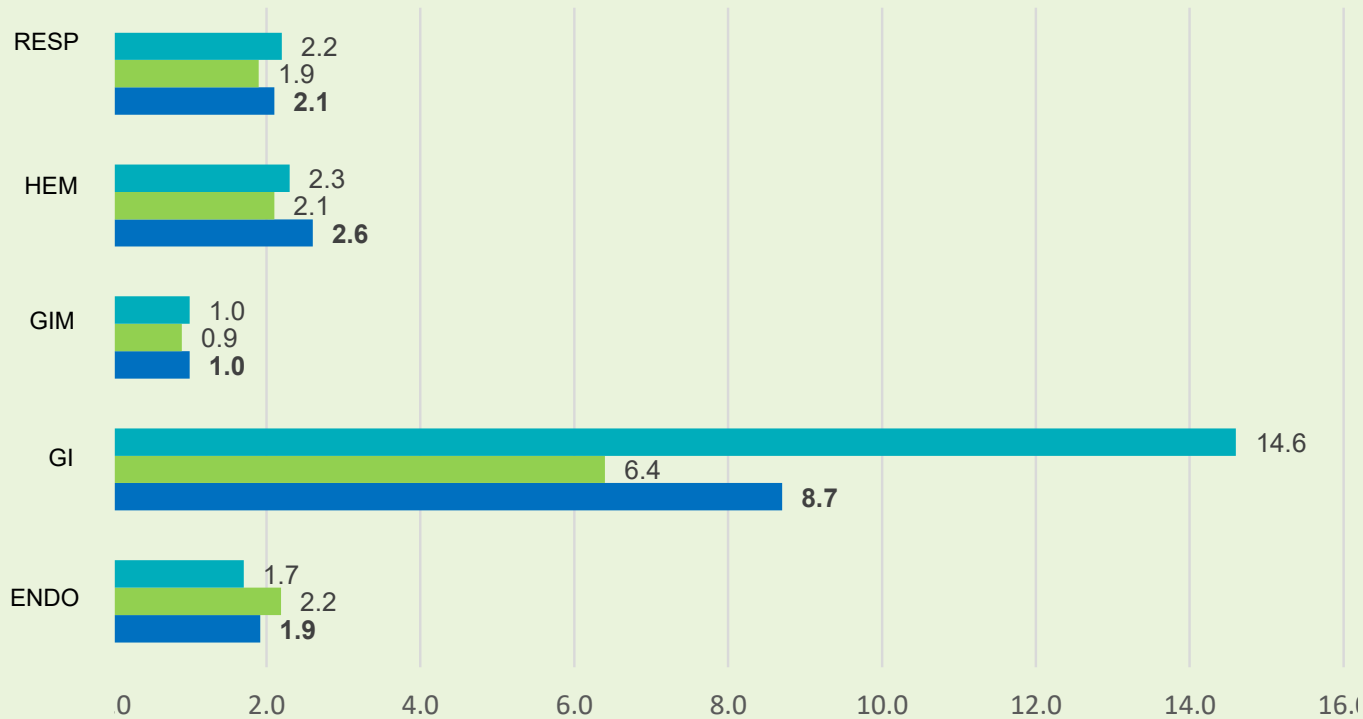


1. Source: Physician Billing. Consults ordered do not reflect how many patient encounters occurred. The rate table is based on Physician Billing data and shows for each consult ordered how many face to face encounters are likely to occur.
2. Source: Central Access & Triage and Seniors Health One-line (Geriatric Medicine data only). Outpatient departmental services that do not participate in the Central Access & Triage or Seniors Health One-line are not captured.

Outpatient Data (Continued)

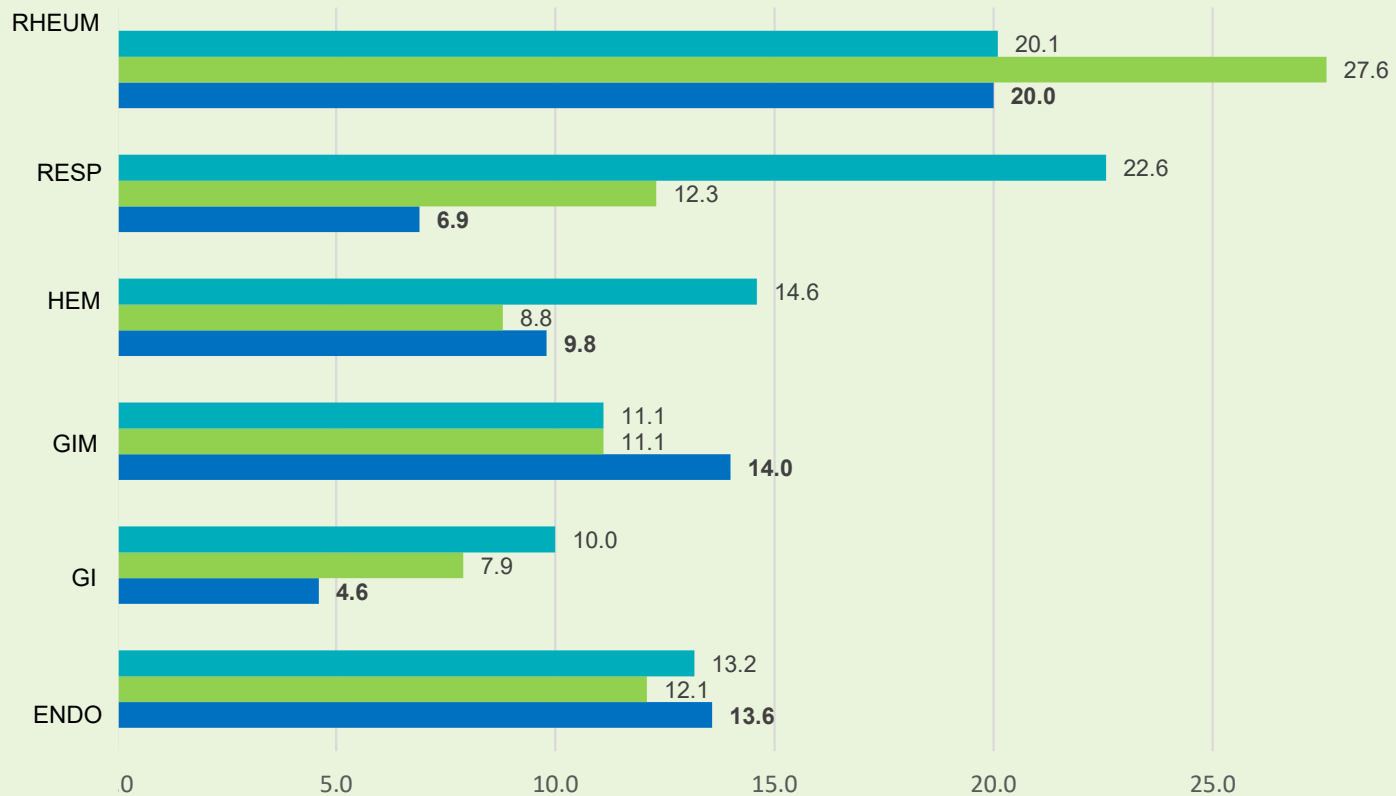
OUTPATIENT WAIT TIMES: URGENT REFERRALS ¹

Time Between Referral and Initial Appointment



OUTPATIENT WAIT TIMES: ROUTINE REFERRALS ²

Time Between Referral and Initial Appointment



1. Source: Central Access & Triage. Outpatient departmental services that do not participate in the Central Access & Triage are not captured.

2. Source: Central Access & Triage. Outpatient departmental services that do not participate in the Central Access & Triage are not captured.

NOTE: GI Routine Wait Times may not be accurate due to data entry issues. Data is not available for all divisions.

Promotions

Promotion to Professor

Dr. Cynthia Seow
Dr. Steven Heitman
Dr. Mike Parkins

Promotion to Associate Professor

Dr. Leslie Skeith
Dr. Aziz Shaheen

Promotion to Clinical Professor

Dr. Dina A. Fisher
Dr. Louis-Philippe Girard
Dr. Elizabeth A. MacKay
Dr. Paul A. MacMullan

Promotion to Clinical Associate Professor

Dr. Erika Dempsey
Dr. Milli Gupta
Dr. Jack Janvier
Dr. Joseph Kim
Dr. Bayan Missaghi
Dr. Anna Purdy
Dr. Ben Wilson

Promotion to Clinical Assistant Professor

Dr. Megan R.W. Barber
Dr. Kate G. Colizza
Dr. Simardeep Gill
Dr. Tyrone Harrison
Dr. Jolene Haws
Dr. Jesse Heyland
Dr. Laura Hinz

Dr. Fareed Kamar
Dr. Parabhdeep Lail
Dr. Joanne Salmon
Dr. Leyla Samii
Dr. Magdalena Sarna
Dr. Matthew Woo

Retirees

Division of Endocrinology & Metabolism:

Dr. Bernard Corenblum
Dr. David Lau

Division of Hematology:

Dr. Man-Chiu Poon
Dr. Christopher Brown
Dr. John "Ted" Thaell

Division of Infectious Diseases:

Dr. Andy Pattullo

Division of Nephrology:

Dr. Ronald Hons

Division of Respiriology

Dr. Karen Rimmer

New Members to the DOM

Division of Dermatology:

Dr. Michal Martinka
Dr. Fatemeh

Division of Endocrinology & Metabolism

Dr. Jamie Benham
Dr. Nadia Moledina
Dr. Lorraine Lau

Division of Gastroenterology

Dr. Richard Ingram
Dr. Mayur Brahmania
Dr. Victor Dong
Dr. Melissa Chan
Dr. Yang Lei
Dr. Suqing Li

Division of Geriatric Medicine

Dr. Taylor Wong
Dr. Laura Nino Canon

Department of Infectious Diseases

Dr. Brett Edwards
Dr. Raynell Lang

Division of Nephrology

Dr. Juliya Hemmett
Dr. Fareed Kamar

Division of Respiratory Medicine

Dr. Nicholas Romatowski
Dr. Christina Thornton

Division of Rheumatology

Dr. Eric Campbell
Dr. Jenny Hong
Dr. Jason Lee
Dr. Faranak Esmaeilbeigi

Awards

Dr. Sofia Ahmed

- 2021 May Cohen Award for Women Mentors

Dr. Nizar Bahlis

- 2021 Department of Oncology Researcher of the Year

Dr. Cheryl Barnabe

- 2021 O'Brien Institute Mid-Career Research Leader Award

- 2021 CSM Watanabe Distinguished Achievement Award for Overall Academic Excellence

Dr. Adam Bass

UME Gold Star Teaching Award for Course 4

Associate Deans Letter of Excellence - Lecturing

Associate Deans Letter of Excellence – Small Group Teaching, UME

Dr. Hanan Bassyouni

- 2021 UME Pandemic Hero

- UME Jersey Award for Course 4 Pre-Clerkship Award

- Gold Star for Teaching Excellence

Dr. Aleem Bharwani

- UME Pre-Clerkship Honorable Mention

Dr. Michael Bosch

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Kelly Burak

-2021 Medical Council of Canada's Outstanding Achievement

-UME Gold Star Teaching Award for Course 1

Dr. Darren Burback

-UME Platinum Award

- Associate Dean's Letter of Excellence (UME Teaching)

Dr. Sonia Butalia

- Dr. Todd Anderson Research Award (Libin)

- DOM Dr. John Conly Award for Excellence in Innovation

Dr. David Campbell

- 2021 OIPH Emerging Research Leader Award

Dr. Joel Chen

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Edwin Cheng

- 2021 Honor Roll Faculty Clerkship Teaching Award

- UME Gold Star Teaching Award for Course 1

Dr. May Choi

- 2021 AMA Future Leader Award

Dr. Justin Chun

- 2021 CSN Amgen New Investigator Award, 2021

Dr. Kate Colizza

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. John Conly

- 2022 CMA Frederic Newton Gisborne Starr Award for Lifetime Achievement

- O'Brien Institute Research Excellence Award

Dr. Jennifer Corrigan

- Star Educator Award

Dr. Erika Dempsey

- Division of Geriatric Medicine Teaching Excellence Award

- Family Medicine Care of Elderly Outstanding Teacher Award

- UME Gold Star Award for Course 5

Dr. Sandi Dumanski

- Outstanding Reviewer: CIHR Reviewer-in-Training Program

- CJASN Editors Choice Article

Dr. Steve Duncan

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Gabriel Fabreau

- 2021 Honor Roll Faculty Clerkship Teaching Award

- 2021 CSM Distinguished Achivemnet Award for Social Accountability

Dr. Charlene Fell

- 2021 Bob Cowie Award

- Associate Dean's Letter of Excellence

- UME Bronze Award for teaching

Dr. Michael Fisher

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. John Fralick

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Amber Fripp

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Alex Frolkis

- Dr. Keith Maccannell Award

Dr. Luis Girard

- 2021 Honor Roll Award of Outstanding Teaching CSM

- Associate Dean's Letter of Excellence for Teaching

Dr. Zahra Goodarzi

- 2021 Avenue Calgary 40 Under 40

Dr. Dawn Goodyear

- UME Honorable Mention Award for Pre-Clerkship

Dr. Horacio Groshaus

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Stacey Hall

- UME Platinum Award

- Associate Deans Letter of Excellence for UME Teaching

- IMRP Work Life Balance Award

Dr. Jori Hardin

- Jones award for Leadership in Undergraduate Medical Education

- UME Gold Star Teaching Award for Course 2

Dr. Tyrone Harrison

- JB Hyne Research Innovation Award

Dr. Jolene Haws

- Janes Family Teaching Excellence Award

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Oliver Haw For Chin

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Daniel Heng

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Glen Hazlewood

- 2021 AMA Research Paper of the Year Award

Dr. Karmon Helmle

- 2021 Silver Award for Teaching Excellence

Dr. Michael Hill

- 2021 CSM Smith Distinguished Achievement Award for outstanding

contributions by a faculty member

Dr. Laura Hinz

- UME Gold Star Teaching Excellence for Course 4

Dr. Naushad Hirani

- Associate Dean's Letter of Excellence In UME Teaching

- UME Bronze Award for Teaching

Dr. David Hogan

- Canadian Medical Association Honorary Membership Award

Dr. Jayna Holroyd-Leduc

- Top 100: Canada's Most Powerful Women (Professional Category) National Women's Executive Network

Dr. Stuart Hutchison

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Ryan Iwasw

- Star Educator Award

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Jack Janvier

- Associate Deans Letter of Excellence for Small Group Teaching CSM

Dr. Deirdre Jenkins

- UME Honorable Mention Award for Pre-Clerkship

Dr. Julie Jerand

- UME Associate Dean's Letter of Excellence in Teaching

Dr. Rameez Kabani

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Rahim Kachra

- FMC MSA Early Career Physician of the Year
- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Gil Kaplan

- 2022 Killam Annual Professor Award

- 2021 Highly Cited Researcher

- Chrons and colitis Candaa Research Leader Award

- 2021 Fellow Canadian Academy Of Health Sciences

Dr. Emily Kwan

- UME Platinum Award

- Associate Dean's Letter

of Excellence for UME Teaching

Dr. Michelle Keir

- UME Gold Star Award for Communications I

Dr. Erin Kennah

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Brendan Kerr

- 2021 2021 Gold Star Faculty Clerkship Teaching Award Faculty Clerkship Teaching Award

Dr. Greg Kline

- 2021 Gold Star Award for Teaching Excellence Course 4

Dr. Habib Kurwa

- Professional Association of Resident Physicians of Alberta (PARA) Clinical Teaching Award

Dr. Matt James

- AJKD Editors Choice Award

Dr. Kerri Johansson

- DOM Early Career Award for Clinical Excellence

- Top Peer Reviewer Award – America Journal of Respiratory and Critical Care Medicine

Dr. Parabhdeep Lail

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Paul Leblanc

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Richard Leigh

2012 Fellow Canadian Academy of Health Sciences Election

Dr. Jane Lemaire

- 2022 CMA Dr. Leo-Paul Landry Medal of Service

- AMA Medal for Distinguished Service

Dr. Ryan Lenz

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Alex Leung

- 2021 Heart and stroke Foundation National New Investigator

Dr. Pin Li

- 2021 Honor Roll Faculty Clerkship Teaching Award

AWARDS CONTINUED

Dr. David Low

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Tara Lohmann

- UME Associate Deans Letter of Excellence in Teaching x 2
- UME Gold Star Award in Teaching for Course 3
- UME Platinum Award in Teaching

Dr. Chris Ma

- UME Gold Star Award for Course 1

Dr. Paul MacEachern

- DOM Unsung Hero Award
- UME Associate Dean's Letter of Excellence in Teaching

Dr. Amita Mahajan

- 2021 Dr. Marnie Hinton Award for Physician Wellness

Dr. Kevin McLaghlin

- UME Gold Star Teaching Award

Dr. Daniel Miller

- UME Honorable Mention for Pre-Clerkship Teaching

Dr. Marcy Mintz

- UME Gold Star Teaching Award for Integrative (Part 1)

Dr. Bayan Missaghi

- Pakistan National Institute of Health (NIH) Award Shield

Dr. Christina Moran Toro

- 2021 Innovation of the Year AMA Awards

- UME Gold Star Award in Teaching Course 2

Dr. Kara Nerenberg

- 2021 Hypertension Canada New Investigator Award

Dr. Paola Neri

- Ken Anderson Young Investigator Award

Dr. Remo Panaccione

- 2021 Highly Cited Researcher
- 2021 American College of Gastroenterology Best Digital Presentation
- Top 10 Global Experts in Chron's Disease

Dr. Michael Parkins

- Peak Scholar For COVID-19 Innovation Excellence in Applied Research

Dr. Laurie Parsons

- 2021 Honorable Mention for Professional Association for Resident Physicians of Alberta (PARA) Clinical Teaching Award.

- EDI Scholarship in Health and Medical Education

- UME Gold Star Teaching Award for Course 2

- UME Honorable Mention in Pre-Clerkship Teaching

Dr. Paula Pearce

- University of Calgary PGME Award for Clinical, Adjunct and Research Faculty

- UME Gold Star Award for Teaching Excellence in Communication Skills

- Award of Excellence in Resident Mentorship from the Family Medicine Care of the Elderly Residency Program

- UME Platinum Award for teaching

- Associate Deans Letter of Excellence for UME Teaching

Dr. Troy Pederson

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Anna Purdy

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Maitreyi Raman

- 2022 CAG Education Excellence Award

- 2021 Chron's Colitis Canada Women in IBD Researcher of the Year

Dr. Michelle Ramien

- 2021 Early Career Volunteer Award for the Canadian Dermatology Association

Dr. Doreen Rabi

- 2021 CSM Van De Sande Distinguished Award for Contributions to Mentorship

- 2021 Gold Star for Teaching Excellence Award for AEBM

- 2021 Canadian Federation of Medical Students Culture Shifter Distinction

Dr. Luke Rannelli

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Qahir Ramji

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Shannon Ruzycski

- 2022 CMA Early Career Young Leader Award

- 2021 CSM Clinical Research Award for Clinical Adjunct and Research Faculty

Dr. Nathalie Saad

- UofC Continuing Medical Education Award for Clinical, Adjunct and Research Faculty

Kate Skolnik

- DOM Team Builder of the Year Award

Dr. Ian Scott

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Jeff Schaefer

- Laureate Award from the Alberta Chapter at the American College of Physicians

Dr. Caley Shukalek

- 2021 Gold Star Faculty Clerkship Teaching Award

- 2020 FMC MSA Diversity and Inclusion Award.

Dr. Michael Sia

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Ron Sigal

- 2021 Telemachus Distinguished Mentor Award (CIP Program)

Dr. Jim Silvius

- AMA Medal for Distinguished Service

Dr. Leslie Skeith

- 2021 CSM Cochrane Distinguished Achievement Award for Research Excellence

Dr. Laura Stinton

- Dr. Terry Groves Award for Clinical Excellence

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Chris Symonds

- The Martin Atkinson Award for Clinical Excellence

Dr. Ranjani Somayaji

- DOM EDI Award

Dr. Marcello Tonelli

- Clarivate Analytics – Highly Cited Researcher

Dr. Alejandra Ugartes-Torres

- UME Silver Meal Award for Excellence

Dr. Stephen Vaughan

- UME Honorable Mention for Pre-Clerkship Teaching

Dr. Meghan Vlasschaert

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Kathryn Watson

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. John Walsh

- 2021 Gold Star Faculty Clerkship Teaching Award

Dr. Michaela Walter

- 2021 Honor Roll Faculty Clerkship Teaching Award

Dr. Jason Weatherald

- 2021 Avenue Calgary 40 under 40

- DOM team Builder of the Year Award

- Todd Anderson Cardiovascular Research Award

Dr. Sarah Weeks

- UME Jersey ward for Course 3

Dr. Michael Wong

- Dr. Howard McEwen Award for Clinical Excellence (PLC) 2021

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departmentofmedicine.com



LEGEND

Cardiac	Cardiac Sciences
Cell Bio & Anat	Cell Biology & Anatomy
Clin Neuro	Clinical Neurosciences
Comm Health	Community Health Sciences
Crit Care	Critical Care Medicine
Emerg Med	Emergency Medicine
MIID	Microbiology, Immunology & Infectious Diseases
Ob Gyn	Obstetrics & Gynaecology
Onc	Oncology
Paeds	Paediatrics
Lab Med	Pathology & Laboratory Medicine
Phys Pharm	Physiology & Pharmacology
Psych	Psychiatry
Rad	Radiology

AMHSP	Academic Medicine Health Services Plan
ADJ	Adjunct Member
Adj. Asst. Prof	Adjunct Assistant Professor
Adj. Prof	Adjunct Professor
Asst. Prof	Assistant Professor
Assoc. Prof	Associate Professor
Prof	Professor
Clin. Lecturer	Clinical Lecturer
Clin. Asst. Prof	Clinical Assistant Professor
Clin. Assoc. Prof	Clinical Associate Professor
Clin. Prof	Clinical Professor
FFS	Fee-For-Service Member
GFT	Geographic Full-Time (Full-Time Academic Faculty)
LTA	Locum Tenens – AMHSP funded
LTF	Locum Tenens – FFS funded
MC	Major Clinical AMHSP Member
DERM	Dermatology
ENDO	Endocrinology
GERI	Geriatric Medicine
GI	Gastroenterology & Hepatology
GIM	General Internal Medicine
HEM	Hematology & Hematological Malignancies
ID	Infectious Diseases
NEPH	Nephrology
RESP	Respiratory Medicine
RHEUM	Rheumatology
RE	Research Equivalent

