



# 2021 Review

**Department of Medicine**

2020- 2021 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 at 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.



# 2021 Review

DEPARTMENT OF MEDICINE  
UNIVERSITY OF CALGARY AND  
ALBERTA HEALTH SERVICES  
2020-21 REPORT

"Virtual Health is a major win  
for enhancing patient care"

- Dr. Erika Dempsey, Vice-Chair Virtual Health

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**\$21.2M**

in total research revenue,  
including \$8.4M in CIHR  
revenue and \$4.8M in clinical  
research revenue

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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.

"Imagine a day when we can use a small spoonful of a patient's blood to identify genetic mutations causing disease, to develop patient-tailored therapies, and to grow a new organ to replace an organ that has failed. "

- Dr. Justin Chun - Organoids Spotlight

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**44,152**

outpatient clinic referrals received  
by Central Access & Triage (CAT)  
and Seniors Health One-line

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**16.6K**

Inpatients attended in the four  
Calgary Adult Hospitals

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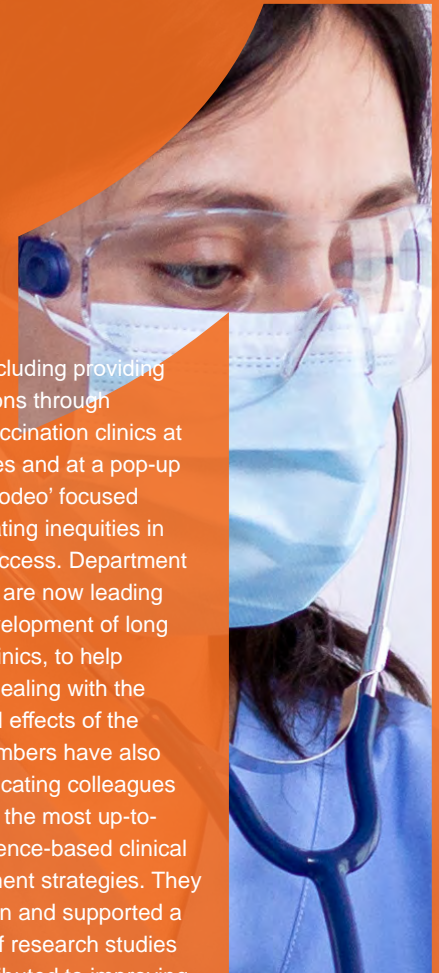


# 5 Things you should know about the Department of Medicine

## On the Pandemic Frontlines

Our members, in collaboration with our healthcare colleagues and with the support of departmental administrative staff, have been providing care to patients with COVID throughout the pandemic. At times this has required department members from across our sections/divisions to come together to focus our efforts on caring for high numbers of patients admitted to COVID units across the Calgary adult hospitals. Although members have experienced significant exhaustion and moral stress, they have never given up their commitment to providing excellent patient care for all Albertans. Many of our members also contributed to the COVID vaccination

efforts, including providing vaccinations through mobile vaccination clinics at workplaces and at a pop-up 'vaccine rodeo' focused on combating inequities in vaccine access. Department members are now leading in the development of long COVID clinics, to help patients dealing with the prolonged effects of the virus. Members have also led in educating colleagues regarding the most up-to-date evidence-based clinical management strategies. They have led in and supported a number of research studies that contributed to improving our understanding of the virus and the discovery of much needed COVID treatment strategies.



## Ongoing focus on Equity, Diversity & Inclusion

The department has continued its efforts to develop a more equitable and inclusive environment within and beyond the department. Our Equity & Diversity working group has continued its efforts to implement change, including the ongoing incorporation of EDI (equity, diversity and inclusion) topics at our Medical Grand Rounds and the creation of an award for

members wanting to take EDI leadership courses. We have incorporated structured EDI moments within every Medical Services Executive Council meeting, with the goal of promoting inclusive leadership. The Black Lives Matter movement also inspired us to form a departmental anti-racism task force, in an effort to start to address racism within medicine. Our Vice

Chair for Indigenous Health has continued to lead the department and CSM in important educational and research endeavours focused on improving the delivery of care for and the overall health of Indigenous persons. Many of our members are also working on a number of other initiatives across CSM focused on much needed EDI changes within medicine.







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## Community of Colleagues

One of the core tenets of the Department of Medicine is that collaborative, engaging, multidisciplinary teams are essential for providing outstanding medical care for all Albertans. We have close working relationships with other Departments, including Community Health Sciences, Cardiac Sciences, Family Medicine and Oncology, as well as with the Calgary and Area Primary Care Networks (PCNs). Our members belong to the various Research Institutes within the University of

Calgary and are extensively involved within Alberta Health Services' provincial Strategic Clinical Networks (SCNs). Our members hold approximately 150 leadership roles within Alberta Health Services and the University of Calgary. The Department of Medicine has also been a leader in promoting wellness among healthcare providers. Physician wellness is an important quality indicator of healthcare systems, and a shared responsibility between individual physicians and the healthcare systems.



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## Educating the Next Generation

Our mandate is to educate, mentor and sponsor trainees and junior faculty who have the potential to become leaders in medicine and related fields. This includes providing trainees with the opportunities needed to be competitive for academic faculty, and ultimately recruit

them as the medical leaders of tomorrow. It also involves supporting our current faculty to achieve excellence across the CARE (Clinical; Administration (Leadership); Research; Education) pillars.

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## Virtual Health Care

In collaboration and partnership with PCNs and SCNs, the department has established numerous evidence-informed Clinical Care Pathways, and all our sections/divisions now participate in Specialist Link services. This has increased direct communication between primary and specialist physicians, reduced wait lists for specialist services, and allowed more patients to receive quality care in the

medical home. As a result of the pandemic and led by our Vice Chair of Virtual Health, we have grown our capacity to deliver effective patient-centered virtual health care. As highlighted in this report, a number of our departmental members are engaged in research exploring the best ways to deliver virtual health to individuals experiencing a variety of health issues.

# Harnessing Wastewater

Monitoring of SARS-COV-2 RNA to understand COVID-19 disease burden at a range of scales: The Calgary Experience



## HOW THE PROJECT STARTED

Prior to COVID-19, wastewater epidemiology was an emerging area of public health science. Most research programs focused on correlating chemicals, pharmaceuticals and drugs in random samples of wastewater collected from central processing facilities - with community level consumption.

When groups the world over began to look at wastewater as a medium by which to better understand the pandemic – an environmental scan was completed

in Calgary. However, it was immediately apparent that no individual group had the expertise to initiate a wide-spread wastewater SARS-CoV-2 monitoring program. Accordingly, teams from the Cumming School of Medicine's Department of Medicine, Faculty of Science and Schulich School of Engineering partnered with the City of Calgary and Medical Office of Health of Alberta Health Services to develop a novel trans-disciplinary collaboration to begin this work.



## THE TEAM

The team is led by Project co-leads Dr. Michael Parkins (DOM, Infectious Disease), Dr. Casey Hubert (Biological Sciences, Geomicrobiology) and Kevin Frankowski (Advancing Canadian Wastewater Assets).

From the Department of Medicine, other key initial co-investigators included Dr. John Conly, Dr. Jon Meddings, and from the broader Cumming School of Medicine Dr. Dylan Pillai,

Dr. Chris Naugler, Dr. Jason Cabaj and Dr. Jia Hu. Other key co-investigators included the Associate Deans of Research in the Faculty of Science (Dr. M. Cathryn Ryan) and Schulich School of Engineering (Dr. Gopal Achari) and Dr. Norma Ruecker (City of Calgary).

The team works with an array of highly qualified personnel recruited from other research endeavors including more than 15 members made

up of research associates, laboratory managers, graduate and post-graduate trainees and undergraduate interns. This broad collection of individuals together had the necessary expertise to understand COVID 19 on a municipal scale.



**Dr Micheal Parkins,**  
Department of Medicine,  
Infectious Diseases



**Dr. Casey Hubert**  
Biological Sciences,  
Geomicrobiology



**Kevin Frankowski**  
Advancing Canadian  
Wastewater Assets



Alex Buchner and Navid Sedaghat of the UCalgary fieldwork group gathers wastewater samples that will be tested for traces of COVID-19 genetic material. Photo by Riley Brandt.





## WHAT IS THE PROCESS?

Composite samples are collected using specially installed devices that collect a small amount of wastewater over adjustable periods of time (generally 24 hours).

Samples are either collected by City of Calgary Water Services Staff, or the specially trained interns – and transported directly to the University of Calgary's Advancing Canadian Wastewater Assets. Here large samples are spiked with an external positive control – the bovine coronavirus

– and then concentrated, cleaned and purified using sophisticated protocols.

Samples are then assessed at the Health Science Campus for various SARS-CoV-2 RNA gene targets (and variant specific assays), external spiked controls (bovine corona virus) and internal controls (pepper mild mottle virus) are quantified by qPCR.



Dr. Maria Bautista, PhD, processes the wastewater samples that will be tested for traces of COVID-19 genetic material

# \$1,053,000+

IN FUNDING RECEIVED INCLUDING CIHR AND CFI GRANTS



## GRANTS AND FUNDING

The research team has been successful in receiving funding from several sources to maintain the project.

The initial seed money which started the project was initiated by Michael Parkins' ID Section Chief Startup Fund (from the Department of Medicine) and Casey Hubert's Campus Alberta Innovates Chair in Geomicrobiology Fund - enabling preliminary data to demonstrate proof of concept.

The first CIHR grant application for this project was funded June 1st, 2020 for \$505,000 to start the core of the program enabling community level monitoring.

Following this a CFI grant was received for \$298,000 (Nov 2, 2020) to purchase equipment, expanding the team's ability to monitor in neighborhoods and high-risk facilities.

From the success of the project in the initial stages, the team secured two additional CIHR grants. One for \$50,000 focused on assessing for variants of concern. The second grant for \$200,000 was to begin a pilot program in partnership with local knowledge users monitoring indigenous communities in Southern Alberta (in partnership with Rita Henderson, CSM and Kerry Black, Schulich School of Engineering).



## WHERE HAVE WE MONITORED?

The vast majority of wastewater monitoring programs have initially focused on water collected from central wastewater treatment plants. Uniquely, Calgary maintains separate stormwater collection systems and sewers, limiting the sources of variability that impact the measurement of various analytes and is therefore an ideal testing ground for wastewater-based epidemiology.

The team has collected twice weekly samples from each of Calgary's three municipal wastewater treatment plants and correlated signals in the wastewater with identified cases in those catchment zones. Furthermore, by adjusting the measured signal

at each plant by the amount of flow received – have developed a single city-wide metric.

Small communities including Airdrie are similar targets of monitoring. The group has also looked at a range of smaller scale measurement sites. Since November, the group has sequentially brought online nine different neighborhood-based monitoring stations throughout Calgary (each capturing 15-80,000 individuals).

Furthermore, the group has comprehensively longitudinally monitored individual facilities including hospitals, homeless shelters, schools and dormitories.

## DATA SHARING AND PUBLICATIONS



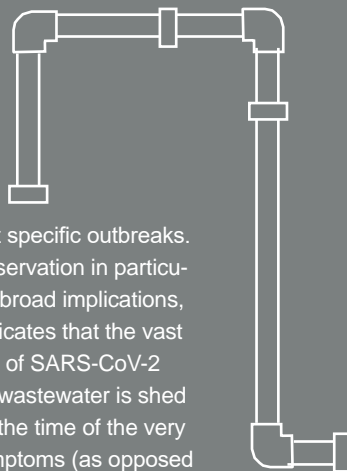
Data is reported within 48-hours of collection to key stakeholders including Alberta Health Services, Medical Office of Health, Alberta Health, Infection Control Physician Leads, and Emergency Management Operations of the involved communities (Calgary and Airdrie).

To improve transparency and knowledge dissemination, the team partnered with CSM's Centre for Health Informatics group including Tyler Williamson, Danielle Southern and Alexander Krusina to share their data with the general

public where hundreds-to thousands of independent website visits were logged (<https://covid-tracker.chi-csm.ca>).

The group's first publication focused on a longitudinal hospital-based monitoring program at the Foothills Medical Centre, Rockyview General Hospital and Peter Lougheed Centre. Here they found that while SARS-CoV-2 RNA levels in hospital wastewater correlated with total hospitalized COVID-19 diagnoses, they most strongly correlated with incident nosocomial cases

and unit specific outbreaks. This observation in particular, has broad implications, as it indicates that the vast majority of SARS-CoV-2 RNA in wastewater is shed around the time of the very first symptoms (as opposed to when patients are sick enough to be admitted to hospital) – suggesting wastewater monitoring is most accurate for new COVID-19 diagnoses (where it is needed most). Additional publications focusing on community/ neighborhood, school, dormitory and shelter-based monitoring programs are expected shortly.



## FUTURE USE OF WASTE WATER MONITORING

The funding for the original municipal monitoring program ended in June 2021. The team is pursuing alternate funding sources to maintain community level monitoring of SARS-CoV-2 through (hopefully) the end of the pandemic including direct support from the province and philanthropic donations.

An additional \$305,000 funding was just secured from CIHR to continue to advance hospital-based SARS-CoV-2 monitoring in (and through) hospitals in an effort to predict and

rapidly localize individual hospital transmission events – so as to prevent further transmission.

The initial core team has partnered with other experts in order to expand community, neighbourhood and high-risk facility wastewater monitoring. This includes expanding to other analytes of interest (beyond SARS-CoV-2 RNA) - ie other respiratory viral illnesses, antibiotic resistance and drugs of abuse.



While never having worked together before, Dr. Parkins and Dr. Hubert (Left and middle) have been friends since grade 1 in Yellowknife and even lived as roommates in undergraduate and graduate school. This was the first time they had the opportunity to work together on the same project.





## TIMELINE

### SEPTEMBER 2020

Long COVID Clinic project started by Dr. Patrick Mitchell and Dr. Skolnik at Rockyview General Hospital.

### JANUARY 2021

Rockyview General Hospital Clinic Director role transitioned to Dr. Kate Skolnik.

### FEBRUARY 2021

The clinic at Peter Lougheed Centre was established with Dr. Jason Weatherald as director.

### FALL 2021

South Health Campus COVID Lung Clinic to start

# Calgary Post-COVID Lung Clinics

Post-COVID Lung Clinics offer a place of support for long term sufferers.

During the early months of the pandemic, the Division of Respiratory Medicine recognized that some patients could face lingering symptoms and suffer long-term lung complications from COVID-19. It was realized that up to 50% of people who contract COVID-19 experienced symptoms lasting beyond 4 weeks, an entity called Post-acute COVID-19. When those symptoms persist after 12 weeks, the terms Chronic post-COVID or "Long COVID" are applied. While longer term complications from COVID are more likely among those with severe illness requiring hospitalization, they can also occur among those with milder acute infection.

Long COVID can consist of a variety of symptoms, which fluctuate from day to day and can range in severity from mild to debilitating. Persistent breathlessness, fatigue, chest pain, cough, and neurologic symptoms are among the most frequently reported symptoms. One of the most profound symptoms is chronic fatigue with post-exertional malaise, which can last for many hours after even mild physical or mental activity. A recent study<sup>1</sup> from the University of Calgary found that post-exertional malaise was present in over 50% of patients with Long COVID and their reported quality of life was comparable to patients with Chronic Obstructive Pulmonary Disease. The pathophysiology of Long COVID is still not fully understood.

When the first descriptions of Long COVID began to emerge it became apparent that specialized clinics would be needed to gain experience with this condition. Dr. Kate Skolnik and Dr. Patrick Mitchell launched Calgary's first COVID Lung clinic at the Rockyview Hospital. During the second wave of the pandemic in late 2020, the communities in northeast Calgary were disproportionately affected. Realizing that this would be followed by a wave of long COVID, a second COVID Lung clinic was launched at the Peter Lougheed Centre to ensure that people affected by long-term complications could access care in their own community. A diverse team of junior physicians at the Peter Lougheed Centre, including Dr. Jason Weatherald, Dr. Rachel Lim, Dr. Joel Chen and Dr. Jonathan Liu, established a second COVID Lung clinic to meet the growing demand in north Calgary.

As these clinics are lead by respirologists, their focus has been on pulmonary complications and exercise intolerance. However, it is clear Long COVID complications are broad and as such, the team have collaborated with other specialists and physiotherapists. The development of General Internal Medicine COVID clinics in Calgary will be an important addition to meet patient needs and compliment the respirology skillset.



Dr Jason Weatherald - Director of PLC Long Covid Clinic  
Dr Kate Skolnik - Director of RGH Long Covid Clinic  
Dr. Rachel Lim  
Dr. Joel Chen  
Dr. Jonathan Liu  
(Starting at the top / left to right)

<sup>1</sup> Twomey R, DeMars J, Franklin K, Culos-Reed SN, Weatherald J, Wrightson JG. Chronic fatigue and post-exertional malaise in people living with long COVID. [Submitted].

# Q & A with Leah Noster - (PLC Long COVID Clinic Patient Experience)

## What has been your journey with Long COVID?

I tested positive on December 7, 2020, after symptoms started 3 days prior which mostly included muscle aches, migraines, loss of smell and dizziness. I had 13 of 15 symptoms from the AHS checklist with the exception of fever and vomiting. My only exposure within the previous 7 days was to pick up my monthly migraine injection at PLC, at a time with very high volume of people entering and exiting. Unfortunately, despite trying to avoid it all, I tested positive a few days later. I quarantined at home for 26 days with daily nurse and doctor calls for the first 10 days. My family MD was close to calling community paramedics two days in a row but I managed on my own. I experienced a very slow painful recovery and only phone appointments with my family MD until mid-January.

## How do you feel the Long COVID Clinic has helped you?

I asked for a referral to Dr. Jason Weatherald at the Long COVID Clinic to have more advanced care. I was one of few that had not recovered within expected time. I attended PLC for my first Long COVID Clinic on March 24, 2021 - I had high hopes. My earlier tests were repeated (lung x-ray, breathing test, blood work) and two hearing tests separate from hospital tests (now hyperacusis from COVID). Dr. Weatherald was excellent at explaining all the results - he was empathetic, genuine, listened & validated all my feelings. I felt a sense of calm and I was encouraged to reach out to the AHS COVID-19 Rehab Advice line. I needed additional help such as courses to help with my post-COVID ongoing breathlessness, voice rehab, fatigue, cognitive and stress management. I felt defeated - except I now had a respirologist who actually understood me, had lived through it just as I did and that impacted me incredibly! However, after reading articles,

I felt defeated - except I now had a respirologist who actually understood me, had lived through it just as I did and that impacted me incredibly!

watching news reels and chatting to other Long COVID sufferers, it is evident that while the clinics are promoted as a place of help and support, there is still lots of learning to do and it is a multifaceted process for all of us - healthcare professionals and patients. Its much harder when it becomes yourself as one of the sufferers and not just a statistic.

## What have been the best resources for dealing with Long Covid?

I started taking courses through AHS to help myself heal further. I listen to medical podcasts and participated in 15 classes for Long-COVID (private practice) which was key in providing what I hoped for in March. After registering for another course recently with AHS, I discovered there is now a series of 5 classes for COVID-19 recovery. After finishing the classes, I provided feedback with intent to help others in any small way. I have very recently started to publicly discuss my experience as there is so much stigma attached in contracting COVID-19 (even for those that played by all the rules), and we are still struggling to recover. What helps me is knowing I have the support of my family MD who I can call weekly or reach Dr. Weatherald at the Long COVID Clinic for support.

## What are your hopes for Long Covid Sufferers and yourself?

I hope the Long COVID Clinic will have some outpatient resources, classes, support groups or continuing care that we can access as Long COVID patients. There are so many "social network opinions with no medical/science-based facts" it can be overwhelming. It would be helpful to have local credible resources from our personally visited local Long COVID clinic. I have heard of many others getting so much negative feedback and verbal abuse it breaks my heart! We are already struggling and feel trapped in this shadow of a body that isn't the same - it is difficult to breathe at times or simply enjoy a weekend away without struggling in various ways.

**I continue to have hope, we are all learning from each other to improve and help our communities, friends & family for the future.**

## PRIMARY OBSERVATIONS FROM THE LONG COVID LUNG CLINICS

The Calgary Post-COVID Lung clinics have seen over 150 referrals to date. The majority are female (60%) with a median age of 46 (range 18-89), and approximately one third required hospitalization. Patients with severe COVID-19 requiring hospitalization were more likely to have persistent lung damage on chest imaging. Occasionally, people with Long COVID who were never hospitalized have evidence of pulmonary inflammation or scarring. Pulmonary embolism has been detected in a minority, most of which were hospitalized for severe illness. Some patients had persistent pulmonary symptoms due to unmasking of pre-existing asthma or other lung disease. However, in many cases of Long COVID, lung function and structure appear normal, despite respiratory symptoms. Cardiopulmonary testing (CPET) may play a diagnostic role but must be used in caution in those with severe fatigue. Severe fatigue, deconditioning, and/or dysfunctional breathing can limit exercise capacity even in the setting of normal cardiac and pulmonary testing. Dysautonomia, (including POTS) also contributed to exercise intolerance. Structural heart disease and arrhythmia were rare in our clinic population.

Data to guide management of Long COVID is evolving. Patient education is central to the clinics such as breathing exercises, fatigue management strategies and energy conservation techniques such as pacing. There is no routine role for inhalers or steroids in post-COVID care. Prolonged (several weeks) of steroids may be beneficial in select cases with persistent pulmonary inflammation (in particular organizing pneumonia), however use must be weighed against risks (especially in those with myopathy).

**150** Referrals to date



**60% Female 40% Male**



**Median age is 49  
Range of 18-89**

## REFERRAL CRITERIA

**A documented COVID-19 positive PCR (+) test and/or serology  
AND EITHER**

Persistent pulmonary/chest symptoms (cough, dyspnea, chest discomfort, exercise limitation) for at least 12 weeks to 12 months post original COVID-19 diagnosis date (either new if no prior lung disease or above baseline if pre-existing lung disease)

**OR** Hospitalization for COVID pneumonia requiring ICU and/or high flow oxygen (ie no time criteria required for symptom duration)



# GRANTS RECEIVED

Dr. Lim, Dr. Weatherald, and Dr. Skolnik received a \$10,000 grant from the AHS Medicine/Respiratory Strategic Clinical Network for the POETIC study to evaluate a tailored physiotherapy intervention for Long COVID patients with persistent dyspnea and exercise intolerance.

Dr. Weatherald received a \$292,000 grant from CIHR as lead investigator to study pulmonary vascular disease in patients with Long COVID in collaboration with researchers in Toronto and Edmonton.

Dr. Skolnik and Dr. Weatherald were also co-principal investigators with researchers at the University of Alberta on a \$152,000 grant to conduct a qualitative study to determine rehabilitation needs for patients affected by Long COVID.

# RESEARCH COLLABORATION

Our team is collaborating on innovative, multi-disciplinary projects with researchers from across Canada. The University of Calgary Post COVID Lung clinics will be actively involved in a large project through the Canadian Respiratory Research Network that will determine how common Long COVID is in Canada, who gets it, and how lung damage relates to respiratory symptoms. We will also be participating in an innovative new study led by Dr. Satish Raj from the Department of Cardiac Sciences that will evaluate autonomic nervous system dysfunction and postural orthostatic tachycardia syndrome (POTS) in patients with Long COVID.

# PUBLICATIONS

Twomey R, DeMars J, Franklin K, Culos-Reed SN, Weatherald J, Wrightson JG. Chronic fatigue and post-exertional malaise in people living with long COVID. [Submitted].

# CLINICAL COLLABORATION

The COVID Lung Clinics have collaborated with a number of specialists and allied health providers to facilitate multidisciplinary care: (1) Physiatry- Dr. Christopher Grant at the FMC ICU Recovery Clinic (2) Cardiology - Dr. Carlos Morillo and Dr Satish Raj at Calgary Autonomic Investigation and Management Clinic (3) Physiotherapy - Community Accessible Rehab, private physiotherapy clinics, rehab advice line, (4) Dr. Elizabeth McKay at the PLC GIM COVID Clinic (5) Dr. Michelle Grinman RGH GIM COVID Clinic (start date pending). Although it has not been possible to integrate a physiotherapist within our clinic due to funding limitations, physiotherapy resources have played an important role in post COVID recovery.

# CLINICAL LEADERSHIP

The Calgary COVID Lung Clinic directors have been collaborating with the University of Alberta COVID respirologists and the Medicine SCN to develop referral guidelines, streamline post COVID care in the province, and identify care gaps. Upcoming projects include development of PFT recommendations post COVID.







# Virtual Health

The COVID-19 pandemic increased the uptake of virtual health adoption in AHS, it has elevated patient care and it's here to stay.

Dr. Erika Dempsey the Vice-Chair of Virtual Health for the Department of Medicine explains how virtual health systems now in place have become a part of everyday medicine during the pandemic. "The pandemic encouraged physicians to look at different ways of supporting patients that were not physically in front of us". These systems will continue to be fine-tuned and stay in place to improve patient care in the long run. Dr. Dempsey mentions "In a matter of weeks, to early months of the [COVID-19] pandemic, all divisions were represented on Specialist Link for either phone support or e-referral. Prior to the pandemic, only a handful of specialties were utilizing the service". Specialist Link has been integral in providing a service for health practitioners and primary physicians to consult a person of expertise without having to refer patients directly to them. This greatly enhances patient care as the answers they need can be with them in a matter of days rather than months.

As the pandemic hit, physicians switched to one-on-one virtual care where possible. They were able to continue providing assessments for patients virtually over the phone or by video health instead of in-person. "There was an influx of interest in Virtual Health at the beginning of the pandemic, and while there was some hesitation

to go fully virtual at first, once the infrastructure was in place the uptake was high, improving patient care as a whole" Dr. Dempsey explains.

Dr. Dempsey drew particular highlight to the Gastroenterology department who managed to significantly decrease their pre-pandemic waitlists. This is a major win in enhancing patient care. Other high uptake departments included Endocrinology and Rheumatology. Rheumatology, in particular, was displaced from their Richmond Road facility when the facility changed to a primary testing centre for COVID-19.

Of course, a new process doesn't come without its challenges, "we are continually working to streamline processes and will be continually advocating for the ongoing discrepancies between virtual and in-person billing codes. We are working with multiple different levels in AHS and AMA to try and advocate for these issues and improvement in this area" Dr. Dempsey mentions. A second area for improvement will be putting systems in place to monitor the usage of Virtual Health across the entire system - at the moment it is quite a manual process and we look forward to a full reporting system.

"This is a major win in enhancing patient care"



Dr. Erika Dempsey  
Vice-Chair Virtual Health for  
the Department of Medicine



# GASTROENTEROLOGY & HEPATOLOGY HAS SEEN THE GREATEST SUCCESS

Q & A with Josh Bashow - Manager Gastroenterology, Hepatology & Endoscopy Department - FMC/UCMC

Out of every crisis is a direct opportunity to review and improve a process and COVID-19 was no exception. When the pandemic hit in March 2020 Gastroenterology & Hepatology worked quickly to put virtual health systems in place. With an already long waitlist it was time to spring into action to continue with appointments. Prior to the pandemic there had been approximately 35% of virtual appointments in place however by May 2020 75% of appointments were taking place virtually.

## ***What were the challenges with transitioning into more Virtual Health Appointments?***

At first, there was hesitation from the department as the technology and infrastructure was not strong enough to support all patients to virtual appointments. Once the infrastructure was improved - having enough cameras and microphones for every computer in the department or Ipads with headphones, the uptake was huge. However, it was more about education than about the

hardware. It took a great deal of positive collaboration between the physicians, nurses and administrators to streamline the process and make virtual health accessible for most patients. Patient education was a huge portion and the admin staff took this on as well as notifying all patients about their new appointments and training in any technology required.

## ***What have the benefits of Virtual Health meant to the Gastroenterology section?***

We have managed to not only decrease our waitlist but we've decreased to less than recommended wait times. In November 2019 GI had a waitlist of approximately 3200 patients and we managed to cut that waitlist in half by September 2020 to 1400 patients. Our in-person appointment templates allow for 30 minutes per patient, but with the virtual appointment we were able to cut this down to 15 minutes and see double the patients virtually. The patients receive the same high-quality specialist advice that they would at a face-to-face appointment.

Patient access has been greatly enhanced. Rural

patients or those without access to easy transport would be travelling into the city for a 30-minute appointment which could be a multi-hour process for them. Virtual visits have improved the patients' experience. During the pandemic, patients were also worried about visiting large health facilities and were much happier with the virtual setup.

## ***What about the patients that need to be seen in person?***

In person appointments are still a very important piece. During the transition to virtual, we triaged the entire waitlist of patients to identify those that needed to be seen in person and those that a virtual visit would be all that was required.

## ***Final comments***

Virtual health is here to stay and with the huge success during the pandemic, we now have the technology and infrastructure to continue. The team was amazing at building great relationships from a client perspective and they worked collaboratively to get the job done to provide the best patient care.

## THE CHALLENGES & FUTURE OF VIRTUAL HEALTH IN CERTAIN SETTINGS

### **Dr. Zahra Goodarzi: The future of virtual care in older adults**

Virtual care is not going away any time soon, and will remain important as a core competency for providers post-COVID-19 pandemic. We need to have evidence to support the development of virtual care excellence in geriatric medicine.

Care providers for older adults rapidly adopted virtual care (i.e. videoconference or telephone) to meet patient needs and physical distancing guidelines during the COVID-19 pandemic, but there remains much uncertainty about how best to support the virtual care of older adults. Uncertainty about virtual care can lead to inconsistent care and variations across providers. We worked with patients, caregivers, health-care providers, and researchers to fill this critical knowledge gap in a thorough and evidence based way. To do so we have completed a rigorous systematic review and meta-analysis<sup>1</sup> of the accuracy of all virtual cognitive assessments. This review identified which tools are feasible to use and have been validated in a virtual setting.

Next we have examined the patient factors that affect access to virtual care<sup>2</sup> for geriatric medicine – which is critical to planning service delivery. After this we sought to understand the experiences of virtual care by providers, patients and their caregivers<sup>3</sup> through interviews –this will enable providers to understand how they can better meet the needs of their patients, and how leaders can help prepare their providers. Lastly, we examined which virtual interventions were effective for older adults experiencing depression<sup>4</sup>.

### **Dr. Claire Barber: The unique challenges of virtual care in Rheumatology.**

Virtual care poses many unique challenges in the field of rheumatology. To tackle these, several projects have been completed or are underway. To better quantify virtual care use, we launched a national survey of rheumatologists in collaboration with the Canadian Rheumatology Association (CRA) (publication in progress). 97% of the respondents indicated they had increased their use of virtual care since the pandemic. This is in comparison to a 2015 national rheumatology survey where only 14% of rheumatologists participated in telehealth or e-consultation<sup>1</sup>.

To better understand optimal provision of virtual care in rheumatology a systematic review was completed on the provision of care to patients with rheumatoid arthritis (RA)<sup>2</sup>. This work highlighted limited evidence that virtual care can replace in-person visits and is acceptable to patients in the short term<sup>2</sup>. As measuring disease activity (including joint counts) is central to the provision of rheumatology care, American College of Rheumatology recommendations for the measurement of disease activity and Functional status were recently updated for virtual care and suggest the use of patient joint counts in lieu of physician ones for disease activity measurement in this setting<sup>3</sup>. This promoted a further systematic review to identify the effect of training on patient-reported joint counts<sup>4</sup> and while training may be effective at improving reliability of patient joint counts, further comparison between training methods is warranted.

These systematic reviews helped to inform a national project in collaboration with the CRA and patient partners to develop Best Practice Statements for the Provision of Virtual Care in Rheumatology. Seven best practice statements were developed (publication in progress) and the results were presented at a national webinar and educational tools to support the practices are in development. Locally we are piloting a two-way SMS-text-based platform (WelTel) to support patients with RA.

<sup>1</sup> Watt JA, Lane N, Veroniki AA, Vyas M, Thompson Y, Tricco AC, Straus SE, Goodarzi Z. Diagnostic Accuracy of Virtual Cognitive Assessment: A Systematic Review and Meta-Analysis. <https://doi.org/10.1111/jgs.17190>

<sup>2</sup> Liu L\*, Goodarzi Z, Jones A, Posno R, Straus SE, Watt JA. Factors associated with access to virtual care in older adults: A cross-sectional study. *Age and Ageing*. 2021 Jan 4. In Press. \*trainee publication

<sup>3</sup> Watt JA, Straus SE, Goodarzi Z. Barriers and Facilitators to Virtual Assessment of Older Adults: A Qualitative Interview Study of Patient, Caregiver, and Healthcare Provider Perspectives

<sup>4</sup> Goodarzi Z, Holroyd-Leduc J, Kirkham J, Seitz D, Ismail Z, Wu P, Ewa V, Liu B, Veroniki AA, Tricco AC, Straus SE, Watt JA. Efficacy of Virtual Interventions for Reducing Depressive Symptoms in Community-Dwelling Older Adults: A Systematic Review. <https://cihr-irsc.gc.ca/e/52057.html>

<sup>1</sup> Barber CE, Jewett L, Badley EM, Lacaille D, Cividino A, Ahluwalia V, et al. Stand Up and Be Counted: Measuring and Mapping the Rheumatology Workforce in Canada. *J Rheumatol* 2017;44:248-57.

<sup>2</sup> Han L, Hazlewood GS, Barnabe C, Barber CEH. Systematic Review of Outcomes and Patient Experience with Virtual Care in Rheumatoid Arthritis. *Arthritis Care Res (Hoboken)* 2021.

<sup>3</sup> England BR, Barber CEH, Bergman M, Ranganath VK, Suter LG, Michaud K. Brief Report: Adaptation of American College of Rheumatology Rheumatoid Arthritis Disease Activity and Functional Status Measures for Telehealth Visits. *Arthritis Care Res (Hoboken)* 2020.

<sup>4</sup> Tam K, Hazlewood G, Barber C. Effect of Training on Patient Self-Assessment of Joint Counts in Rheumatoid Arthritis: A Systemic Review. Submitted 2021.



" Approximately 3 million  
Canadians live with  
chronic kidney disease"

# Precision Nephrology

will facilitate patient-orientated molecular, genetic and stem cell research to increase understanding, and improve the diagnosis and treatment of kidney disease.

## WHY WAS THIS PROGRAM DEVELOPED?

Approximately 3 million Canadians are living with chronic kidney disease (CKD), an important risk factor for all-cause and cardiovascular mortality.

Currently, kidney disease is diagnosed using morphological or clinical criteria that are not mechanistic. With few general biomarkers to stratify risk, guide care, and monitor therapy, clinicians and patients are faced with inadequate information needed to make important decisions. As a result, the treatment of patients with kidney disease has lagged other specialties. Due to the poor understanding of kidney disease and lack of targeted therapies, patients are often treated with non-specific drugs, many of which are only partially effective and carry side effects. Many kidney diseases have no treatment options and often patients develop kidney failure and

are kept alive on dialysis. Dialysis is not a treatment, but life support and is associated with many medical complications, poor quality of life and high cost.

The goal of Precision Medicine in Nephrology is to facilitate patient-oriented molecular, genetic and stem cell research to increase the understanding of kidney disease, as well as improve the diagnosis and treatment. When utilized in combination with established clinical parameters, the incorporation of genetic and molecular data into individualized patient care surmounts to a substantial and much needed shift in nephrology practice. By understanding how kidney disease occurs, the right treatment can be given to the right patient at the right time to improve outcomes, minimize drug side effects and prevent kidney failure.

## KEY PLAYERS IN THE PROJECT

Daniel A. Muruve M.D. – Director. Dr. Muruve is a Professor of Medicine in the Department of Medicine at the University of Calgary. He is a member of the Immunology Research Group in the Snyder Institute for Chronic Diseases. Dr. Muruve is a practicing nephrologist in the Calgary region of Alberta Health Services. He is the Section Chief for Nephrology in the Department of Medicine, University of Calgary and Medical Director of the Alberta Kidney Care-South for Alberta Health Services.

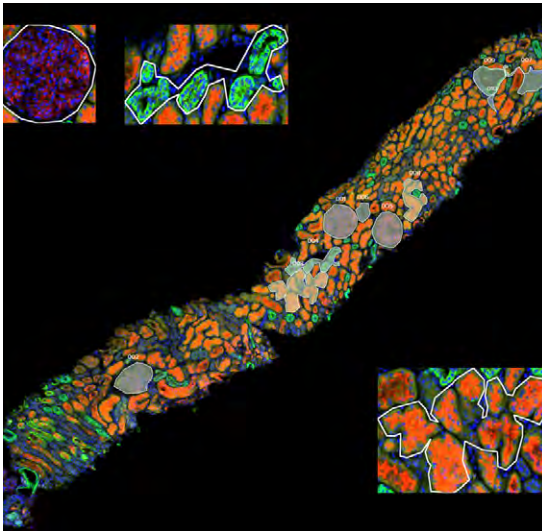
Hallgrimur Benediktsson M.D. – Co-Director. Dr. Benediktsson is a Professor of Pathology and Laboratory Medicine at the University of Calgary, Consultant Pathologist for Alberta Public Laboratories and Alberta Health Services, Calgary Zone. He served as Professor and Head of Pathology and Laboratory Medicine, University of Calgary 1991-2004, and Regional Clinical Department Head, Calgary Health Region 1995-2004, and Assistant Dean, Global Health, Faculty of Medicine, University of Calgary, 2011-15.

He is also the Section Leader for Renal Pathology, Calgary Laboratory Services.

Justin Chun M.D., Ph.D. – Assistant Director. Dr. Chun is a nephrologist and cell biologist who obtained his Ph.D. at the University of Alberta and his M.D. from the University of Calgary. He was recruited to the Calgary Nephrology Program and University of Calgary as an Assistant Professor in 2019, following a research fellowship at the Beth Israel Deaconess Medical center and Harvard University in Boston, MA.

Graciela Andonegui, Ph.D. – Program manager. Dr. Andonegui joined the Precision Medicine in Nephrology team as the program manager in 2019. She was a research scientist in the Department of Critical Care Medicine since 2009. She earned a B.Sc. in Biochemistry and a Ph.D. in Immunology from the University of Buenos Aires, Argentina and completed a clinical biochemistry residency at the Children's Hospital Dr. Pedro de Elizalde in Buenos Aires.





## BIOBANK FOR THE CLASSIFICATION OF KIDNEY DISEASE

**Image:** Molecular interrogation of human kidney tissues: understanding kidney disease using spatial gene expression profiling.

# 15,000+

PATIENT SPECIMENS HOUSED IN THE BIOBANK

The Biobank for the Molecular Classification of Kidney Disease (BMCKD) facilitates the clinical, molecular and genetic evaluation of kidney disease and kidney disease risk factors. This unique facility serves as storage center for clinical data and biospecimens (blood, urine, tissue, stem cells) from patients with kidney disease. The BMCKD services both clinical and research domains to provide advanced renal diagnostic testing to enhance patient care, as well as basic and clinical research for kidney disease.

Through partnerships with clinicians, laboratory services, and researchers, the BMCKD brings together a multidisciplinary team focused on improving the care and outcomes of patients with kidney disease. The BMCKD is also a platform for biomarker and drug discovery in kidney disease. The information and data generated within the BMCKD and its related clinical and research activities will strengthen Canada as a world-leader in the diagnosis, treatment, and prevention of kidney disease.

## TARGET-KD

(The Application of Renal Genomics to Transform and Enhance Kidney Disease)

The TARGET-KD initiative will establish a large, prospective, population-based, cohort of biological samples and clinical data from patients with kidney disease in the Southern Alberta, with the potential to expand into a provincial scope.

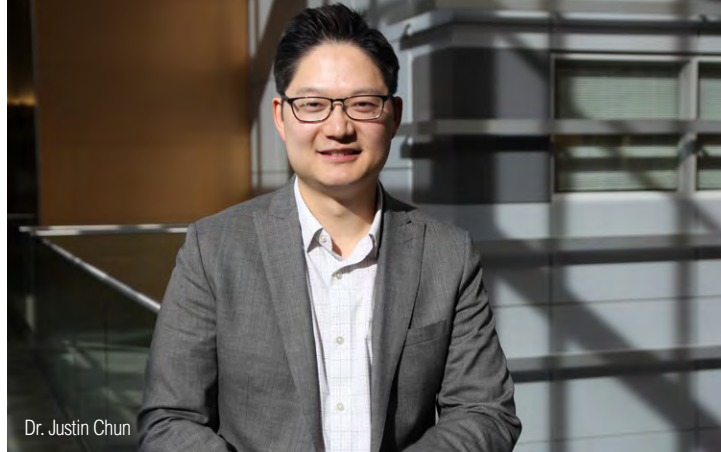
Patient biospecimens and clinical data collected through the TARGET-KD program will be used for kidney disease research and clinical care.

TARGET-KD will be the conduit to introduce molecular and genetic technologies for patients with kidney disease and represents the only program of its kind in Canada and one of the few world-wide.

The BMCKD is housed in a 500 ft<sup>2</sup> laboratory in the Snyder Institute for Chronic Disease, Cumming School of Medicine and the University of Calgary. The laboratory is a joint venture between the University of Calgary and Alberta Public Laboratories. The laboratory consists of state-of-the-art molecular pathology equipment and cold storage facilities for perishable human biospecimens. The BMCKD is equipped to process and store serum/plasma, urine, nucleic acids (DNA, RNA), cellular/tissue proteins and stem cells. The BMCKD can also store frozen and fixed kidney biopsy tissues acquired through clinical care. The biobank is equipped with a robust information technology infrastructure with central servers that house biospecimen inventories, and clinical and pathologic databases for research. Finally, the BMCKD possesses an Aperio high-throughput slide scanner to digitalize renal pathology data for patients in Southern Alberta. Currently, the biobank houses more than 15,000 patient specimens with links to clinical and pathology data held within Alberta Health Services and Alberta Precision Laboratories.

## FUTURE OF PRECISION NEPHROLOGY

We are leaders in Canada and are expanding our network internationally. Given that so little has been done thus far in Nephrology Precision Medicine globally, there is tremendous opportunity to develop new diagnostic and therapeutic interventions based on molecular and genetic disease understanding that will impact patient care and nephrology practice. Furthermore, with the advent of induced pluripotent stem cell technology in the program, we are at the dawn of regenerating kidney tissue from patient cells as a treatment for kidney disease and failure.



Dr. Justin Chun

## SPOTLIGHT: ORGANOID

Imagine a day when we can use a small spoonful of a patient's blood to identify genetic mutations causing disease, to develop patient-tailored therapies, and to grow a new organ to replace an organ that has failed. Induced pluripotent stem cells (iPSC) and recent technological advances are making such imagination a possibility and is a large part of Dr. Chun's research.

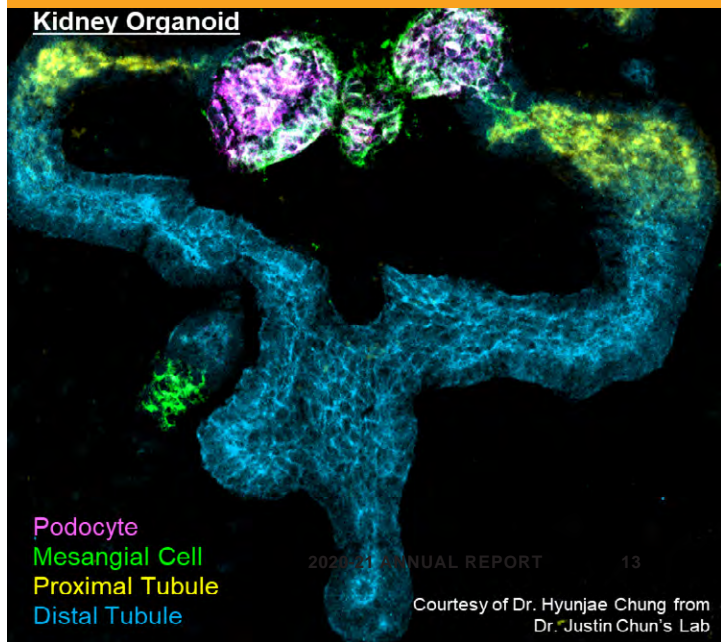
Using iPSCs derived from patients with various kidney diseases, the Precision Medicine in Nephrology Program is generating "mini-kidneys" called kidney organoids. Kidney organoids recapitulate many aspects of the kidney and closely resemble a patient's own kidney tissue. Because stem cells divide indefinitely, we now have a limitless supply of cells that can be used to study various kidney diseases without the risk of running out of human samples. Kidney organoids are providing novel insights into the development of kidney diseases including diabetic kidney disease and glomerular diseases.

In alignment with the Snyder Institute for Chronic Disease's goal to "treat patients who do not respond to current therapies," we are:

1. Understanding the molecular mechanisms contributing to kidney disease using patient-derived kidney organoids.
2. Developing high throughput drug testing platforms to examine how different medications can be individually tailored for the treatment of patients with kidney disease.
3. Working towards creating more mature functional kidney units that can be used to repopulate damaged kidneys

There is much excitement that further maturation of organoids may replace transplant organs from donors in the future.

### Kidney Organoid



Podocyte  
Mesangial Cell  
Proximal Tubule  
Distal Tubule



The hope is that this service will become a long-standing departmental program, filling an important care gap.

# Nocturnist Acute Medical Service

The Department of Medicine Nocturnist Acute Medical Service was formed in fall 2020 in an effort to address the issue of patient care overnight

In the fall of 2020, the Department of Medicine held a virtual Hack-a-Thon in an effort to come up with creative ways to address the issue of patient care coverage overnight. Specifically, increasing patient medical complexity, combined with increasing patient volumes and decreasing resident work hours, had created gaps in needed care coverage. This meant department members were working increasingly longer hours to fill these care gaps. This increase in workload was causing issues with physician wellness and creating the potential for patient safety concerns.

Led by Dr. Rahim Kachra and supported by the UCalgary W21C and DOM Communications team, department members worked in teams to develop solutions to address this critical issue. From the Hack-a-Thon, the Department of Medicine Nocturnist Acute Medical service was formed. The Nocturnist service was initially piloted at all four adult acute care hospitals in Calgary, starting in January 2020. It has

since evolved to provide nocturnal (8pm – 8am) care coverage for DOM inpatient admitting services at the Foothills Medical Centre and the Peter Lougheed Centre. These sites admit the largest number of patients to several departmental sections, including GIM, Respiriology, Hematology, Nephrology and Gastroenterology.

Nocturnists work 12-hour evening shifts (8pm – 8am), providing care for Internal Medicine inpatients and supporting the assessment and admission of patients referred from the emergency department. They also interact with and provide clinical teaching to medical trainees during their shifts. The Nocturnists are FRCPC Internal Medical specialists who are members of the Section of GIM. Dr. Jeff Schaefer is the Medical Director for the Nocturnist service and to date we have recruited 11 new fee-for-service physicians to the service, with a number of existing department members also participating.

The Nocturnists are making important contributions to the clinical mandate of the department. Despite some early growing pains, this new service has been well received by departmental members and trainees, as well as by members from other clinical departments within the Calgary zone. The hope is that this service will become a long-standing departmental program, filling an important care gap.

Recruited **11** New  
Fee-for-Service Physicians  
on to the service





# DOM Physician to Physician Peer Support Team

The program launched in 2018 as a system-level physician wellness resource

The Department of Medicine launched a Physician to Physician Peer Support Team in February 2018. Between our launch and December 2020, we have documented over 140 encounters, likely an underrepresentation of the actual number. This represents on average 4 encounters per month between one of our formally trained DoM Peer Supporters and a department member. With approximately 400 active members within the DoM, this represents 10% of our physicians per year seeking support. The general categories of concerns for reaching out include mental health and burnout, career planning and career track, work relationships, conflicts, unprofessionalism, and personal life.

The Department of Medicine Peer Support Team was initially developed as a pilot initiative in physician wellness. Using the DoM model, Well Doc Alberta, a physician wellness collaborative that focuses on education around and mitigation of occupation distress syndromes for physicians, has now facilitated the development and training of 12 Physician to Physician Peer Support Teams across the province. The DoM Peer Support Team is part of the Well Doc Alberta Peer Support Team Network.

Dr. Jane Lemaire is the Physician Coordinator for the DoM Peer Support Team. You can contact her if you have questions, or for a contact list of Peer Supporters.

140 

**Encounters between Feb 2018 and December 2020**

4 

**Representing on average 4 encounters per month**

10% 

**With 400 active members within DoM this represents 10% of physicians per year seeking support**

12 

**Physician to Physician peer support teams across the province**

# EXECUTIVE SUMMARY - DR. HOLROYD-LEDUC

he Department of Medicine's Mission is "to equitably advance health and wellness for all Albertans by cultivating an inclusive community of diverse physicians who leads through innovation, education, and knowledge implementation."

It is my privilege, as department head, to present the Department of Medicine's 2021 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 2020-21 Fiscal Year. I thank them for their contributions.

These are challenging times for the Department of Medicine, given the ongoing pandemic and the Alberta economy. Despite these challenges, including an increase in clinical workload across all divisions / sections, department members continue to have a positive impact on the health and wellness of those living within the AHS Calgary zone and beyond. We are proud of the fact that, through creative and innovative ways, we continue to provide world-class, innovative patient-centered clinical care. In 2020-21, department members provided exemplary clinical care to over 34,700 inpatients and nearly 45,000 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 subspecialty 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. Of particular note, department members provided exemplary education to colleagues and developed vital clinical decision aides to support the care of patients with COVID. Learner evaluations of our departmental faculty are invariably outstanding, as evidenced by the number of Undergraduate Medical Education (UME) and Postgraduate Medical Education (PGME) teaching awards that our members have received.

Our research, including ongoing novel COVID-19 related research contributions, is having broad impact. The Department's total annual research revenue in 2020-21 was \$21.2 million, of which \$8.4 million was in CIHR revenue (a 22% increase over 2018-19 and 51% increase over 2019-20 in CIHR funds). A number of our junior faculty members have begun to realize 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 full-time academic (GFT) members published a total of 651 publications, representing the highest publications per research equivalent within the Cumming School of Medicine (17.6 publications per GFT RE).

Additionally, many of our departmental members are providing key and effective leadership within the University of Calgary and Alberta Health Services.

Outside of the Department of Medicine, our members currently hold close to 150 leadership roles within Alberta Health Services and the University of Calgary. Among these are the roles of dean and associate deans of the Cumming School of Medicine; vice-president (research) at the University of Calgary; AHS Strategic Clinical Network (SCN) provincial associate chief medical officer, senior medical directors and scientific directors; and the Calgary zone associate zone medical director.

The department has continued its work towards creating an equitable, diverse and inclusive (EDI) environment within medicine. In 2020, we formed of an Anti-Racism Task Force in response to the spotlight the COVID pandemic and the Black Lives Matter movement placed on systemic racism. We also incorporated EDI moments within our medical executive meetings, in an effort to develop and promote inclusive leadership within the department. Under the leadership of our vice-chair for Indigenous Health, the faculty and trainees within the department continue to expand their knowledge and skills in an effort to provide high quality care for Indigenous patients and respect community needs and approaches. The Department Peer Support Team (launched in March 2018) strengthened its wellness mission to provide supportive listeners, guidance, and assistance in accessing external resources. Our vice chair of Physician Wellness and Vitality continued to support the wellness of physicians both within the department and beyond, throughout the pandemic.

Throughout the various waves of the pandemic, department members have demonstrated extensive volunteerism. There has been collaboration across our sections/divisions and with other departments within the Cumming School to a level rarely seen before. This has included providing acute care to patients hospitalized with COVID, caring for patients experiencing long COVID symptoms, and participating as volunteer vaccinators. The pandemic has challenged us all in new and variable ways. Many department members are exhausted and have experienced moral stress. However, as a community of colleagues we have continued to provide excellent care to Albertans and contribute to the academic mandate of the Cumming School of Medicine and the University of Calgary.

As we begin to move past the pandemic, the department will engage in the creation of a new strategic plan. The plan will be built on the CARE (Clinical; Academic; Research; Education) pillars and work to support our faculty in an inclusive manner. Great work continues to be done in the department, as evidenced by the outstanding accomplishments and achievements featured in this report, and I am proud to say that I am the head of the Department of Medicine in Calgary. I hope that you enjoy reading our 2021 Annual Report.

**Jayna Holroyd-Leduc, MD FRCPC**  
Department Head, Department of Medicine





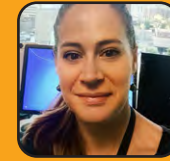
# QUESTIONS FROM DR. HOLROYD-LEDUC FOR



Dr. Jennifer Williams



Dr. Doreen Rabi



Allison Mirotchnik

From your perspective, what was one major accomplishment and what is one opportunity for further growth?

## Dr. Jennifer Williams Deputy Department Head (Clinical)

The accomplishments of our people during challenging times is inspiring. Choosing the biggest success is no easy task. I believe the DOM's biggest success is our people—our resilience, our ability to support one another, our courage to speak up and do the right thing, our ability to be curious, compassionate and listen to all voices even when times are tough or those voices challenge us. In doing so we illustrated that we can shift culture.

Our department quickly and effectively created new ways for delivering care by developing COVID teams. The learnings garnered are far reaching and ongoing.

Our leadership recognized those same strengths to collaborate in an inclusive manner to restructure the MTU with the goals to optimize the educational experience, ensure the delivery of quality care while ensuring the wellness and safety of our MTU preceptors. It is this inclusive and compassionate leadership where we have the greatest opportunity moving forward. We can continue to build on our learnings in 2020-2021 to create a sense of belonging and engagement- a place where psychological safety, compassion, inclusion, and innovation live; a place where diversities of perspective and thought are celebrated and incorporated; a place where our unique individual and collective strengths are acknowledged and appreciated; a place where our people thrive. We can shift culture, together.

## Dr. Doreen Rabi Deputy Department Head (Academic)

Recognizing and celebrating success in times of adversity is critically important. The pandemic has placed unprecedented pressures on our Departmental members, and the commitment of each member to the care of patients, the education of learners and the advancement of clinical and scientific knowledge has been extraordinary. Our members have raised their voices to advocate for new programs and policies that have made tremendous impact on the lives of our community. So perhaps our greatest success as a Department is that we have not lost sight of our incredible potential despite very difficult times, we have found strength in each other and continue to do impactful work at a local, provincial and national level.

As we move forward, we need to continue to be responsive to the needs of a community that continues to be affected by COVID-19, recognizing that we too, have been deeply affected by our experiences of working through the pandemic. However, I am very certain that collaborating and connecting with each other and with the community, will continue to be a source of tremendous strength, inspiration and innovation.

## Allison Mirotchnik Department Manager

April 2020 through March 2021 aligns with the first year of the COVID-19 pandemic in Alberta, and for me, joining the Department near the end of that period I was so impressed with the flexibility and perseverance of the Department's members. Through a very challenging year I arrived in a Department that despite all the obstacles was still pushing forward with work on clinical outcomes, research, wellness, EDI, education, and leadership. Given the context of the last year surviving would be enough to be celebrated, but to be gaining ground in important work is remarkable.

For this year in my role I am really hoping to focus on function and organization for the Department's administrative team. By ensuring that our processes are organized optimally we will become more efficient and accurate in our work. While this is perhaps not the flashiest of growth areas, good organization and functional system design is the ground work to unlocking capacity to be progressive and creative as we move forward.



## Total research revenue

2020-21: \$21,200,000

2019-20: \$21,681,737

2018-19: \$29,991,366

Total research revenue in Department of  
Medicine was \$21.2 Million in 2020-21.

21.2



***“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 2020-21 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

PUBLICATIONS

651 publications

2020-21	↓1.66%
2020-21	651
2019-20	662
2018-19	704
Primary GFT department members produced a total of 651 publications in 2020-21.	

8.5 publications per GFT

2020-21	↑1.2%
2020-21	8.5
2019-20	8.4
2018-19	9.3
Primary GFT department members produced, on average, 8.5 publications each in 2020-21. This is higher than the average publications per GFT member for all comparator groups (CSM, basic science departments, and clinical AMHSP and non-AMHSP departments) in 2020-21.	
CSM: 4.8	
Basic Sciences: 4.3	
Clinical AMHSP: 6.4	
Clinical non-AMHSP: 5.1	

17.6 publications per GFT RE

2020-21	↑15.9%
2020-21	17.6
2019-20	14.8
2018-18	12.6
Primary GFT department members produced 17.6 publications per Research Equivalent (RE) in 2020-21. This is higher than the publications per RE for all comparator groups in 2020-21.	
CSM: 11.4	
Basic Sciences: 7.6	
Clinical AMHSP: 16.3	
Clinical non-AMHSP: 14.9	

# 424

## MEMBERS

2020-21	424
2019-20	387
2018-19	401

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

# 102

## CROSS-APPOINTMENTS

102 Members hold cross-appointments in the Department of Medicine.

***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

### \$574,525 per RE

2020-21 ↓6.99%

2020-21: \$574, 525  
2019-20: \$617,713  
2018-19: \$889,952

The Total Research Revenue per Research Equivalent (RE) in the Department of Medicine was \$574,525 in 2020-21.

### \$8.4 million in CIHR revenue

2020-21 ↑51.2%

2020-21: \$8,400,000  
2019-20: \$5,556,836  
2018-19: \$6,875,405

39.6% of Total Departmental Research Revenue.

### \$4.8 million in clinical research revenue

2020-21 ↓45.1%

2020-21: \$4,800,000  
2019-20: \$8,728,936  
2018-19: \$16,038,451

22.6% of Total Departmental Research Revenue.

### 13.3% of Research Revenue within the CSM

Department of Medicine:  
\$21,200,000

Clinical AMHSP Departments:  
\$62,200,000

CSM: \$159,100,000  
Research Revenue from the Department of Medicine accounted for 34.1% of the revenue for all Clinical AMHSP Departments, and 13.32% of revenue from the entire CSM.

## RESEARCH REVENUE

Clinical departments within the AMHSP

**\$62,200,000**

Department of Medicine

**\$21,200,000**





# 77

## FULL-TIME ACADEMIC (GFT) MEMBERS

2020-21	77
2019-20	78
2018-19	78

The department had 77 primary members with Full-Time Academic (GFT) appointments.

# 213

## AMHSP MEMBERS

2020-21	213
2019-20	230
2018-19	238

213 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.

# 90

## ALBERTA HEALTH SERVICES LEADERSHIP ROLES<sup>1</sup>

15 AHS Strategic Clinical Network (SCN) Leadership Roles  
11 AHS Provincial Leadership Roles (Non-SCN)  
64 AHS Calgary Zone Leadership Roles

Outside of the Department of Medicine, department members held a total of 90 leadership roles (38.9 FTE) within Alberta Health Services in 2020-21, including a SCN Provincial Co-Director, two SCN Senior Medical Directors, an SCN Scientific Director, and the Calgary Zone Medical Director and Associate Zone Medical Director. <sup>1</sup>Leadership data based on a snapshot in time in the 2020-2021 year

# 53

## UNIVERSITY OF CALGARY LEADERSHIP ROLES<sup>1</sup>

6 CSM Leadership Roles in the Office of the Dean  
31 CSM UME/PGME/CME&PD Leadership Roles (outside the Dean's Office)  
11 Leadership Roles in CSM Research Institutes or other Departments  
4 University of Calgary Leadership Roles (outside the CSM)

Outside of the Department of Medicine, department members held a total of 53 Leadership roles (9.9 FTE) within the Cumming School of Medicine and the University of Calgary in 2020-21, including the Vice-President, Research and the Dean, Cumming School of Medicine. <sup>1</sup>Leadership data based on a snapshot in time in the 2020-2021 year

## CLINICAL STATS

# 8.80 days in hospital

2020-21 ↓3.86%

2020-21	8.80
2019-20	9.14
2018-19	9.08

The average hospital length of stay (LOS) in the Department of Medicine was 8.80, a decrease of 3.86% from 2019-20.

# 14,140 inpatients admitted

2020-21 ↓0.1%

2020-21:	14,140
2019-20	14,155
2018-19	13,524

Department Members were the admitting physicians for 14,140 inpatients in the four Calgary Adult Hospitals in 2020-21, an decrease of 0.1% from 2019-20.

# 41,738 CAT outpatient clinic referrals

2020-21 ↓19.2%

2020-21	41,738
2019-20	51,665
2018-19	51,847

Central Access & Triage (CAT) for Endocrinology, Gastroenterology, General Internal Medicine, Hematology, Respiratory Medicine, and Rheumatology received a total of 41,738 outpatient referrals, a decrease of 19.2% from 2019-20

## EDUCATION

# 179 Residents

112 Internal Medicine Residency Program (IMRP) Residents  
67 Subspecialty Program Residents

In 2020-21, there were a total of 179 Residents in the Department's Core and Subspecialty Residency Training Programs, with 112 Residents in our core IMRP Program (PGY1 – PGY4) and 67 Residents in our ten Subspecialty Training Programs (PGY4 – PGY6).

# 34,700 inpatient consults

2020-21 ↑1.06%

2020-21	34,700
2019-20	34,337
2018-19	33,541

Department Members provided a total of 34,700 inpatient consults in Calgary hospitals in 2020-21, an increase of 1.06% from 2019-20.

# 16,611 inpatients attended

2020-21 ↑3.47%

2020-21:	16,611
2019-20:	16,055
2018-19:	15,300

Department Members were the attending physicians for 16,611 inpatients in the four Calgary Adult Hospitals in 2020-21, an increase of 3.47% from 2019-20.

# 2,414 Seniors Health outpatient clinic referrals

2020-21	2,414
2019-20	2,712

Geriatric Medicine received a total of 2,414 outpatient referrals from Seniors Health One-line in 2020-21

# DERMATOLOGY

Dermatology consists of 7 full-time AMHSP members and 25 community-based dermatologists who provide 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.

## CLINICAL

A highlight of the 2020-2021 fiscal year was the rapid adoption of virtual platforms to deliver patient care during the COVID-19 pandemic. Whether caring for patients on the wards or in the outpatient setting, dermatologists continued to provide Albertans' outstanding care. This year also saw expansion of Richmond Road Diagnostic and Treatment Centre (RRDTC) Dermatologic Surgery Service and the creation of a multi-disciplinary vulvar health clinic at Beacon Dermatology. The Division of Dermatology's academic site, located at RRDTC, continued to serve as a tertiary referral center for complex medical and surgical dermatology patients. Specialized clinics provided a multi-disciplinary approach to care for patients with immunobullous disease, connective tissue disease, contact dermatitis, solid organ transplants, wounds, pediatric dermatology, high-risk pigmented lesions, non-melanoma and melanoma skin cancers, and cutaneous lymphomas.

**Mission: to provide exemplary care for patients with skin disease 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 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. Several other faculty members hold important administrative positions: Dr. Laurie Parsons (Medical Director of the Sheldon Chumir Wound Clinic), Dr. Habib Kurwa (Director, Dermatologic Surgery), Dr. Michele Ramien (Director, Pediatric Dermatology), Dr. Richard Haber (Chair, Evaluations Committee and TUCFA Department of Medicine representative), and Dr. Jori Hardin (Chair, Competence by Design and Mentorship/Wellness).

## RESEARCH

The section of Dermatology demonstrated continued success in both clinical and basic science research. A highly successful clinical trials program, the largest in Western Canada, operates out of community and academic settings. Clinical trials are conducted at the RRDTC, Beacon Dermatology, Skin Health & Wellness Centre, Calgary Dermatology, and Northwest Dermatology and Laser Centre. During this reporting period, the University of Calgary dermatologists participated in a \$1.2 million CIHR Network Catalyst Grant entitled: "Skin Investigation Network of Canada (SKIN Canada)." The Section also benefited from funding through the Canadian Dermatology Foundation, the Susanne V. Gibson Research Fund, and industry partners. Section members published over 70 peer-reviewed manuscripts. A Virtual Skin Research Day was held on March 4, 2021 and facilitated knowledge translation between basic scientists and clinicians. A broad range of research topics were covered, including inflammatory skin disease (i.e., atopic dermatitis, psoriasis), cutaneous microbiome, skin cancer, wound healing, alopecia, and host-parasite interactions.



**DR. REGINE MYDLARSKI**  
**Division Head**

Dr. Régine Mydlarski is Section Chief and Associate Professor of the Division of Dermatology. 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 and is recognized internationally for her work on autoimmune blistering disorders and has expertise in immunodermatology, transplant dermatology, and the skin microbiome. Dr. Mydlarski currently holds funding from the Canadian Institutes of Health Research, the Canadian Dermatology Foundation, and industry partners.

**15** Subspecialty  
Training  
Program  
Residents.

**70** Peer  
reviewed  
Manuscripts.



## EDUCATION

Led by Dr. Lynne Robertson, our Dermatology Residency Program is recognized nationally for its quality education, rigorous assessments, and cordial learning environment. This 5-year program consistently attracts the top 5% of candidates and currently trains 15 residents. During the COVID-19 pandemic, the program rapidly launched virtual alternatives to traditional teaching approaches. At the undergraduate level, Dr. Laurie Parsons and Dr. Jori Hardin co-chair the highly rated Course 2 (Musculoskeletal and Skin). They redesigned the UME curriculum to promote awareness and excellence for skin of color in dermatology. At a national level, Dr. Régine Mydlarski co-chairs the RCPSC Competence by Design (CBD) workshops for Dermatology. Locally, Dr. Hardin is the Chair of CBD for Dermatology at the University of Calgary and is preparing our group for the upcoming CBD launch. Education awards were given to Dr. Jori Hardin (Canadian Dermatology Association - Resident and Fellows Society Clinical Teaching Award), Dr. Justin Chia (New Teacher of the Year Award from the Continuing Medical Education and Professional Development Office), and Dr. Michele Ramien (PARA Clinical Teaching Award).

## KEY SUCCESSES

The COVID-19 pandemic served as a stimulus for the rapid expansion of virtual Dermatology consultation. Virtual platforms maximized patient care delivery, minimized COVID-19 exposure risks to healthcare workers and patients, and avoided overcrowding of patient care facilities during the pandemic. Virtual consultations proved most helpful in diagnosing and following common skin disorders, such as acne, rosacea, psoriasis, and eczema. The section of Dermatology rapidly adopted virtual platforms to support educational requirements at the undergraduate, graduate, and post-graduate levels. Moreover, Section members actively participated in CME forums.

Lastly, the section expanded the Dermatologic Surgery Program, the Calgary Cutaneous Lymphoma Program, and supported several new multi-disciplinary clinics. These initiatives have resulted in timely care and reduced wait times for Albertans.

COVID-19 Served as a stimulus for the rapid expansion of virtual Dermatology consultation - maximizing patient care, minimizing COVID risks and avoiding overcrowding during the pandemic.

## KEY CHALLENGES

The COVID-19 pandemic severely impacted the division, resulting in the rapid adoption of virtual care platforms. Providers were limited in their ability to promptly and accurately manage disease without access to in-person tools and patients had decreased access to office procedures. Virtual care consultations also disadvantaged specific patient populations (those with limited access) and patients required increased technical support to navigate virtual platforms. The lack of in-person care also resulted in diagnostic uncertainties and therapeutic delays. The pandemic further impacted resident learning by reducing ambulatory clinic experiences and group learning activities such as rounds and simulation sessions. As a result, the Dermatology residency program rapidly implemented virtual teaching resources to support resident education.

## UNIVERSITY OF CALGARY DERMATOLOGIC SURGERY

**PROGRAM** aims to achieve integrated care for patients diagnosed with melanoma and keratinocyte carcinomas. A multidisciplinary team (MDT) of professionals works together to diagnose and treat the various forms of skin cancer. Community practitioners refer patients with a histologically-confirmed diagnosis of skin cancer. Specialized clinics at RRDTTC assess and treat patients with melanoma, high-risk pigmented lesions, and keratinocyte carcinomas. Procedural services include photodynamic therapy, pre-determined margin excisions, and Mohs' micrographic surgery. With the recruitment of Dr. Ilya Shoimer, the Dermatologic Surgery Service has recently expanded, resulting in reduced regional wait times for skin cancer surgeries. Members of the skin cancer team also conduct basic science and clinical research, including cutting-edge clinical trials. The Section of Dermatology will continue to work toward integrating the care of our high-risk skin cancer patients into a single center to ensure the provision of a comprehensive, multidisciplinary patient care approach.

The goals of our program are to:

(1) provide timely access to exemplary care; (2) promote education and awareness of skin cancer; (3) conduct longitudinal research in order to assess patient and system outcomes; (4) develop specialized research programs that align with our University's strategic priorities; (5) train the next generation of health care professionals through cutaneous oncology and Mohs' fellowships.

## CALGARY CUTANEOUS LYMPHOMA PROGRAM

Cutaneous Lymphoma (CL) is a rare form of non-Hodgkin lymphoma affecting the skin. There are several subtypes with a variety of presentations ranging from indolent and chronic to severe and life-threatening. Accurate diagnosis and management of patients with CL demands the combined expertise of highly specialized dermatologists, hematologists, pathologists and radiation oncologists. The Calgary Cutaneous Lymphoma Program (CCLP) was created to enhance collaboration between these subspecialists and to streamline the patient care experience.

In September 2019, the CCLP was created as a tertiary referral centre for cases identified within primary care, general dermatology and hematology. The program now provides comprehensive and inclusive care to over 200 CL patients. It is housed at RRDTTC and is co-directed by Dr. Lesley Street (Hematology) and Dr. Jori Hardin (Dermatology). All patients are evaluated by both subspecialists at initial presentation. At each visit, patients complete a validated quality of life questionnaire, and a comprehensive cutaneous examination is conducted. The findings are documented using a standardized tool and supplemented by clinical photographs. These detailed assessments facilitate future quality research. The CCLP program is also attended by dermatology and hematology residents weekly.

The CCLP members participate in a number of international CL organizations and are enhancing the profile of the CCLP, both nationally and internationally. They meet biweekly with colleagues in Edmonton at provincial tumour rounds. Moreover, members were recently awarded a grant for an investigator-initiated trial (\$123 000) for a provincial study of cemiplimab, a PD1 inhibitor in mycosis fungoides.

**49** Applications from Prospective Sub-specialty Training Program Residents

## UNIVERSITY OF CALGARY CONTACT DERMATITIS CLINIC

is a tertiary level service provided by the Division of Dermatology, covering Southern Alberta, Saskatchewan, and Manitoba. It is also the only Canadian clinic providing testing for patients with photo-contact dermatitis east of Ontario.

The clinic can do specialized patch testing based on individual hobbies, occupations, and practices. Moreover, it provides testing for the surgical services of neurosurgery, cardiovascular, and orthopaedic surgery for patients with suspected metal allergy before their surgical interventions.

Although the pandemic significantly increased the wait time for patients requiring this service, virtual care benefitted and streamlined the initial patient consultation process. This has reduced the time patients spend in the clinic while maintaining a high level of teaching for the residency program. To date, patient satisfaction with this altered service delivery model has been positive, with most patients preferring the addition of appropriate virtual care.

# ENDOCRINOLOGY & METABOLISM

Endocrinology and Metabolism consists of 28 physicians that specialize in hormone action and metabolism. Our Division is primarily located at the Richmond Road Diagnostic and Treatment Center (RRDTC) but we provide care to patients with endocrine disease at all four teaching hospitals and at the Tom Baker Cancer Centre.

## CLINICAL

The Division of Endocrinology is increasingly recognized as a national leader in the care of several endocrine conditions including Endocrine Hypertension, Diabetes, Thyroid Cancer and Osteoporosis. Our members have conducted groundbreaking work to identify new methods of diagnosis, developed new clinical pathways and order sets that have significantly improved access to care and important clinical outcomes. Several members have authored national clinical practice guidelines in their fields.

Locally, the Division contributes to outstanding trans- and interdisciplinary care in Diabetes, Osteoporosis, Endocrine Hypertension, Pituitary Disease, Hereditary Lipid Disorders, Thyroid Cancer and Neuroendocrine Tumours. Our Division strives to support care for patients across the continuum, and has been effective at delivering virtual care and supporting care within the medical home via Specialist Link. Endocrinology is the fourth most popular service on Specialist Link having completed 1539 consultations in the last fiscal year.

## ADMINISTRATIVE

Several Division members hold leadership roles within AHS and the University of Calgary, informing policy and decisions that impact medical education, research and clinical care. Dr. Doreen Rabi is the Deputy Department Head (academic) in which she works to promote academic activity and elevate the profile of academic members in the Department. Dr. Greg Kline and Dr. Julie McKeen are the Medical Directors of the Dave Hanley Osteoporosis Centre and the Calgary Diabetes Center respectively. In these roles, they have developed several innovative care programs that place patients at the center of their care experience and informed provincial policy that increase access to medically necessary therapies. Dr. Karmon Helmle has played a critical role in the Connect Care leadership team as a physician builder and Medical Area Council Committee member. Her work on the development of inpatient diabetes care order sets has received national attention and the work of her team (including Dr. McKeen) has been implemented in several Epic systems throughout Canada. Dr. Sonia Butalia was appointed Scientific Director of the Diabetes, Obesity and Nutrition Strategic Clinical Network and in this role, she facilitates high-quality research locally and supports knowledge translation and implementation within AHS. Dr. Shelly Bhayana, Dr. Karmon Helmle and Dr. Chris Symonds serve as Endocrinology care program site leads at the PLC, SHC and RRDTC. Each physician has been highly effective at optimizing care operations and safe care delivery during the pandemic.

123  
publications



**DR. DOREEN RABI**  
**Division Head**

Dr. Doreen Rabi is a clinician researcher with a particular interest in patient-partnered care. She is clinically focused on the care of people living with complex Diabetes and Diabetes in pregnancy. Dr. Rabi has served as the Division Head for the past 2 years and is enormously proud of the achievements of the diverse and talented Section of Endocrinology.

Endocrinology is the 4th most popular service on Specialist Link having completed 1539 consultations in the last fiscal year.

## RESEARCH

The Division of Endocrinology at the University of Calgary has phenomenal momentum in research. The Division has several researchers that are thriving in early, mid and senior career stages.

In the 2020-2021 year, Division members published 123 papers and held \$4,769,305 in peer-reviewed funding. Dr. David Campbell, an early career researcher in Diabetes care in the context of social vulnerability was awarded the Petro Canada Young Innovator Award.

**\$4,769,305**  
of peer-reviewed research project grant funding disbursed to Endocrinology & Metabolism members in 2020-21



## EDUCATION

The Division of Endocrinology has a long history of excellence in medical education at all levels. Dr. Hanan Bassyouni is the UME Course 4 Chair and was recognized as a “Pandemic Hero” for her extraordinary efforts to support medical education and the student experience following the shift to online learning. She, along with several other Division members have been distinguished with Gold Star awards in UME education. Dr. Vicky Parkins leads our very successful (and popular) Specialty Training program in Endocrinology which currently has 6 fellows at different stages of training. Training at all levels has undergone a significant redesign due to the pandemic to be optimally responsive to learner needs.

Recognizing the high rates of student burnout in the UME program at the University of Calgary, Dr. Hanan Bassyouni and the Course 4 leadership team have taken steps to normalize open discussions about mental health among medical professionals (including faculty and students). They have taken the initiative to speak freely about mental health during the Endocrinology/ Nephrology course. For the past three years, there are several wellness-focused activities and supports offered during Course 4 including regular wellness office hours and wellness Bingo. We also openly share our own vulnerabilities, trying to normalize the fact that we all do/will make mistakes. We also host an annual Julian Sacher Wellness evening event to openly speak about suicide, supports available to students, and the importance of eliminating mental health stigma so students and faculty can get the care they need.

## KEY CHALLENGES

As with all DOM members, COVID-19 was highly disruptive to work in every pillar. As a Division, we were very resilient and adapted to the provision of virtual care, and we demonstrated success in education and research despite the challenges working remotely presented.

# 6

Subspecialty  
Training  
Program  
Residents.

## KEY SUCCESSES

The Division of Endocrinology Wellness Committee (Dr. Hinz, Dr. Bhayana, Dr. Saad and Dr. Mahajan) continued to be a vital support to all members of the Division. Despite the several challenges of providing care, educating or conducting research in the pandemic, the Wellness Committee worked continuously to build community and ensure a strong sense of belonging that buoyed us all during a very challenging time. The importance of this support to optimizing the professional experience and performance of our group cannot be overstated. Dr. Mahajan was distinguished with the Dr. Marnie Hinton Award for Resident Wellness for her outstanding work.

Our researchers had an outstanding year with respect to publications and funding, an extraordinary achievement given the unprecedented challenges imposed by COVID-19. Several Division Members, including Dr. Greg Kline, Dr. Julie McKeen, Dr. Sonia Butalia, Dr. Lois Donovan, Dr. Jennifer Yamamoto and Dr. Shelly Bhayana demonstrated remarkable skills in advocacy and policy development (at local, provincial and national levels). Their efforts had direct, positive and significant impacts on the health of their patients and colleagues.

## ENDOCRINOLOGY COMMUNITY OUTREACH

For the last decade, Dr. Hanan Bassyouni has been providing outreach services to vulnerable populations served at the Alex Community Health Clinic, the Alex Seniors Clinic, the Alex Youth and Addictions and Alex Bus Mobile Clinics. This entails on-site endocrinology consultations and follow-ups every 2-3 months to serve the needs of patients who otherwise would not have access to care due to their experiences of homelessness and marginalization. Care provided to patients is augmented by a team of a registered diabetes educator (Maureen Evans) and dietitians who also provide onsite counselling to patients living with chronic endocrine disorders. This model is unique in Calgary and provides

## UNIVERSITY OF CALGARY ADRENAL RESEARCH GROUP/ UCARG

Dr. Leung, Dr. Kline, Dr. Campbell and Dr. Venos from the division have become a well-known resource for adrenal hypertension cases across Western Canada. The group includes members from clinical chemistry, endocrine surgery, endocrine pathology, medical genetics and in collaboration with interventional radiology, the Calgary adrenal vein sampling program has become one of the largest and best-known in Canada. The UCARG group recently produced and published results from a provincial pheochromocytoma registry and multiple related studies that have clarified and streamlined biochemical approaches to pheochromocytoma diagnosis. In addition, UCARG continues to publish studies in primary aldosteronism that have changed the diagnostic paradigms, such as showing a high rate of curable aldosteronism in CT-negative patients and a recent discovery of a means to diagnose unsuspected cortisol hypersecretion by aldosteronomas. An ongoing prospective CIHR-funded trial in primary aldosteronism diagnosis aims to simplify the diagnostic process and thus improve access to diagnosis for future affected patients.

## ANAPLASTIC THYROID CANCER (ATC) CARE TEAM (ACT)

ATC is an aggressive form of thyroid cancer, associated with a median survival of 5 months. ATC is rare, leading many patients to be misdiagnosed, and receive late treatment, which leads to poorer outcomes. Therefore, development of a highly specialized health care team and a rapid clinical care pathway is of utmost importance in improving ATC outcomes in Alberta.

In January 2020, Dr. Sana Ghaznavi and Dr. Chris Symonds created the University of Calgary ATC Care Team (ACT), which includes endocrinologists, medical oncologists, radiation oncologists, surgeons, pathologists, and palliative care specialists, all with interest and expertise in this rare disease. Since its inception, ACT has implemented an ATC clinical coordinator (Debbie Lamb, RN), rapid pathology review and mutational analysis, streamlined diagnostic testing, and coordinated care visits with multiple care providers who make decisions in an interdisciplinary fashion. In line with other centres of excellence for ATC management, ACT aims to reduce the time between diagnosis and active treatment from > 30 days to 7 days, improve disease-specific survival, and improve the experience of patients and families as they navigate this challenging diagnosis.

In line with other centres of excellence for ATC management, ACT aims to reduce the time between diagnosis and active treatment from > 30 days to 7 days, improve disease-specific survival, and improve the experience of patients and families

# GASTROENTEROLOGY & HEPATOLOGY

The Calgary Division of Gastroenterology & Hepatology integrates our innovative research-intensive medical school with four world-class hospitals to offer excellence in patient care, education, and continuous quality improvement. We are the national leader of innovative patient care model development and implementation, in addition to leading the world in research and providing personalized treatment for patients with gastrointestinal and liver disease.

## CLINICAL

Clinical care in digestive health, like many other outpatient and hospital-based services, was profoundly affected by the COVID-19 pandemic. Yet, with great challenge comes insight and a stimulus towards innovation. The Division of Gastroenterology and Hepatology recognized the immense need to continue to provide longitudinal care, and thus dramatically pivoted towards virtual care, through both phone and video platforms. The predominant delivery method continues to be telephone, with preferred ongoing follow-up for stable patients virtually, in addition to urgent new consults who could be prioritized for further appropriate investigations, including endoscopy. Secondly, in an attempt to reduce emergency department visits and hospitalizations, a centralized IBD ‘flare clinic’ model was created in March 2020 to serve the entire zone, covering symptomatic and established patients from all 4 acute care sites. Using a multidisciplinary team at the FMC, patients were expedited for in-clinic endoscopy (flexible sigmoidoscopy), intestinal ultrasound, and expedited additional investigations as needed.

## KEY SUCCESSES

The pandemic highlighted the utility and effectiveness of CAT, enabling rapid shifts in allocation of both resources and clinical attention, based on ability to adjust and respond to the pandemic in a systematic and data-driven manner. Learnings from the pandemic such as the effectiveness of virtual clinical service informs future innovations and clinical strategies, to continue to improve quality and access to clinical care. The second significant highlight for the Division was the community of support, solidarity and alliance felt throughout the our group, in the face of innumerable challenges for all members during this unique year.

The Division exhibited a humanity and compassion for Albertans and each other that will continue to connect us for years to come. We are proud of our community and grateful for each other’s immense contribution.

## EDUCATION

Dr. Sylvain Coderre holds the position of Chair of the Student Academic Review Committee, UME, as well as the subcommittee on the curriculum for UME’s RME (Re-imagining medical education) initiative. Dr. Coderre is also the Director of Teacher Development for the Office of Faculty Development and Performance (OFDP).

Dr. Remo Panaccione is the Assistant Dean, MD Admission undergraduate medical education, University of Calgary. Dr. Edwin Cheng is Master Teacher and Course 1 Director and then Dr. Melanie Stapleton holds the position of Gastroenterology Training Program Director.

Dr. Kelly Burak is the Assistant Dean, Continuing Medical Education (CME). Dr. Burak lead his team to provide the ‘COVID Corner’ – a remarkable contribution during this difficult year, providing 44 hours of accredited CME during the COVID-19 pandemic, including 208 speakers/panelists/moderators, with 13,510 participants. Dr. Burak also holds the Medical Director position for the Physician Learning Program.



**DR. MARK SWAIN**  
**Division Head**

Dr. Mark Swain is a Professor of Medicine and currently holds the Cal Wenzel Family Foundation Chair in Hepatology. He is a clinician-scientist with a basic science research interest, focused on deciphering how inflammatory liver diseases cause symptoms such as fatigue. His clinical interests involve quality improvement, waitlist reduction and patient access strategies and clinical trials in gastrointestinal and liver disease.

## ADMINISTRATIVE

There were numerous administrative contributions for the Division this year which include Dr. Jennifer William appointed the AHS South Sector representative, Wellness and Diversity, in addition to the Clinical Deputy Department Head, Department of Medicine. Dr. Kelly Burak as the Associate Dean CME and the Medical Director of the Physician Learning Program. Dr. Johnathan Meddings as Dean of Cumming School of Medicine. Dr. Stephen Congly is the President of the FMC, Calgary Medical Staff Association. Dr. Laura Stinton takes on the Site Lead for RGH position from Dr. Jennifer Williams. Dr. Kerri Novak continues as the Zone Medical Administrative Committee Chair for AHS, in addition to being a board member of the Foothills Primary Care Network (AHS member). Dr. Steven Heitman as Medical Director of the Forzani McPhail Colon Cancer Screening Center. Dr Remo Panaccione is a member of the Association of Faculties of Medicine of Canada (AFMC) Admissions Committee as well as Associate Dean, Admissions at the University of Calgary. Dr. Maitreyi Raman is the Director of the Clinical Investigator Program (CIP). Dr. Matthew Mazurek and Dr. Paul Bellettruti hold the Medical Leads roles of Central Access and Triage. Dr. Gilaad Kaplan was the Chair of Crohn’s Colitis Canada Scientific Advisory Board and finally Dr. Steve Heitman has taken on the role of the Scientific Director for the Digestive Health Strategic Clinical Network since fall 2020.



## RESEARCH

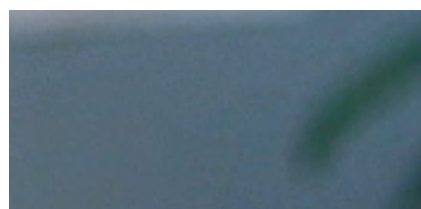
- Dr. Kerri Novak (Principle Investigator) and Dr. Christopher Ma (Co-PI) achieved a \$3.5 million award (over 3 years) through the Helmsley Trust for the development of a reliable and valid intestinal ultrasound activity index for Chron's Disease.
- Dr. Kaplan also secured operating grants through the Helmsley Trust and CIHR in the amount of \$4 million as the nominated Co-Principal Applicant to fund his internationally renowned program on the global epidemiology of IBD and the impact of COVID-19 on the IBD Community. Dr. Kaplan is also on the steering committee of Surveillance Epidemiology of Coronavirus Under Research Exclusion (SECURE-IBD). Dr. Kaplan and Panaccione are both members of the International Organization of the study of IBD (IOIBD) which has published several guidelines on the management of IBD in the COVID-19 era.
- Dr. Remo Panaccione was named the Crohn's Colitis Canada endowed the University of Calgary Chair in addition to Physician of the Year. Dr. Panaccione was also named 2020-21 Clarivate Research Scholar (Recognizing top .1% of researchers in the world - only 8 UoC across all faculties).
- Dr. Mark Swain and Dr. Aziz Shaheen were awarded PRIHS 6 (\$986k) to address inequities in the current specialist referral-based HCV core model by shifting HCV testing/treatment into the community.
- Dr. Cathy Lu was awarded an Alberta Innovates award (\$436k) for Proteomic Biomarkers and Intestinal Ultrasound in Crohn's disease; in addition, Dr. Lu (PI) also received a European Crohn's Colitis Organization joint International Bowel Ultrasound award (10k euros) to develop consensus regarding complications (stricture, fistulae) definitions for intestinal ultrasound.
- Dr. Nauzer Forbes, as PI, received a CIHR project grant (\$140k) to address Infection Control in ERCP, a randomized controlled trial which was awarded spring 2021. Dr. Maitreyi Raman received Ascend (Alberta Collaboration of Excellence for Nutrition in Digestive Disease) Phase 2 funding renewal (\$450k 2021-2023).
- Dr. Yasmin Nasser received a Weston Family Mechanisms Grant for research examining the mechanisms of chronic pain in IBD as well as a CIHR Project grant examining microbiome neuronal interactions in pathogenesis of chronic pain in IBD. In addition Dr. Nasser was awarded Chron's Colitis Canada Rising Star Award in November 2020.

## KEY CHALLENGES

The single greatest challenge the Division faces is timely access to high quality and optimal care, particularly in the context of the COVID-19 pandemic. Both outpatient screening programming and acute care service endoscopy access was reduced over the past year intermittently, with significant impacts on wait lists and access to important diagnostic testing. Although the Division of GI and Hepatology exhibits one of the largest single point of entry models for referral management in the province (See GI-CAT below) the Rockyview Hospital Group remains completely independent, which limits data collection, and measurement of wait times, access and urgency.

# 49

Applications from  
Prospective  
Subspecialty  
Training Program  
Residents



## INNOVATIONS IN ENDOSCOPY TRAINING DURING COVID-19 PANDEMIC

One of the unforeseen consequences of the COVID-19 pandemic, was the impact on endoscopy training for GI trainees given risks to both the trainees and patients and associated need to minimize exposure. In order to facilitate ongoing skill acquisition and endoscopy training, a comprehensive simulation curriculum was developed in response to these endoscopy training limitations. Dr. Steve Heitman and Dr. Melanie Stapleton built a low fidelity simulator (that is, simulation aiming to mimic real-world endoscopy but is less like real-endoscopy compared to high fidelity) in addition to accessing a high fidelity simulation within the SimLab at the University of Calgary. This facilitates learning and real-world-like navigation of complex procedures including percutaneous endoscopic gastrostomy tube placement. In addition, there was a tissue model for polypectomy training developed and implemented. GI trainees continued to acquire and develop imperative skills for their specialty throughout the pandemic.

## COVID-19 IN IBD

Since the onset of the first wave of the global pandemic in March 2020, Dr. Kaplan has secured roughly \$4 million in operating grants from CIHR and Helmsley Charitable Trust as the nominated or Co-Principal Applicant to fund his internationally renowned program on the global epidemiology of IBD and the impact of COVID-19 on the IBD community. In June 2020, Dr. Kaplan led a team (including co-applicants, Dr. Panaccione, Dr. Ma, Dr. Novak, Dr. Seow, Dr. Lu) that was awarded a CIHR COVID-19 Rapid Research operating grant (\$636,750) to study COVID-19 in IBD. The research team conducted a serosurveillance study to define the prevalence of antibodies to SARS-CoV-2 in IBD patients. Seropositivity for SARS-CoV-2 nucleocapsid antibodies was found in 1% of individuals with IBD living in Calgary. Among individuals with IBD who recovered from COVID-19, nucleocapsid antibodies lasted less than four months, suggesting that non-vaccinated patients with IBD may continue to be susceptible to SARS-CoV-2 several months following infection (in press in Gut). Data from this study is published online: COVID-19 IBD Serology Dashboard (shinyapps.io). The research team is currently studying antibodies to spike protein in patients with IBD following vaccination. The IBD Unit at the University of Calgary has taken a full-circle approach in studying the impact of COVID-19 on the IBD Community: Multidisciplinary collaborations, novel ideas funded by tri-council agencies, innovative research with clinical relevance, knowledge translation to stakeholders with broad reach into the community of interest, and care for individuals in their clinic.

## INNOVATION IN GI CENTRAL ACCESS AND TRIAGE (GI-CAT)

In the face of endoscopic resource reduction due to the COVID-19 pandemic GI-CAT developed an emergency measures plan, aiming to continue to provide care for those patients with the greatest need and to optimize access to specialist care beyond the pandemic.

**Temporary emergency closure of GI-CAT:** All but the most urgent referrals to GI-CAT during were deferred during the initial pandemic related shutdowns (April-June 2020). The criteria for these urgent referrals were determined by a provincial consensus group.

**Determining appropriateness of DTP referrals:** During this period of emergency closure, existing non-urgent direct-to-procedure wait lists were reviewed. A large portion of these patients received a virtual consultation to determine the need for endoscopic investigation, many of which it was determined did not require endoscopy.

**Pooling of urgent endoscopy resources:** To ensure equitable and timely access to care, for those patients awaiting an urgent endoscopy, a common waitlist was created. Patients were booked off this list by the next available provider.

**Adoption of virtual consults:** The widespread adoption of virtual consults allowed for ongoing clinical care during the pandemic. Thus, an expansion of clinical resources,

where a higher volume of patients were "seen" than would typically be feasible in clinic. A dramatic reduction in clinic wait-lists for urgent priority/referrals resulted. The non-urgent waitlist also saw a significant reduction. All reductions in waitlists were maintained throughout and after the emergency closure of GI-CAT. Wait times have decreased substantially and are all within acceptable target times.

**Improving referral quality:** GI-CAT has had success in several quality of referral improvement initiatives, including adoption of Quality Referral Evolution (QuRE) guidelines, communicating mandatory investigations, implementation of Enhanced Primary Care Pathways, and ongoing physician-to-physician advice via the Specialist Link service. The quality of referrals with indications of dysphagia and rectal bleeding were identified as problematic. These patients are seen in a direct-to-procedure consultation, for timely access to endoscopic assessment. Not all of these patients require endoscopy however. We developed two Nurse Phone Assessment Pathways for patients referred for either dysphagia or rectal bleeding. Nurses were provided with training on how to conduct these phone interviews and navigate the pathways. The goal is to better determine referral urgency.

# GENERAL INTERNAL MEDICINE

General Internists are specialist physicians who provide medical care to patients when it is unclear which organ system is involved or many organ systems are involved. The division cares 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 at the University of Calgary. 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).

# 14

Subspecialty Training  
Program Residents.

## CLINICAL

Many of our members worked collaboratively on the Medical Emergency-Pandemic Operations Command (MEOC)-Committee. This included development of clinical guidelines, simulation training for personal protective equipment and scheduling physicians to cover COVID patients. Most of our section have been front-line workers on the department of medicine COVID teams and have cared for many COVID patients on our teaching and non-teaching units. 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.

services, medical education and other academic areas.

Some examples include and are not limited to:  
Dr. Evan Minty and Dr. Caley Shukalek as Medical Informatics Leads. Dr. Michelle Grinmann as Director of Seniors, Palliative and Community Care. Senior Medical Directors of Medicine SCN Dr. Anna Purdy and SCN Diabetes, Obesity and Nutrition Dr. Peter Sargious.

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

## ADMINISTRATIVE

Many members in our section hold administrative positions within Calgary Zone, Cumming School of Medicine, University of Calgary and at the 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

## RESEARCH

There are currently 10 GFT researchers in the section of general internal medicine. \$1.876 million were awarded to principal and co-principal investigators in our section. There were 106 publications in 2020/2021, 17 of which were first authored papers and 18 were last authored papers. Topics of research included COVID-19 (Obstetrical Internal 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, equity, diversity and inclusion research.

# 106

publications  
in 2020/2021

**\$1.876 Million**  
awarded to principal  
and co-principal  
investigators in the  
GIM Division.



## EDUCATION

The involvement of general internists in medical education includes 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 positions 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.

## CHALLENGES

The major clinical challenge in 2020 and 2021 is the increased demand for our clinical services. We have increased recruitment to meet this demand but with the aging population and the rising prevalence of chronic disease in the community, demand for our services has been steadily increasing.

We have seen an average of 10% increase in inpatient census between the 4 sites (227 daily average census in 2020 has increased up to 251 daily average census in 2021). This does not include COVID-19 diagnoses when the COVID teams were active and is more likely a reflection of chronic disease prevalence in our aging patient population.

## KEY SUCCESSES

Our key success in 2020 and 2021 was the enormous effort of our section in leading the care of medical patients with COVID-19. Not only were clinical services provided around the clock, but there was a substantial amount of innovative research in areas related to COVID-19.

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 process 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.

## INDIVIDUAL LAB UTILIZATION AND FEEDBACK

This project was launched to give individual feedback on lab utilization in comparison with peers in an effort to reduce unnecessary lab testing prevalence in our patient population. Repetitive inpatient laboratory testing contributes to a waste in healthcare. A previously piloted intervention bundle on one medical teaching unit safely resulted in reduced repetitive use of inpatient routine laboratory tests.

The program was implemented across four tertiary care hospitals beginning in January 2021, to assess if utilization of low-value routine testing was reduced in hospitalized medical patients. Throughout the duration of the project, 162,000 patients were included. Pre-intervention and post-intervention groups were similar in age, sex, Charlson comorbidity index, and length of stay.

From the pre-intervention period to the post-intervention period, significantly fewer routine laboratory tests were ordered with associated cost savings of \$1.50 per patient-day or overall cost savings of \$158,000. In conclusion, a combination of education and multi-level social comparison feedback significantly and safely led to cost savings through reduced use of laboratory tests in hospitalized patients.

## PERIOPERATIVE/ PERIPROCEDURAL GLYCEMIC MANAGEMENT

High blood sugar after surgery is associated with worse patient outcomes - including a longer hospital stay, more surgical site infections, and even higher mortality. Previous research on patients in Calgary had identified gaps in the management of blood sugars after surgery.

A pilot project was designed to reduce variation and quality gaps in perioperative glycemic management as well as to evaluate the relationship between postoperative hyperglycemia and postoperative complications. An additional objective was to assess the cost-effectiveness of comprehensive multidisciplinary perioperative glycemic

management.

The solution is to implement a standardized care pathway that aligns current workflow with national guidelines and best practices for perioperative glycemic management, emphasizing role clarity and teamwork. A PRIHS-funded project (led by Dr. Ruzuki) will use robust methods to achieve a greater understanding of the relationship between postoperative hyperglycemia and postoperative complications as well as evaluate the cost-effectiveness of the implementation of perioperative glycemic management. A knowledge translation toolkit will be generated, and the implementation strategy will spread and scale similar pathways in other settings.

Significantly fewer routine tests were ordered with associated cost savings of \$1.50 per patient-day or overall cost savings of \$158,000

## QUALITY IMPROVEMENT / QUALITY ASSURANCE

Several members of our section are involved in quality improvement/quality assurance activities. This includes education at the PGME level and formal committee membership with either the general internal medicine Q-Safe committee, Department of Medicine Quality Assurance Committee (Dr. Anshula Ambasta, Dr. Leanne Reimche, Dr. Tania Pannu, Dr. Simon Taylor) or the individual hospital committees. Dr. Jennifer Ngo is the South Health Campus Quality Site lead.

As part of the optimization of outpatient services, the general internal medicine Q-Safe committee will be participating in an outpatient clinic optimization. This process is in its infancy with data collection the first step to understanding the scope of clinical practice, wait times and clinic appointment optimization.



# GERIATRIC MEDICINE

The 21 members of the Division/ Section of Geriatric Medicine offer innovative specialized clinical services at the four adult hospitals in Calgary, Bridgeland Seniors Health Clinic, Day Hospital at Carewest Glenmore Park, rural clinics surrounding Calgary, and the community to meet the needs of the ageing population of the Calgary zone. We are actively engaged in medical education and clinical research relevant to the population we serve.



**DR. DAVID HOGAN**  
***Interim Division Head***

David took on the Interim Division Head role in March 2021 from Dr. Karen Fruetel who was also Interim Division Head throughout 2020. David joined the University of Calgary in 1990. He held the Brenda Strafford Foundation Chair in Geriatric Medicine for 25-years and is now the Academic Lead of the Brenda Strafford Centre on Aging (O'Brien Institute for Public Health). Dr. Fruetel will return from sabbatical into the role of Department Head in September 2021.

## CLINICAL

As with other Divisions/Sections of the Department, our clinical services and personal commitments were modified to deal with the challenges of the COVID-19 pandemic while concurrently trying to meet traditional demands. This entailed an expansion of clinical services being offered virtually (including MD-MD consultations), which we believe will have a long-lasting impact on how we deliver care. Our rural geriatrics outreach service was particularly impacted. Dr. Schmaltz led us in adapting to the pandemic and improving on the service we offered. A review of our one-line referral system was conducted by Dr. Dempsey with further process refinements made. The Seniors Health Clinic formerly based at the South Health Campus was successfully re-located to our Bridgeland site.

## ADMINISTRATIVE

An important milestone was concluding negotiations with Alberta Health for a geriatric specialized services clinical ARP. Dr. Ewa, Dr. Holroyd-Leduc, Dr. Shankel and Dr. Persaud played important leadership roles in this endeavour.

The search for our Division/Section head was also successfully concluded with Dr. Karen Fruetel returning to this position and that of Medical Director, Specialized Geriatric Services as of September 1, 2021.

Construction of the Bridgeland Riverside Continuing Care Centre, where a number of our ambulatory programs will be relocated, commenced in early 2021.

Divisional members with noteworthy leadership roles included Dr. Silvius as Senior Medical Director, Provincial Seniors Health and Continuing Care; MAID Lead, AHS. Dr. Dempsey holds the Provincial Medical Co-Lead, Fracture Liaison Service, AHS; Vice-Chair, Virtual Health and Co-Chair Connect Care, DoM. And Dr. Kwan is in the role of Medical Director of Home Care, AHS-Calgary Zone. Dr. Holroyd-Leduc is now the Head of the Department of Medicine.

## RESEARCH

Led by Dr. Holroyd-Leduc, members of the Division and colleagues from across campus submitted a CFI application (Rethinking Continuing Care) that was well-received but did not receive funding. A re-submission is planned for the upcoming competition. The Brenda Strafford Centre on Aging of the University underwent a 5-year review. Based on this, strategic planning for the next 5 years is underway. Dr. Goodarzi received peer-reviewed CIHR funding as PI on 3 grants (COPE

LTC, DIRE, Rapid Review and Network Meta-Analysis of Depression Telemedicine Treatments). Dr. McMillan became increasingly involved in the operations of the Canadian Longitudinal Study on Aging (CLSA), which received additional CIHR and CFI funding in 2020-2021. She joined its Operations Committee and playing a leadership role in COVID-19 related studies that utilized the CLSA national infrastructure.

## EDUCATION

Division members continued to make significant contributions to undergraduate, postgraduate clinical, graduate science, and continuing medical education during 2020-2021. Our sub-specialty training program under Dr. Pearce has converted to CBD while our trainees continue to do well in national examinations.

Over the last year while on sabbatical Dr. Fruetel successfully obtained Executive Coach certification and on her return will provide leadership coaching to members of the Department.

Drs. Burbach (Chair, Department of Internal Medicine Residency Program Competence Committee), Fruetel (Vice-Chair, Education), and Hall (interim Co-Program Director, Department of Internal Medicine Residency Program) held important educational leadership roles within the Department of Medicine. Dr. Goodarzi successfully applied for the Leaders in Medicine Program Director position and assumed her duties on July 1, 2021. utilized the CLSA national infrastructure.

**6** Subspecialty Training Program Residents



## KEY SUCCESSES

A major success in the 2020-21 year was the role of the Section of Geriatric Medicine in the response of the Department of Medicine to the COVID-19 pandemic. While all members of the Division contributed, those physicians who volunteered to work on COVID units, as well as those working on the AGU (Dr. Arnold, Dr. Dilprya, Dr. O'Shaughnessy, Dr. Persaud, Dr. Samii, and Dr. Stanton), should be singled out for their contributions. It is also important to recognize that this could only have occurred with the collaboration of our Care of the Elderly colleagues, hospitalists, and AHS-Calgary Zone operational leadership.

Another key success was the conclusion of negotiations with Alberta Health for a specialized geriatric services clinical ARP

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Applications from  
Prospective Subspecialty  
Training Program  
Residents.



## KEY CHALLENGES

With a new Section Head and return to normal operations a priority is re-visiting our 2020-2025 strategic plan to evaluate progress in achieving outcomes and address whether a mid-course correction is needed.

Post-pandemic we anticipate a backlog of demand for ambulatory services, which will increase the need for an appropriate balance between in-person and virtual contacts with the older adults we serve.

Success in negotiating a clinical ARP now means that members of the Division/Section can be reimbursed three different ways (AMHSP, clinical ARP, fee-for-service). This will entail working with the physicians who have or will join the clinical ARP to establish a governance structure as well as developing robust mechanisms to coordinate the services Division/Section members offer while refining approaches to physician resource planning, recruitment, and allocation.

The Geriatric Services  
Clinical ARP will enhance  
our ability to attract  
physicians for current and  
potentially new programs  
that serve the needs of the  
ageing population.

## GRADUATES OF THE RCPSC-ACCREDITED CLINICIAN INVESTIGATOR PROGRAM

The Division/Section of Geriatric Medicine is fortunate to have two graduates of the RCPSC-accredited Clinician Investigator Program of the Cumming School of Medicine – Dr. Zahra Goodarzi and Dr. Jacqueline McMillan. Clinician investigators bring critical knowledge and perspectives to research on disease mechanisms, diagnostic and therapeutic approaches, and health services. During the last year we have seen maturation of their research careers with receipt of external peer-reviewed funding (Dr. Goodarzi), involvement in important national research initiatives (Dr. McMillan), and a growing publication list and other evidence of impact (both). Sustaining their careers will require on-going support from the Division in helping them balance the dual demands of clinical care and research coupled with supporting the development of their leadership skills. supporting older adults and continuing care.

Clinician investigators  
bring critical  
knowledge and  
perspectives to  
research on disease  
mechanisms,  
diagnostic and  
therapeutic  
approaches, and  
health services.

## GERIATRIC SERVICES CLINICAL ARP

Agreement on the Calgary specialized geriatric services clinical ARP was reached with Alberta Health in the first half of 2021. It will reimburse participating geriatricians and care of the elderly physicians for services provided within a number of our programs (Home Care Geriatric Consult Team, Comprehensive Community Care, Carewest Glenmore Day Hospital, Seniors Health Clinics, Rural Geriatric Medicine Outreach Clinics, Geriatric Preoperative Clinic, Acute Geriatric Unit, Seniors Health Outreach Program, Seniors Home Based Primary Care). This took a number of years to come to fruition and represents the efforts of Dr. Holroyd-Leduc, Dr. Freutel, Dr. Ewa, Dr. Persaud and Dr. Shankel (since retired) among others. This will enhance our ability to attract physicians for current and potentially new programs that serve the needs of an ageing population



# HEMATOLOGY & HEMATOLOGICAL MALIGNANCIES

The Section of Hematology consists of 33 physicians based out of one of three acute care sites in Calgary. Our physicians also operate clinics at the Tom Baker Cancer Center, the Richmond Road Diagnostic and Treatment Center (RRDTC) and the Holy Cross Center. 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 recently-launched 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 alternative donor transplants.

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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. This year hematologists answered 1639 calls through Specialist Link, and call volumes have justified the creation of a separate Thrombosis service which started on Specialist Link in June 2021. Work by the Primary Care and Cancer Strategic Clinical Networks has led to the creation of a Lymphoma Diagnosis Pathway which is accessed through the Specialist Link website. In the 2020-21 fiscal year hematologists saw 2286 patients; 1384 for non-malignant indications, and 902 for patients with hematological malignancy. These numbers do not include patients seen in the Thrombosis Clinic. Referrals

to hematology were substantially reduced by the COVID pandemic as patients had difficulty accessing primary care and laboratory services.

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Applications from  
Prospective Subspecialty  
Training Program Residents.



## 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 one Advanced Oncology Fellow in our Lymphoma Fellowship (funded by the Alberta Cancer Foundation). Our two PGY5 trainees will remain in Calgary for additional training. Dr. Robert Puckrin will study Bone Marrow Transplantation (funded

by the Alberta Cancer Foundation) and Dr. Holly Lee will start a fellowship in Plasma Cell Disorders (funded by the Clinical Investigator Program). Dr. Kareem Jamani assumed the role of Course 1 Chair for the incoming medical school class (Class of 2024). Dr. Deirdre Jenkins, a nationally-recognized physician educator, received the Dr. Brenda Hemmelgarn Professionalism Award for her advocacy for learners experiencing mistreatment during medical training and for teaching professionalism across the spectrum of medical education.



## ADMINISTRATIVE

This year a new role was piloted within the section of Hematology, 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 has been enormously helpful in meeting the needs of our program.

## RESEARCH

Research was significantly impacted by the COVID-19 pandemic, decreasing research output. COVID-related research flourished, and members of the Section of Hematology were active with trials of anticoagulation for COVID-related VTE and studies of convalescent plasma for COVID. The Section has 6.5 FTE devoted to research, with strength in multiple myeloma, thrombosis, bone marrow transplantation and clinical trials. There are currently 33 open clinical trials in malignant hematology, including two database studies and five local investigator-initiated studies. Members of the Section of Hematology contributed to 77 unique publications and were first or senior author on 25. The Section of Hematology has research grants totaling \$5.5 million. Two members of the Section of Hematology were recognized for their research this year. Dr. Nizar Bahlis received the Tom Baker Cancer Center Researcher of the Year Award for his long record of research accomplishments in the field of plasma cell malignancies like multiple myeloma. Dr. Leslie Skeith received the University of Calgary Cochrane Distinguished Achievement Award for her research on fetal-maternal health and thrombosis.

**70** Publications  
(25 First  
or Second  
Author)

## THE CHIMERIC ANTIGEN RECEPTOR T-CELL PROGRAM

The Alberta Blood and Marrow Transplant Program recently received funding to deliver Chimeric Antigen Receptor T-cells (CAR T-cells) to patients with large B-cell lymphoma and B-cell acute lymphoblastic leukemia. This funding, provided as a three-year grant from Alberta Health, covers the cost of care delivered at Foothills Hospital and Tom Baker Cancer Center. The program treated eight patients in its first three months of operation. Work on the CAR T-cell program began in 2018 with an overview of the accreditation requirements for such a program. Simultaneous work with Cancer Care Executive Leadership and the leadership of the Tom Baker Cancer Center led to the development of a business case and grant application for the program. This grant was approved in August 2020, at which point CAR T-cell vendors were invited to inspect our program. Education for CAR T-cell physicians and allied health was provided by these vendors and our internal quality management team. This program is an example of clinical and operational leaders working closely together and across sites to bring novel, life-saving treatments to patients in Alberta. To develop this novel program further, the section will be recruiting a clinician scientist in the area of CAR T-Cell research.

Research  
grants totalling  
**\$5.5 Million**

## THE THROMBOSIS PROGRAM

The Thrombosis Program is a successful joint initiative between the Sections of Hematology and General Internal Medicine and includes a Thrombosis Central Access and Triage and a central Thrombosis Clinic at RRTDC, and several satellite thrombosis clinics around the city. The thrombosis group has grown to 13 GIM and hematology members and continues to strengthen collaborations with several specialties across departments. The thrombosis triage office receives an average of 150-200 new consults per month, and the thrombosis group now has its own Specialist Link.

We pride ourselves in being one of the only multidisciplinary CL programs in Canada following a model successfully developed at well-regarded CL Institutes around the world.

## THE CALGARY CUTANEOUS LYMPHOMA CLINIC

Cutaneous Lymphoma (CL) is a rare form of non-Hodgkin lymphoma affecting the skin. There are several subtypes with a variety of presentations ranging from indolent and chronic to severe and life-threatening. Accurate diagnosis and management of patients with CL demands the combined expertise of highly specialized dermatologists, hematologists, pathologists and radiation oncologists. This program was created to enhance collaboration between these subspecialists and to streamline the patient care experience. We pride ourselves in being one of the only multidisciplinary CL programs in Canada following a model successfully developed at well-regarded CL Institutes around the world.

### Program Development

Beginning in September 2019, the CCLP (Calgary CL Program) was created as a tertiary referral centre for cases identified within primary care, general dermatology and hematology. We now provide comprehensive and inclusive care to over 200 patients with CL. It is housed at RRDTCC and is co-directed by Dr. Lesley Street (Hematology) and Dr. Jori Hardin (Dermatology). Our program is rapidly expanding, receiving 1 to 2 new referrals weekly. Patients come from across southern Alberta, BC interior, Saskatchewan, and Manitoba. Our key accomplishments have been to uncover previously undiagnosed cases of CL, and de-escalating unnecessary treatments in several established cases of CL referred to our program.

### Patient Care Experience

We aim for all patients to be evaluated by both subspecialists at initial presentation. Subsequently, early-stage and indolent patients are predominantly managed by Dr. Hardin, whereas those with advanced or more aggressive presentations are co-managed by Dr. Street and Dr. Hardin. At each visit, patients complete

a validated quality of life questionnaire, a complete cutaneous examination is undertaken and then documented using a standardized tool and supplemented by clinical photographs. These detailed assessments enable future quality evaluation and research. The CCLP program is attended by dermatology and hematology residents each week, who gain concentrated educational exposure to these rare and heterogeneous diseases.

### Challenges and Opportunities

Our most immediate challenge is improving access to care for our patients. We are working with our partners in Cancer Control Alberta (CCA) to enhance drug formulary alternatives. Some of the treatment modalities such as extracorporeal photopheresis or total skin electron beam therapy are offered only in urban centers or a few places within Canada. Patients struggle to receive necessary medical care away from their homes or out-of-province due to socioeconomic variables, regulations, and the recent pandemic. Additionally, we have created pathways for our patients to connect with the multidisciplinary team through CCA. We continue to advocate for more services for CL patients within Alberta.

### Collaboration and Research

We are active members at several international CL organizations and are enhancing the profile of the CCLP nationally and internationally. We collaborate closely with our CL colleagues in Edmonton, meeting biweekly over provincial tumour rounds. We were recently awarded an Investigator Initiated Trial grant (\$123,000) for a provincial study of cemiplimab, an immune checkpoint inhibitor, in mycosis fungoides. Numerous research and quality initiatives are underway on a local and provincial level.





# INFECTIOUS DISEASES

Infectious Diseases (ID) provides comprehensive inpatient consultative services at each of Calgary’s four adult hospitals in addition to servicing a very busy home intravenous antibiotic program (HPTP) at each site - a program intended to reduce hospitalizations. In addition to in-hospital services, we provide care in a number of outpatient 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**

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



## RESEARCH

The division was thrilled to recruit Dr. Mark Gillrie, MD, PhD, as an infectious disease clinician-scientist during the 2020-2021 year. Dr. Gillrie has just completed a 2-year post-doctoral fellowship at MIT. Dr. Gillrie’s research interests are very diverse – but a major focus is the vascular biology of infections. Dr. Gillrie has adapted technology for organs-on-a-chip to many systems – and is currently applying these to the study of malaria, SARS-CoV-2 and ventilator acquired pneumonia. Since joining the division, Dr. Gillrie has already secured research funding from CIHR as a co-investigator studying SARS-CoV-2 infection modelling.

## CLINICAL

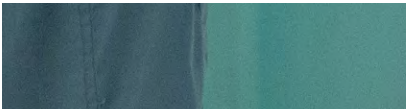
The division of infectious disease expanded our clinical workforce considerably in the 2020-2021 year. We were thrilled to recruit Dr. Joanne Salmon, Dr. LeeAnne Luft and Dr. Jamil Kanji to join our ranks of ID clinicians. Dr. Salmon comes to Calgary leaving a robust practice in Vancouver. Her primary clinical interest area within infectious disease is tuberculosis. Dr. Luft comes to Calgary from Kelowna. Dr. Luft’s clinical interests focus on HIV infections, and infections in marginalized communities. Dr. Kanji has transferred to Calgary from Edmonton. In addition to his infectious disease and infection control roles, Dr. Kanji spends 50% of his time with the Alberta Provincial Laboratory where amongst his many other duties he leads the SARS-CoV-2 serology bench – an area undergoing rapid expansion and change.

## ADMINISTRATIVE

As a result of the rapidly changing nature of the COVID-19 pandemic, the division of infectious diseases adapted to multiple online meeting platforms. In addition to routine quarterly meetings, weekly seminars, and journal clubs, the ID group planned and hosted COVID-19 updates initially weekly and then monthly. Several division members volunteered to be responsible for comprehensive literature surveillance in areas such as treatments, epidemiology, diagnostics, public health, infection control – and would provide feedback to the entire division. This division of resources ensured the entire membership was aware of the latest developments in an efficient manner.

4

Subspecialty Training Program Residents.



## EDUCATION

The Infectious Disease division is particularly proud of its graduating PGY5 Trainees. Dr. Kwado Mponponsuo will be completing sub-specialty training in data analytics and clinical trials at the University of Toronto – working with a highly regarded trialist, Dr. Nick Daneman (supported by the Helios UCMG Post Fellowship Award). Dr. Genevieve Kerkerian will be pursuing additional training via the Addiction Medicine Clinical and Research Fellowship at the University of British Columbia (supported by the Helios UCMG Post Fellowship Award). Both Dr. Mponponsuo and Kerkerian have excelled during their time with the Division, deserving accolades for their work in a diverse range of areas including research, teaching, and service. Furthermore, during the pandemic, they both assisted greatly in public health engagement, outbreak modelling, and clinical studies.



## KEY CHALLENGES

The COVID-19 global pandemic disrupted all aspects of clinical and academic life. It was particularly impactful on the division of infectious diseases. Due to the nature of the disease, many division members rapidly adopted prominent roles required for understanding the epidemiology and pathobiology of the disease, infection transmission potential, and means of preventing and treating the disease – in addition to their routine duties. Our membership rose to this challenge.

Many division members rapidly adopted prominent roles required for understanding the epidemiology and pathobiology of COVID-19.

## TELEPHONE CONSULTS

In addition to a relatively new infectious disease clinical consult phone line linked through ROCA/RAPPID and specialist link – the infectious disease division runs the COVID-19 phone consult line. The line was originally developed in partnership with the division of Respiratory Medicine and General Internal Medicine but has since been staffed by the Infectious Disease division. The COVID-19 consult line enables clinicians to get rapid access about diagnostic dilemmas, investigative and management strategies, and public health advice. The division was able to assume this owing to the generosity of its members who have absorbed this extra volume into their prior list of responsibilities. Consistently through the entire fiscal year, the COVID-19 Phone Consult Line was the busiest service through specialist link fielding an average of 15 consults/day from Calgary-area physicians.

## KEY SUCCESSES

The challenges posed by COVID-19 enabled the membership to adapt and innovate. As such, the year saw many successes for the division. The infection control physicians at each hospital: Dr. John Conly (FMC), Dr. Bayan Missaghi and Dr. Jamil Kanji (PLC), Dr. Joseph Kim (RGH), and Dr. Oscar Larios (SHC) developed evidence-based strategies to prevent, identify and contain infections - and mitigate their effects. Division members participated in multiple COVID-19 related committees including ZEOC, MSEC, site-based emergency commands, and fielded daily media requests and CME events. 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.

## INFECTION PREVENTION AND CONTROL (IPC) GROUP

The Calgary Infection Prevention and Control team has had a tremendous year. After the passing of Dr. Geoff Taylor, Dr. Oscar Larios has taken on the responsibility of serving as Acting Medical Director Lead of Infection Control for the Province of Alberta. Dr. Larios has led the program through an unprecedented time of crisis very effectively.

The division members with leadership roles in IPC; Dr. John Conly (Calgary Zone Lead), Dr. Jamil Kanji, Dr. Joseph Kim, Dr. Oscar Larios and Dr. Bayan Missaghi have had to rapidly respond to the challenges of COVID-19 transmission potential in hospitals. These members, and the allied IPC health staff with whom they have worked – have effectively controlled and mitigated unit-specific outbreaks and the chaos that follows. In addition to their clinical roles, they have led in research as well. The team, led by Dr. Conly is part of a large CIHR-funded international multi-centre study to assess the potential role of N95 masks versus standard surgical masks in the routine care of individuals with COVID-19.

## CYSTIC FIBROSIS CLINICAL RESEARCH

Dr. Ranjani Somayaji received her first faculty appointment in 2019. In the very short time since, she has rapidly become a powerful force in clinical epidemiological research. Dr. Somayaji's research interests remain very diverse (ranging from wound care/healing all the way to chronic respiratory infections) and have allowed her to collaborate with area experts extensively both in Calgary and abroad. In particular, within cystic fibrosis, Dr. Somayaji has excelled.

Dr. Somayaji is one of the six co-lead investigators on a \$1.5 million multi-centre, international study to better understand COVID-19 in individuals with the genetic disease cystic fibrosis- COVID-19 Antibody Responses In Cystic Fibrosis (CAR-CF). Over the course of three years, individuals with cystic fibrosis will undergo serial assessments in which antibody titres will be measured against multiple SARS-CoV-2 antigens to better understand the impact, and evolving immune response generated from natural infections and a range of COVID-19 vaccines in those individuals living with cystic fibrosis chronic lung disease. How these factors correlate with respiratory health, lung function decline and resilience to COVID-19 will be assessed prospectively.

Dr. Somayaji is one of the six co-lead investigators on a \$1.5 million multi-centre, international study to better understand COVID-19 in individuals with the genetic disease cystic fibrosis.





# NEPHROLOGY

The Section of Nephrology provides care to patients with Kidney Disease in the Calgary Zone and supports patient kidney care in the South and Central zones. The division consists of 32 members, is gender-balanced and equally represented by early, mid, and senior career members. We are highly academic with strengths in education, specialized clinical care, basic and clinical research.



**DR. DAN MURUVE**  
**Division Head**

Dr. Dan Muruve is a professor, division head and zone clinical section chief of Nephrology in the Department of Medicine, and a member of the Snyder Institute for Chronic Diseases. Dr. Muruve is a certified kidney specialist and basic scientist with expertise in the biology of kidney disease and the molecular basis of inflammation and the immune system. Dr. Muruve holds a Canada Research Chair in Inflammation, Personalized Medicine, and Kidney Disease.

6

Subspecialty Training  
Program Residents.

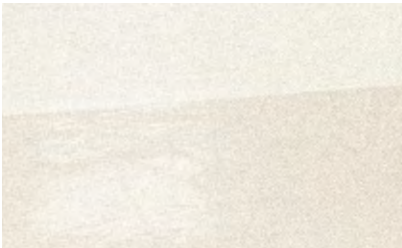
## CLINICAL

The section continues to maintain active inpatient and outpatient clinical services for patients with kidney disease. In addition to general nephrology such as dialysis, inpatient and consult services, the Section also provides specialized care for glomerulonephritis, genetic kidney disease, chronic kidney disease, central access and triage, urgent nephrology and acute kidney injury, and apheresis. The section has also developed leading-edge programs in home dialysis and urgent care for patients with kidney disease. Finally, despite the COVID-19 pandemic, the Renal Transplant Program conducted over 100 life-saving kidney transplants in patients with stage 5 chronic kidney disease.

## ADMINISTRATIVE

Nephrology members have active leadership roles at the University of Calgary, the Strategic Clinical Networks and Alberta Health Services.

"Despite the COVID-19 pandemic, the Renal Transplant Program conducted over 100 life-saving kidney transplants in patients with stage 5 chronic kidney disease."



## RESEARCH

The Section of Nephrology has one of the most productive research groups at the University of Calgary. The section holds many CIHR grants and publishes a large volume of papers every year.

Research is ongoing in the following areas: health services research, patient engagement, patient-oriented research, quality improvement, clinical trials in nephrology, vascular access research, translational physiology of the kidney, sex and gender in kidney disease, clinical epidemiology of kidney disease including acute kidney injury and chronic kidney disease. The nephrology division also has a strong basic science program focused on inflammation in kidney disease, kidney stem cells and regenerative medicine, and precision medicine in nephrology. Finally, the group also participates in a number of industry-sponsored therapeutic trials.

## EDUCATION

The division contributes to education at all levels including UME Renal and Endocrine Course IV and PGME for Internal Medicine. In addition, the section has a Nephrology Fellowship Program. Sub-specialization fellowships in Transplantation, Glomerulonephritis and Dialysis/Vascular Access are also available. Furthermore, members are actively involved in CME for Nephrology, Internal Medicine, primary care and allied health.



## KEY CHALLENGES

COVID-19 was the biggest challenge during the 2020-2021 year. The Section of Nephrology covered a significant amount of COVID service for the DoM through the pandemic. Several members in our section are leaders in Alberta Health Services and the University of Calgary and also played a major role in guiding the DoM and Albertans through the pandemic.

## SOUTHERN ALBERTA KIDNEY TRANSPLANT PROGRAM

In 2020, the Southern Alberta Transplant Program performed 95 transplants in our End-Stage Renal Disease (ESRD) population. For 2021, we have completed 46 transplants to date (January-June). The program has had a consistent and significant volume of activity servicing both Living Donors and ESRD recipients. The program has required significant pivoting during the pandemic, including risk mitigation during COVID outbreaks, coordinating ongoing workups for living donors and recipients and advocating for access to Covid vaccination for our immunosuppressed population.

The program continues to work towards optimizing work-up for potential transplant recipients and is currently engaged in an AHS Rapid Improvement Event to facilitate timely, patient-oriented and collaborative work-up for listing of kidney transplant. There are currently over 400 patients in various phases of transplant work-up. The physician team includes 8 transplant nephrologists and 3 transplant surgeons who meet weekly to discuss transplant cases and program improvement matters.

**Who was involved?** Dr. Jeff Ma, Dr. Lee Anne Tibbles, Dr. Kevin McLaughlin, Dr. Wenjie Wang, Dr. Simardeep Gill, Dr. Ngan Lam, Dr. Fareed Kamar, Dr. Farshad Sepandj, Dr. Serdar Yilmaz, Dr. Mauricio Monroy, Dr. Anastasio Salazar

## KEY SUCCESSES

The section showed outstanding clinical care which has included managing patients with COVID-19 and other pandemic-related issues.

New clinical programs are under development which are: Glomerulonephritis clinic at RRDT, Urgent Care Centre at PLC, Home Dialysis Program at SMC.

Success at Tri-council granting agencies - CIHR. Publications in high-impact journals. Education excellence and ongoing recruitment of outstanding trainees.

## The section of Nephrology leads 2 large CIHR-funded research programs to improve the care of patients with chronic diseases including Chronic Kidney Disease (CKD)

### LEADING RESEARCH TO IMPROVE THE CARE OF PATIENTS WITH CHRONIC DISEASE

Chronic diseases, including cardiovascular disease, diabetes, and chronic kidney disease, result in significant morbidity, mortality, disability, and costs. Effective therapies exist for these conditions; however, gaps in the delivery of patient-centred care are common. New approaches are needed to increase the use of guideline-recommended care, personalized treatment approaches, and improve patient experiences and outcomes. The section of Nephrology leads 2 large CIHR-funded research programs to improve the care of patients with chronic diseases, including chronic kidney disease.

#### The Interdisciplinary Chronic Disease Collaboration (ICDC) Innovative Clinical Trials program

involves a team of researchers, patients, care providers, and decision-makers working together on a series of patient-oriented trials evaluating health innovations and interventions that aim to improve patient care, safety, outcomes, and patient experience for people with chronic disease. It includes a series of cross-cutting research activities

### SOUTH HEALTH CAMPUS KIDNEY STONES CLINIC

The SHC Kidney Stones Clinic was established 5 years ago to help manage patients with chronic, recurrent kidney stone disease. In addition to providing consultative services for referring physicians, the SHC Stones Clinic also provides virtual dietary and lifestyle education classes as part of the enrollment in the clinic. The virtual classes are a joint initiative by the dietitians and nephrologists that allows 5-15 patients per class to receive kidney stone education from anywhere in Alberta where previously they needed to travel to various clinics in the Calgary Zone. Patients are provided their lab results prior to the class, then

use those results to determine their own follow-up plans. Over the last 10 months, 25% of all patients elect to simply follow with their referring MD because they feel the dietary advice is all they need. Therefore, this is reducing physician visits and system costs while potentially reducing wait times for those who want/need to see a consultant in the Stones Clinic. Patients also provide feedback which is incorporated into future presentations to improve education, a process that has been overwhelmingly positive.

**Who was involved?** Dr. David Ward - Director, SHC Kidney Stones Clinic

occur, making risk assessment more complex. We identify the needs of patients with severe CKD, their caregivers and healthcare providers when discussing prognosis and disease management. Research led by the Section of Nephrology will address barriers to patient-centered care by determining how people move across CKD states and the probabilities of being in a state on the CKD trajectory in a given period of time. Studies will identify factors that patients, caregivers, and healthcare providers believe matter when discussing prognosis and severe CKD care planning.

The team's work emphasizes an integrated knowledge translation approach that incorporates patients, clinical care providers, and policy makers through all phases of the research.

**Who was involved?** Leads: Dr. Matt James and Dr. Pietro Ravani. Group members: Dr. Meghan Elliott, Dr. Brenda Hemmelgarn, Dr. Braden Manns, Dr. Paul Ronksley, Dr. Rob Quinn, Dr. Marcello Tonelli





# RESPIRATORY MEDICINE

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



**DR. WARD FLEMONS**  
**Division Head**

Dr. Ward Flemons has been Division Head for five 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 new Precision Health Certificate / Diploma / Masters Program. While Dr. Flemons was away on sabbatical for 6 months starting in January, Dr. Kris Fraser, who is the site lead at the RGH, took over as Division Head during this time.

**CLINICAL**

The Division supported GIM in leading COVID teams during the three COVID waves. Dr. Sachin Pendharkar returned from his sabbatical early to play a key MEOC leadership role during the first phase of COVID. Dr. Kerri Johansson chaired the MEOC Clinical Practice Guidelines Committee. The Division recruited five additional respirologists to PLC site. This included Dr. Kevin Solverson who is also an intensivist with expertise in chronic ventilation. Dr. Solverson will join Dr. Andrea Loewen and they will share responsibility for the chronic ventilation and neuromuscular disease respiratory clinics and the ALS clinic. Dr. Alex Chee returned to join the SHC group after spending the last four years in Boston as an interventional pulmonologist at the Beth Israel Deaconess Medical Center. Dr. Chee assumed the role of SHC site lead for the Division in January. And one other respirologist joined the group at Rockyview General Hospital. The Division started Long-COVID clinics in late 2020 at the RGH (Dr. Mitchell and Dr. Skolnik) – these clinics then expanded after wave 2 to the PLC (Dr. Weatherald, Dr. Lim, Dr. Chen and Dr. Liu) and have been collaborating with our U of A colleagues on tracking longitudinal data on these patients.

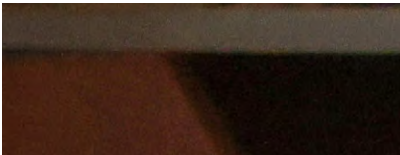
**ADMINISTRATIVE**

The Division continues to strongly support senior administrative positions within the university and AHS. Dr. Richard Leigh is Senior Associate Dean, Faculty Affairs and played a critical role in negotiations with Alberta Health regarding changes in fee codes and the serious ramifications it could have had on UCMG and its members. Dr. Chris Mody continues to provide strong leadership as the Department Head of Microbiology, Immunology and Infectious Disease. Dr. Ward Flemons assumed the role of Department of Medicine site lead at the FMC during the first and second waves of COVID. Dr. Mitesh Thakrar took on the same role for the PLC in addition to serving as the Deputy Medical Director of ALTRA. Dr. Flemons and Dr. Thakrar played key roles in developing and introducing the Nocturnist program to the FMC and PLC sites. Dr. Kris Fraser developed an extremely important policy and procedure document on the use of non-invasive ventilation in Calgary Zone hospitals (non-ICU units) during COVID. This was then used by the Respiratory SCN to guide work on this issue for the province.

**RESEARCH**

The Division has seven GFT members; four of whom have a major research focus. In addition, three other AMHSP major clinical members have more than 20% of protected time for research activities. Division members authored / co-authored 76 unique peer-reviewed publications and over 80 journal publications overall. Three book chapters were written by members and 21 grants that funded independent research were received; 17 of these were from national granting agencies. In total four members received CIHR grants as principal applicants. Several other CIHR grants funded research with collaborators from across Canada.

**76** Unique peer reviewed publications



**9** Subspecialty Training Program Residents

**EDUCATION**

The Division, under the leadership of Program Director John Chan, continues to attract top quality residents to its core two-year fellowship program, and several subspecialty fellows doing advanced training in interventional pulmonary medicine, sleep, and interstitial lung disease. The sleep group was successful in obtaining Royal College certification for an Area of Focused Competence in sleep under the leadership of Dr. Andrea Loewen. The two year core fellowship program had its start of the Royal College's Competency by Design program in respiratory medicine delayed by a year because of the COVID pandemic.

**KEY CHALLENGES**

COVID-19 presented the biggest challenge to the Division in many areas including creating back-up call schedules and division members having to isolate for varied periods of time. Outpatient services were also shut down - clinics, the PFT labs and the Sleep Lab. We consolidated all bronchoscopy services to a single site (FMC). The division implemented more virtual care by phone and zoom. Respiratory Medicine also provided leadership coverage of COVID teams. The division also experienced a lack of coverage for two inpatient services at the PLC. With the start of the Lung transplant / Pulmonary hypertension inpatient service at the PLC the Division struggled to cover that service, the inpatient general respiratory service, the consult service and the Covid teams at the PLC.



## CALGARY TB RESEARCH GROUP

The Calgary TB Clinic under the leadership of its medical director, Dina Fisher plays a key and vital role in Canada and internationally in the fight against TB. In addition to Dr. Fisher, Dr. Rachel Lim and Dr. Leila Barss are working on these important TB studies in Calgary. This group of respirologists are one of four Canadian teams that together received a CIHR Foundations grant exploring important questions about the efficacy of alternate (shorter) TB regimens. The 2R2 study is investigating 2 months, compared with the standard 4 months of high-dose rifampin treatment for latent TB. Treating latent TB is a key strategy worldwide for eliminating TB in the population. Having shorter effective treatment regimens is critically important. Recruitment for the study which started in January 2020 suddenly became challenging as the COVID pandemic started. However, the exemplary local research, clinical, and administrative team persisted and successfully adapted to a virtual recruitment platform. The study is ongoing.

The Calgary group is also a key member of the CAB-V TB (Canada/Australia/Benin/Vietnam) Network. The Canadian sites that in addition to Calgary includes Edmonton, Vancouver, Toronto, and Montreal will be commencing the ASTERoID trial in the fall of 2021, investigating 6 weeks of rifapentine therapy for latent tuberculosis infection treatment compared to standard latent tuberculosis treatment.

The CAB-V Tuberculosis (TB) Network was also one of six successful applications for the TB Trials Consortium (TBTC) 9 year, \$13 million clinical research grant. The TBTC was established by the Centers for Disease Control (CDC) in 1993 and has completed several major TB clinical trials. A recent study demonstrated the efficacy of a four-month daily treatment regime for pulmonary tuberculosis that was non-inferior to standard six month anti-tuberculous therapy. The Calgary TB group were involved in publishing 10 peer-reviewed papers in 2020 on TB, latent TB and non-tuberculous mycobacteria (NTM). Recent tuberculosis publications have focused on quality improvement of LTBI screening processes, qualitative assessment of patient and family experience with household contact tracing and isolation (PhD student Nancy Bedingfield), and incidence and outcome of drug-resistant tuberculosis patients in Alberta. Recent NTM research has focused on clinical and microbiome impact of treatment for non-tuberculosis mycobacterial infections. (Dr. Christina Thornton; Dr. Stephen Field, Dr. Julie Jarand). The group is excited to begin collaboration with Dr. Nargis Khan, recently recruited CRC Tier II Chair in Tuberculosis (University of Calgary Department of Microbiology, Immunology, and Infectious Diseases).

## KEY SUCCESSES

The Division was able to secure the recruitment of Dr. Mithum Kulartne and Dr. Jennifer Corrigan to the PLC site and RGH site respectively. Dr. Kulartne plans to pursue subspecialty training in pulmonary hypertension and Dr. Corrigan will pursue subspecialty training in exercise physiology. This helps to address some substantial workload issues for the Division.

With the recruitment of Dr. Solverson to the PLC site the Division, in collaboration with the Department of Critical Care Medicine, have a workable plan for supporting the adult Chronic Ventilation program for Southern Alberta. Drs. Marcus Povitz (FMC) and Kris Fraser (RGH) have also contributed to supporting the program through the FMC sleep centre along with the centre's nurse practitioner, Riley Epp.

The Division's substantial clinical, administrative and research contributions to the COVID waves in Calgary showed the importance of the Division to the Department of Medicine, AHS - Calgary Zone, and the Cumming School of Medicine

## CALGARY ILD PROGRAM

Interstitial lung diseases (ILD), commonly known as Pulmonary Fibrosis, are a group of over 200 rare disorders characterized by inflammation and/or scarring of the lung. The Division's ILD Clinic is a multidisciplinary program providing clinical care, physician and industry-sponsored clinical trials research, education, support, and advocacy. The program is small in numbers of providers but mighty in impact. Dr. Charlene Fell started the program in 2008. Dr. Kerri Johansson joined the program in 2015 and brings an exceptionally strong research focus. Nurse Clinician Kirk Mathison coordinates the multifaceted care the clinic offers patients in Calgary and Southern Alberta and heads up the Calgary Pulmonary Fibrosis Support Group that meets monthly providing informal seminars to patients and families on topics of interest (such as travelling with oxygen, updates in ILD research). It is the longest-running support group for ILD patients in Canada. The ILD clinic provides timely and accurate diagnosis, comprehensive multidisciplinary care, access to advanced therapeutics, and compassionate end-of-life care for the patients it serves. It created the first formal, regularly scheduled multidisciplinary discussion (MD) case conference service in Canada which is now the gold standard for achieving a clinical diagnosis in ILD. The program is a founding member of the Canadian Registry for Pulmonary Fibrosis

(CARE-PF), which is a multi-centre prospective registry of ILD patients from across Canada. This initiative helps to accelerate the understanding of disease pathogenesis, classification and the evaluation of interventions. The CARE-PF has generated 10 publications to date and momentum is increasing. From a training perspective the program offers one or two-year subspecialty fellowships; recent graduates established an ILD Program at the University of Saskatchewan. Dr. Fell was the founding chair of the Canadian Pulmonary Fibrosis Foundation Medical Advisory Board and of the Canadian Thoracic Society's ILD Assembly. The Assembly has published three position papers on ILD with Dr. Fell and Johansson contributing as first or senior authors on two of these. Dr. Johansson's research connects the Calgary program with provincial, national, and international projects. She is the incoming vice-chair for the Canadian Thoracic Society's ILD Assembly and regularly presents nationally and internationally. She authors the chapter on hypersensitivity pneumonitis for the best known pulmonary medicine textbook that is published in the US. Dr. Johansson regularly contributes to more than 20 scholarly articles per year. She is an Associate Editor for the American Thoracic Society's Annals, a member of the international advisory board for Lancet Respiratory Medicine and won the top reviewer award from the European Respiratory Society.



## COVID RESEARCH AND CARE

There is little question that COVID 19 demanded innovative ways to fight a pandemic including nimble approaches for conducting clinical trials of promising new therapeutics. CATCO is a multi-centre adaptive, randomized, open-label, controlled clinical trial being conducted in conjunction with the World Health Organization's (WHO) SOLIDARITY trial, in collaboration with many countries around the world. The Division's Alain Tremblay stepped up to be Calgary's Principal Investigator for the CATCO/WHO Solidarity trial. CATCO is funded through CIHR (~\$230k coming to U of C so far), with additional funding coming from the Cumming School of Medicine and the Calgary Health Foundation. This additional funding allowed Dr. Tremblay and his team to help recruit for other COVID studies locally and coordinate recruitment across trials.

Dr. Tremblay and team were the top recruiting site across the country. Calgary investigators were included as co-authors on a NEJM paper published in the fall of 2020 reporting preliminary results. More data will be released soon both at the international and the Canadian/CATCO level. Additional randomization arms (3 new treatments) are launching now that the Remdesivir and other arms are completed, Dr. Tremblay is also co-National & Provincial PI for the CATCO-NOS (nosocomial) COVID trial which is looking at mAb treatments for inpatient outbreak cases and the site PI for an intensive phase II industry-led COVID trial with the LSALT agent which came out of initial bench work at Cumming School of Medicine. Drs. Lim, Somayaji, and Conly have also been involved. Dr. Jason Weatherald, together with Critical Care's Dr. Ken Parhar, were

principal applicants on a successful CIHR grant worth over \$1 million for multicentre trials evaluating the effectiveness of managing seriously ill hospitalized COVID patients using awake prone positioning. Calgary recruited more than 90 patients of the 400 total patients in the COVI-PRONE trial which has recently completed. Dr. Rachel Lim played an important role in recruiting patients at the PLC for this study. Dr. Weatherald's team has also been part of three successful CIHR grants looking at the effects of long COVID. One of the grants was submitted in conjunction with colleagues from the University of Alberta who they are collaborating with to develop a provincial registry of patients with long COVID. Long Covid respiratory clinics are now offered both at the RGH (Dr. Kate Skolnik) and at the PLC (Dr. Jason Weatherald, Dr. Rachel Lim, Dr. Joel Chen, Dr. Jon Liu and Dr. Danica Brister).



# RHEUMATOLOGY

The Section of Rheumatology's membership consists of 15 AMHSP physicians and 20 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; Drs. Marvin Fritzler, Martin Atkinson, Liam Martin, and Dianne Mosher. Dr. Paul MacMullan has recently taken on this role, thankful that he is standing on the shoulders of giants.

**5** Subspecialty  
Training Program  
Residents

The Rheumatology Residency training program consists of 3 PGY4 and 2 PGY5 residents in 2020-2021.

### EDUCATION

The section successfully taught UME Course II during pandemic times. Dr. Moran-Toro developed a hybrid model for teaching that included both virtual and pandemic safe in-person teaching. This teaching model was extremely well received.

All Rheumatology residents passed the Royal College Rheumatology and delayed Internal Medicine exams despite the challenges of preparing and taking exams during a global pandemic.

The section had a successful internal review by PGME of our Residency program in preparation for the Royal College External Review in 2022.

### CLINICAL

The section of Rheumatology has a growing list of staff out in the community. Residents are choosing to stay in Calgary after training which greatly helps with the patient waitlist.

Rheumatology has added additional adjunct members, Dr. Nathan Puhl and Dr. Martha Decker, who opened practices in Lethbridge providing much needed Rheumatology services for rural SE Alberta.

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

“ Dr. Moran-Toro developed a hybrid model for teaching that included both virtual and pandemic safe in-person teaching. This teaching model was extremely well received.”

*Dr. Paul MacMullan*

### ADMINISTRATIVE

In the 2020 - 2021 year the section of Rheumatology launched their own dedicated divisional website [calgary.ca/rheumatology](http://calgary.ca/rheumatology).

And in a year where events have been held virtually, the section of Rheumatology also held a successful Virtual Academic Education Day in Rheumatology "Optimizing Care in Rheumatology".

**19**

Applications from prospective Subspecialty Training Program Residents.





## RESEARCH

2020-2021 research successes include Dr. Clair Barber with 14 peer reviewed publications, 7 of which Dr. Barber was 1st or last author as well as receiving the Canadian Rheumatology Association Top 5 Abstract 2021 award.

Dr. Cheryl Barnabe also achieved 32 peer reviewed publications, 5 of which Dr. Barnabe was 1st author. Dr. Barnabe also received 2 new grants (CIORA, ACHRI) as PI or co-PI, and 8 new grants (including 4 CIHR) as co-I.

The section of Rheumatology recruited a new Assistant Professor, Dr. May Choi who is already an accomplished researcher very early on in her career. Dr. May Choi successfully achieved 12 peer reviewed publications, 6 as 1st Author and 2 book chapters. Dr. Choi had a successful year of grant applications including CIHR as PI for "SLE Calculator Systemic Lupus Erythematosus Cardiovascular Disease Event Risk Prediction Using Machine Learning Techniques and Novel Thrombotic Autoantibodies". Dr. Choi had a grant from Myositis Canada as PI for "SOAR: Sporadic Inclusion Body Myositis Novel Autoantibody and Biomarker Research". A second CIHR grant as a contributor to "Proteolysis of IFN $\gamma$  by macrophages in Rheumatoid Arthritis". And finally a Lupus Research Alliance Global Team Science Award as a collaborator "Molecular Fingerprinting of Lupus in Children".

Dr. Hazlewood achieved 44 peer reviewed publications, 8 of which were 1st or last author. Dr. Hazlewood also led the CRA National Guidelines Committee for COVID-19 vaccinations in patients with autoimmune rheumatic diseases. Dr. Hazlewood also achieved CIHR Bridge Funding for PI in his Rheumatoid Arthritis research.

Drs. Ann Clarke and Deborah Marshall had continued success as the Arthritis Society Chair and JE Child Chair, respectively. Sarah Manske, Assistant Professor, McCaig Institute, joined as an honorary member and is collaborating on MSK research with several division members. Rheum4U underwent successful external review and launch of micro-site, increasing the profile of work completed and allowing for greater public access to the work being done. [ucalgary.ca/rheumatology/rheum4U/home](http://ucalgary.ca/rheumatology/rheum4U/home)

**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

The section of Rheumatology, as a common thread within all divisions, also felt the particular challenges of continued provision of clinical care throughout the pandemic. That said, there were also key challenges for delivery of their educational mandate for UME, PGME, and CME. Furthermore, the section of Rheumatology major research contingent also experienced particular challenges in maintaining their respective projects and securing additional funding.

### KEY SUCCESSES

Given the climate over the past year, the section of Rheumatology was able to meet the Clinical, Educational and Research challenges head-on as evidenced by the expansion of our outpatient call coverage and the formulation of a hybrid model of virtual and in-person assessment, the successful completion of Course 2 for UME, a 100% record for PGME, and the delivery of our bi-annual CME event for primary care.

Furthermore, both Dr. May Choi and Dr. Glen Hazelwood secured CIHR grants, pandemic notwithstanding. Finally, Dr. Cheryl Barnabe and Dr. Claire Barber were promoted to Professor and Associate Professor, respectively, and Dr. Barnabe completed a "hat-trick" with the addition of the DOM EDI award and the Cumming School of Medicine General Excellence award!

**Rheumatology was able to meet the Clinical, Educational and Research challenges head-on as evidenced by the expansion of our outpatient call coverage and the formulation of a hybrid model of virtual and in-person assessment.**

### SAFE AND EFFECTIVE CLINICAL CARE THROUGHOUT THE PANDEMIC

Arguably, the biggest challenge of the last year has been the maintenance of safe and effective clinical care delivery throughout the pandemic. Our division rose to this challenge and closed every gap imaginable. At the start of the pandemic, when there was a ban on multi-site direct patient care, we ran a call schedule several doctors deep to maintain city-wide call coverage for the sickest of patients. Furthermore, our community FFS colleagues expanded the outpatient call coverage up to midnight to facilitate urgent assessment of primarily acute rheumatological presentations to emergency and urgent care facilities, thus alleviating the need for hospital admissions and preserving beds for COVID patients at the height of the

### NEW DEPARTMENTAL WEBSITE

After much planning and discussion, over several years, the section of Rheumatology has developed its own website.

This project was a huge undertaking, and was successfully completed within the appropriate timeline of one year with excellent project management from the Program Manager Ms. Ellen Lee, plus IT expertise provided by Dr. Steven Thomson for really making this happen. Ms. Lee and Dr. Thompson were supported by amazing collaborative contributions from a dedicated team representing the clinical, administrative, research, and educational pillars

#### Who was involved?

Freddy Damani, WE&US – Content Development and Project Management

Rheumatology Website Stakeholder/ Subject Matter Experts: Dr. Alex Charlton, Dr. Claire Barber, Dr. Jesse Heyland, Dr. Nadia Luca, Dr. Steven Thomson and Dr. Stuart Wiber  
Divisional Project Lead: Dr. Paul MacMullan

pandemic. Finally, the adoption of a hybrid model of virtual and in-person outpatient care delivery, often at the cost of requesting forgiveness and not permission, was vital to the continued delivery of quality care. This was a collaborative effort that was ably supported by the key additional pillars of AHS Operations and DOM Admin staff. Their roles cannot be understated.

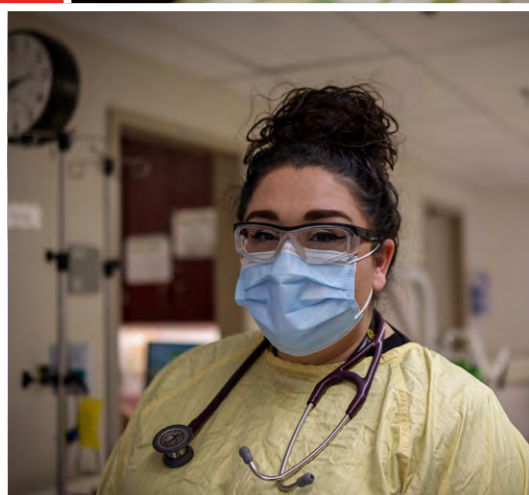




## OUR COMMUNITY

"We are proud of the fact that, through creative and innovative ways, we continue to provide world-class, patient-centered clinical care; educate the next generation of physicians; conduct impactful research; and provide inclusive and effective leadership within the University of Calgary and Alberta Health Services."

*Dr. Jayna Holroyd-Leduc*





# 2020 Virtual Awards Ceremony

## Virtual Awards Ceremony 2020

2020 saw us pivot to a fully online virtual awards ceremony. Our Department support staff jumped into action to turn an inperson event into an event that we could enjoy during the pandemic. While not the same as our past years, almost 100 participants had an online evening full of acknowledgement, community, food and laughter! Dr. Holroyd-Leduc extended a warm welcome to all our new residents and faculty to the department and then started off the evening by introducing new leadership roles in the department including new site-leads - Dr. Shukalek (FMC) and Dr. Thakrar (PLC), new section head of GIM - Dr. Reimche and Vice-Chair of Virtual Health - Dr. Dempsey plus two new Deputy Department Heads Dr. Rabi (Academic) and Dr. Williams (Clinical).

### AWARD WINNERS

#### INTERNAL MEDICINE CLERKSHIP: UNSUNG HERO'S AWARDS

##### Faculty Recipients:

Dr. Paula Pearce & Dr. Jenny Edwards

##### Resident Recipient:

Dr. Krista Reich

#### IMRP FACULTY AWARDS

##### Rookie of the Year Award:

Dr. Michael Bosch

##### Silver Tongue Award:

Dr. Qahir Ramji

##### Silver Finger Award:

Dr. Maria Bacchus

##### Golden Bull Award:

Dr. Pin Li

##### Repeat Offenders Award:

Dr. Megan Vlasschaert

##### Work Life Balance Award:

Dr. Michaela Walter

##### Research Perceptor Award:

Dr. Jason Weatherald

##### Ectopic Award:

Dr. Amanda Roze des Ordons

##### Allied Health Award:

Ms. Faizath Yallou

##### Rural Teaching Experience Award:

Dr. Erwin Villar

##### Special Recognition for Commitment

##### to Resident Teaching:

Dr. Troy Pederson

#### IMRP RESIDENT AWARDS

##### Benevolent Heart Award:

Dr. Khue-Tu Nguyen & Dr. Alex Frolkis

##### Resident Professionalism Award:

Dr. Raghad Saqqar & Dr. Erin Helson

##### Resident Medical Education Award:

Dr. Alec Watson & Dr. Jordan Gibson

##### Resident Wellness Award:

Dr. Priya Koilpillai & Dr. Amro Qaddoura

##### Resident Research Award:

Dr. Prosperi-Porta & Dr. Ellan Cusano

##### Resident Leadership Award:

Dr. Alex Frolkis

#### DEPARTMENT OF MEDICINE: SITE SPECIFIC CLINICAL EXCELLENCE AWARDS

##### Dr. John Dawson Award for Clinical Excellence at FMC:

Dr. Richard Leigh

##### Dr. Howard McEwen Award for Clinical Excellence at PLC:

Dr. Mitesh Thakrar

##### Dr. Terry Groves Award for Clinical Excellence at RGH:

Dr. Susana Grinman

##### Award for Clinical Excellence at SHC:

Dr. Charlene Fell

##### Dr. Martin Atkinson Award for Clinical Excellence at RRDT:

Dr. Lois Donovan

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

Dr. Kirk Barber

#### DEPARTMENT OF MEDICINE: SPECIAL DEPARTMENTAL AWARDS

##### Dr. Brenda Hemmelgarn Professionalism Award:

Dr. Deirdre Jenkins

##### Team Builder of the Year Award:

Addictions Recovery and Community

Health (ARCH) Calgary Team

##### Patient Safety and Quality

##### Improvement Award:

Dr. Ward Flemons

##### Dr. John Conly Innovation Award:

Dr. Kelly Burak

##### Equity, Diversity and Inclusion Award:

Dr. Cheryl Barnabe



# Internal Medicine Residency Program (IMRP)

The 2020-21 year was a very challenging one for the Internal Medicine Residency Program at the University of Calgary. There was great disruption by the challenges of COVID-19 but also innovation, an ongoing focus on ultrasound teaching and simulation, wellness initiatives as well as an evolving rollout of health advocacy including EDI initiatives. The highlights of our Program are noted below.

## OUR TRAINEES

We have 38 PGY1's; 37 PGY2's; 34 PGY3's and 4 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 past R1 CaRMS cycle was special as it was the first time CaRMS interviews were conducted virtually. There were 574 CaRMS applicants for the 35 available positions. We interviewed 299 people and conducted 598 virtual interviews over 4 days. IMRP is thankful and appreciates the support from the members of the Department in making this a success.

## FELLOWSHIPS

Most of our trainees pursue Fellowship programs and are highly successful in the Medical Subspecialty Match. **Last year (for the July 2021 start) we had local trainees matched to the following.**

**General Internal Medicine:** 7, with 4 staying in Calgary  
**Endocrinology:** 2, with 1 staying in Calgary  
**Rheumatology:** 2, with 1 staying in Calgary  
**Hematology:** 1  
**Respiratory Medicine:** 3, with 2 staying in Calgary  
**Infectious Diseases:** 2, with 1 staying in Calgary  
**Cardiology:** 4, with 1 staying in Calgary  
**Gastroenterology:** 3, with 2 staying in Calgary  
**Nephrology:** 3  
**Medical Oncology:** 4, with 2 staying in Calgary  
**Palliative Medicine:** 1  
**Physical Medicine and Rehabilitation:** 1  
**IM 4th year with core program:** 3

Of the 37 trainees who recently entered the 4th year 51.35% (19/37) have matched to 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** (formerly Dr. Marcy Mintz – until January 2021; and interim PDs, Dr. Rahim Kachra and Dr. Stacey Hall – Jan-May 2021).

**Associate Programs Directors: Dr. Stacey Hall** (RGH-also Curriculum Committee Chair & OSCE Lead), **Dr. Paul Leblanc** (PLC, Trainees in Academic Difficulty); and **Dr. Paul Davis** (SHC, PGY-4 Program).



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



Four Chief Residents for 2020-21: **Dr. Na'ama Avitzur, Dr. Daman Goondi, Dr. Ainslie McBride** and **Dr. James Kiberd**. New Chiefs (for 2021-22) will be selected and announced in October 2021.



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 very strong administrative support in the program with Ms. Stacey Dickinson (Team Lead), Trudi Jersak, Camille Baguio, Arshpreet Hansra & Carla Kowalski.

## PROGRAM HIGHLIGHTS



**Simulation Program:** There is a strong simulation program for our trainees, developed and led by Dr. Ghazwan Altabbaa, and an evolving simulation program at the SHC led by Dr. Alejandra Boscan. Activities include a Transition to Senior curriculum, weekly simulation scenarios for trainees at the 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 a nationally-recognized level.



**Global Health:** Our IMRP has an ongoing relationship with the IM training program in Georgetown, Guyana. Over the past 6 years we have had a number of trainees travel to Guyana for international electives – though this was interrupted by COVID-19 concerns in 2020-21. In the meantime we were able to continue with a regular telehealth educational program broadcast to Guyana by our trainees.



**Wellness Initiatives:** The IMRP has an active Wellness Committee to help promote the importance of mental health awareness and personal health. The activities of this group were more important than ever during the isolation of 2020-21 – even as in-person events were cancelled. The group transitioned to a virtual format and conducted several high-value events, including an excellent Virtual Resident Retreat. Dr. Tania Pannu is assuming the leadership of this committee from Dr. Julia Tien in summer 2021.



## EQUITY AND DIVERSITY WORKING GROUP

The IMRP, in conjunction with the Department of Medicine, has a very active Equity and Diversity Working Group which has:

- Worked with the Division of Neonatology to co-develop simulation-based training for physician bystander intervention.
- Developed a train-the-trainer model for Implicit Bias Training Workshops with the Office of Faculty Development.
- Hosted four EDI Grand Rounds, including Dr. Stephanie Nixon's presentation on privilege.
- Worked with the Office of Professionalism, Equity, and Development to implement Inclusive Language and Imagery Guidelines for presenters in the Cumming School of Medicine.

- Created a document to support parents during the COVID-19 pandemic.
- Administered a provincial physician diversity census (and is preparing a formal report).
- The Anti-Racism Task Force has:

- Been working toward developing a peer support program for physicians who have experienced harassment or discrimination.
- Begun a CSM-wide qualitative research project on the experiences of racial minority physicians in Calgary.
- Advocated to the Royal College for racially sensitive exam content.

# Organization Chart

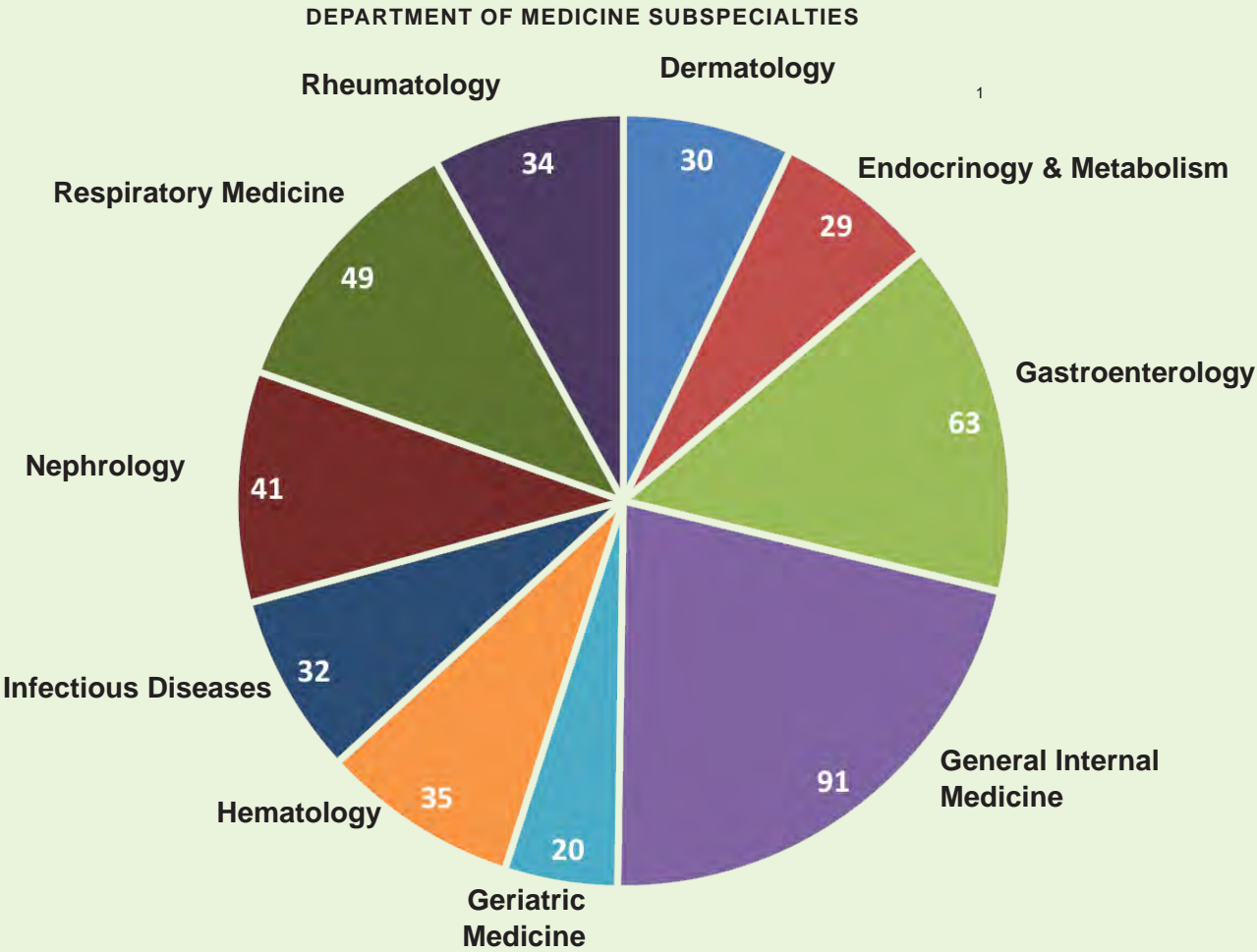
AS OF MARCH 31, 2021  
UNLESS OTHERWISE NOTED



The DOM wants to acknowledge and thank the department site leads, Drs. Thakrar, Purdy, Shukalek, and Haws, for their commitment and hardwork during the pandemic. Their leadership was vital to the organization and operation of the COVID teams across the adult hospitals.



# Membership Data



DEPARTMENT MEMBERS WITH A PRIMARY APPOINTMENT

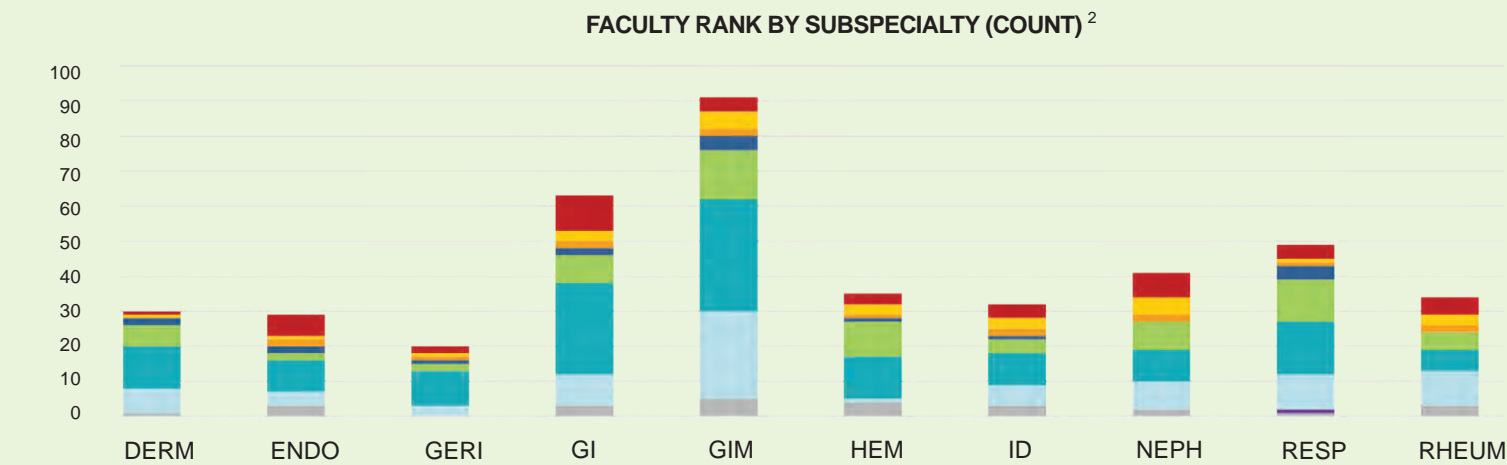
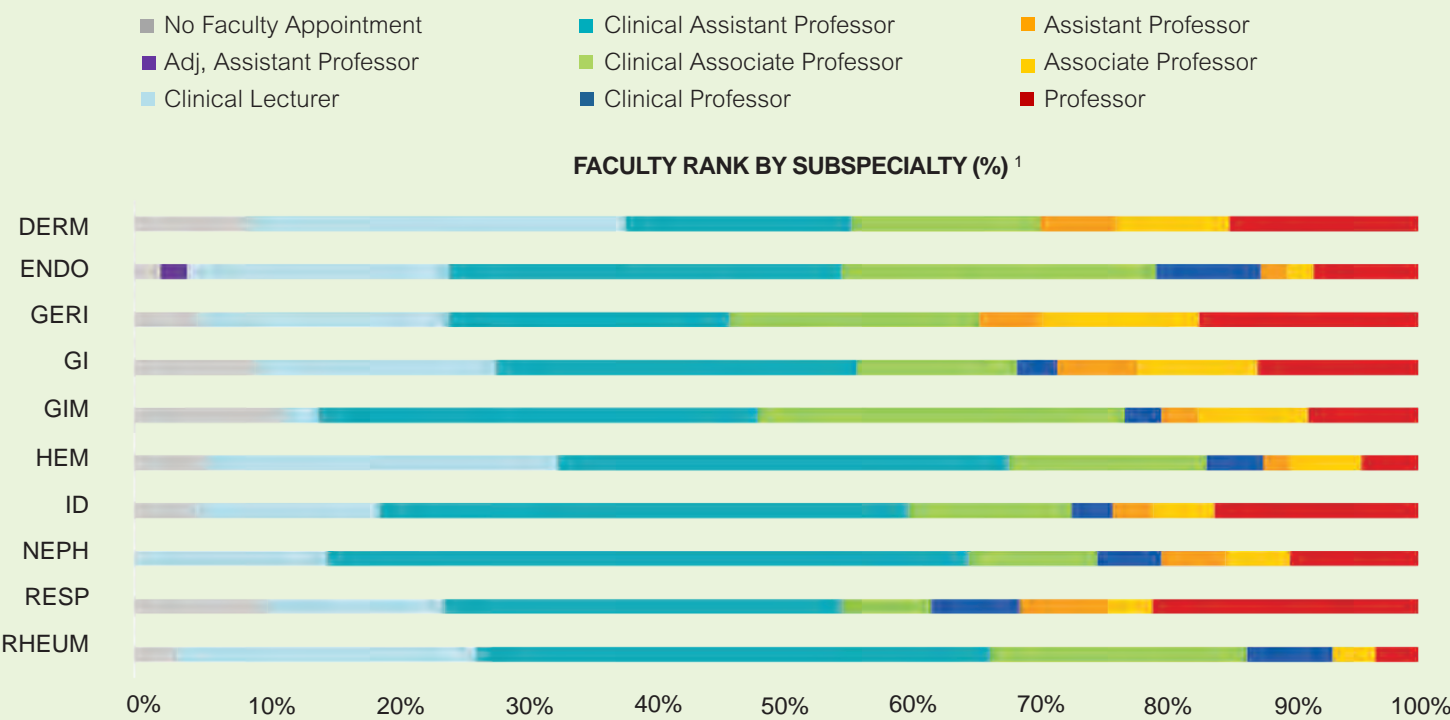
DERM	ENDO	GI	GIM	GERI	HEM	ID	NEPH	RESP	RHEUM	Grand Total
30	29	63	91	20	35	32	41	49	34	424

MEMBER SUMMARY

Member Summary	Total
Members with primary appointment in Department of Medicine	424
Number of Cross Appointments	102

All Source: Department of Medicine Gizmo

# Faculty Appointment Data



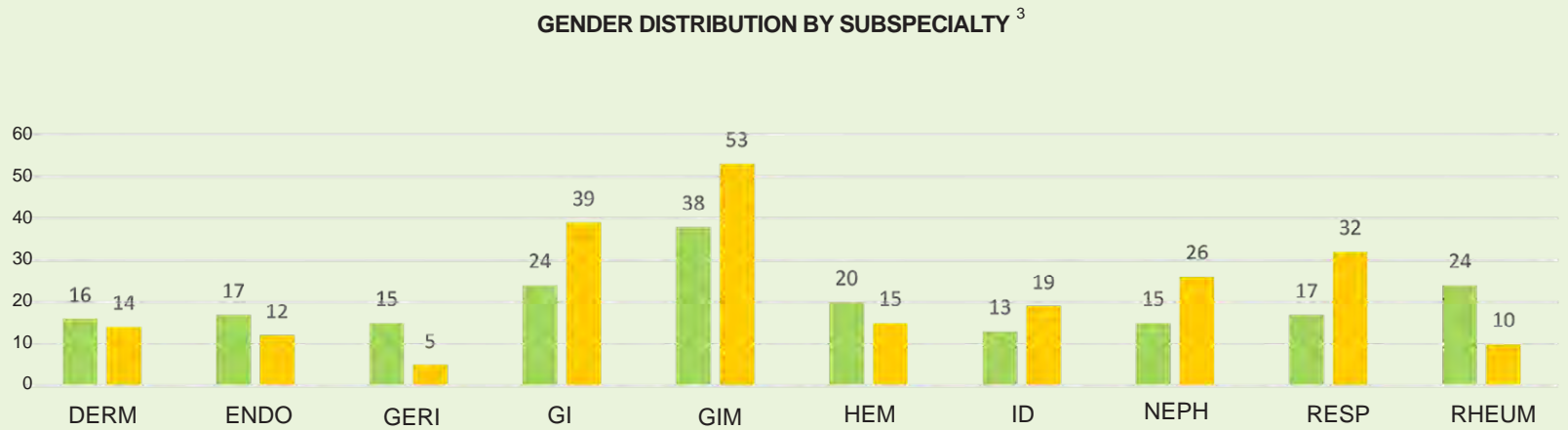
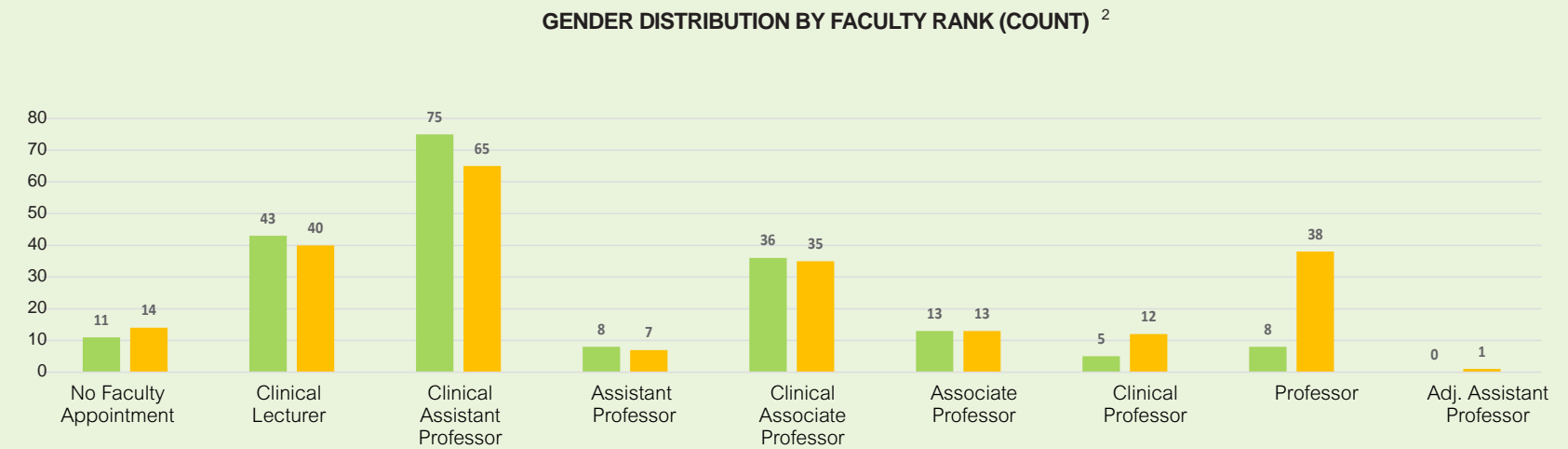
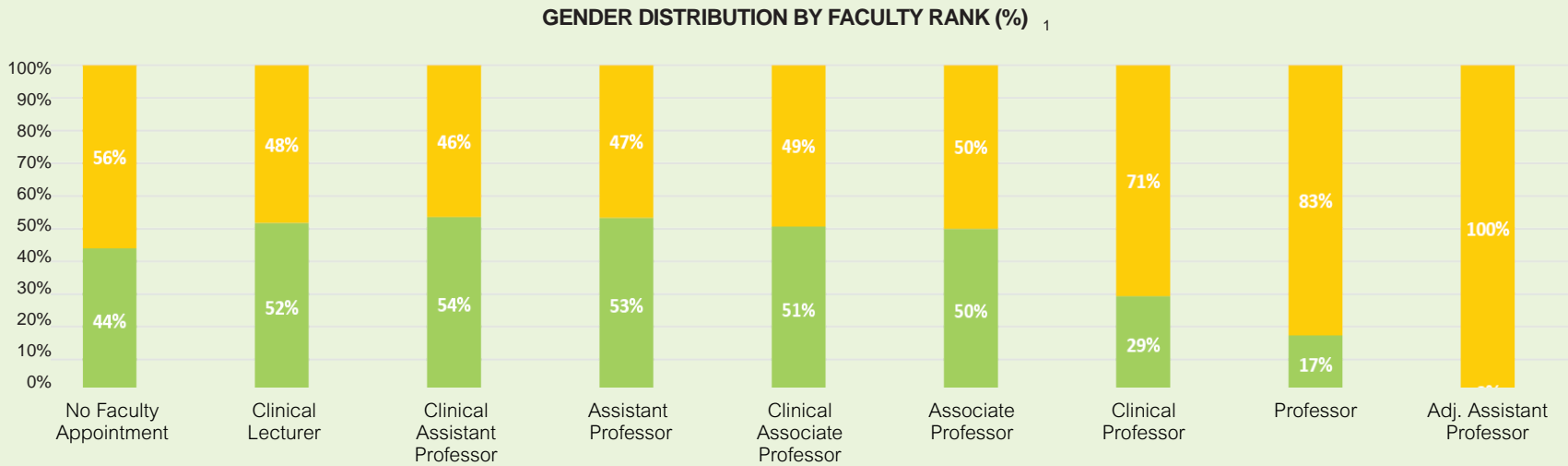
Faculty Rank	DERM	ENDO	GERI	GI	GIM	HEM	ID	NEPH	RESP	RHEUM	Grand Total
No Faculty Appointment	1	3		3	5	4	3	2	1	3	25
Adj. Assistant Professor									1		1
Clinical Lecturer	7	4	3	9	25	1	6	8	10	10	83
Clinical Assistant Professor	12	9	10	26	32	12	9	9	15	6	140
Clinical Associate Professor	6	2	2	8	14	10	4	8	12	5	71
Clinical Professor	2	2	1	2	4	1	1		4		17
Assistant Professor		2	1	2	2	1	2	2	1	2	15
Associate Professor	1	1	1	3	5	3	3	5	1	3	26
Professor	1	6	2	10	4	3	4	7	4	5	46
Grand Total	30	29	20	63	91	35	32	41	49	34	424

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



# Gender Equity Data

Female  
Male



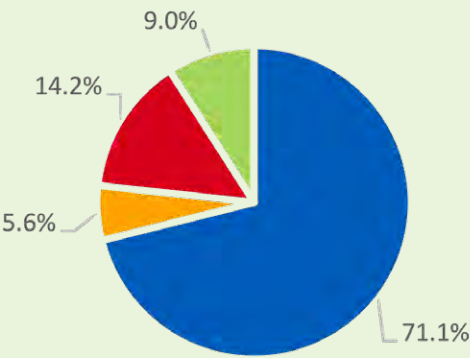
1. Source: Department of Medicine Gizmo

2. Source: Department of Medicine Gizmo

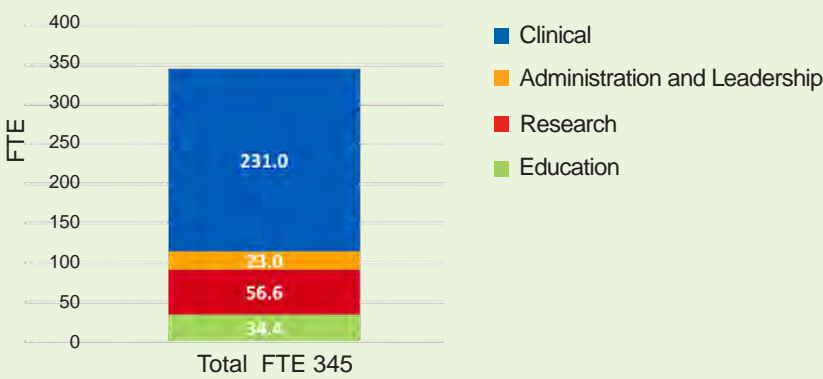
3. Source: Department of Medicine Gizmo

# ISA & FTA Data

AVERAGE CARE PILLAR FTE <sup>1</sup>



TOTAL CARE PILLAR FTE <sup>2</sup>

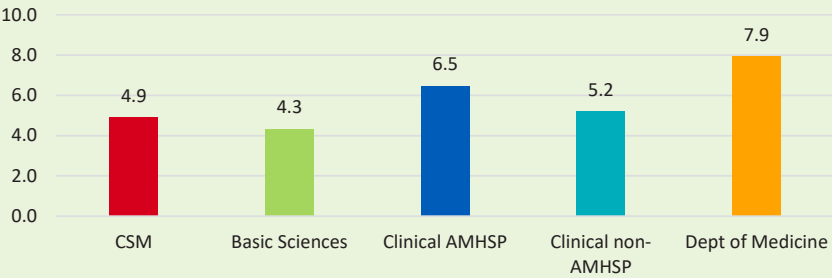


# Publication Data

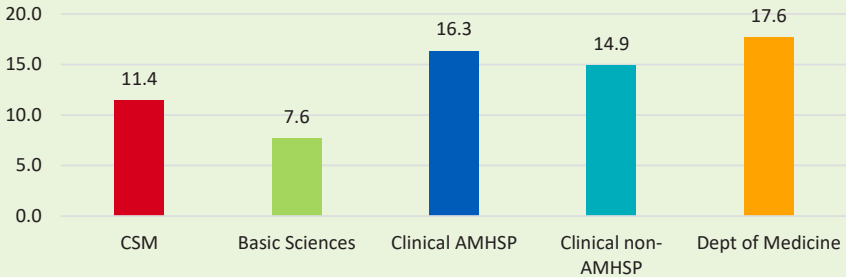
■ CSM ■ Basic Sciences ■ Clinical AMHSP ■ Clinical non-AMHSP ■ Department of Medicine

FULL-TIME ACADEMIC (GFT) PUBLICATIONS COMPARISON

Publications per GFT <sup>3</sup>



Publications per RE <sup>4</sup>



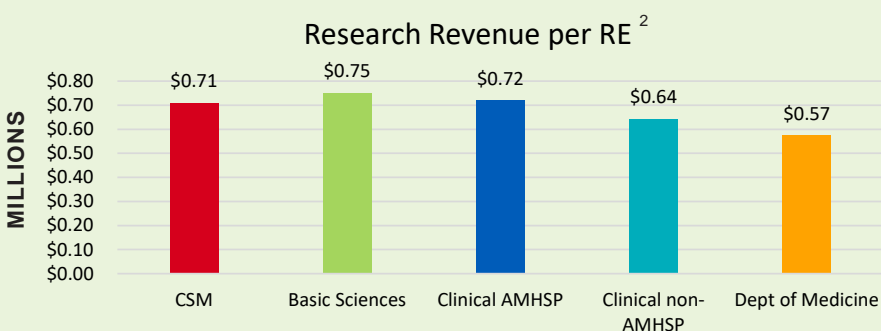
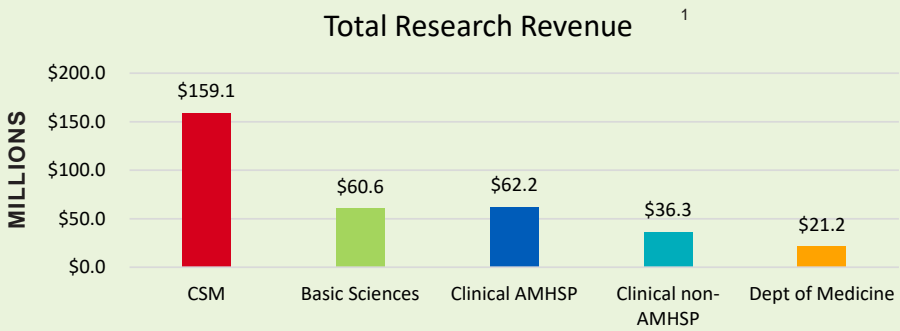
1. Source: Department of Medicine Gizmo  
2. Source: Department of Medicine Gizmo  
3. GFT: full-time academic faculty members with ranks of professor, associate professor, or assistant professor. Source: Web of Science  
4. RE: average research time allocation for GFT faculty members, divided by 100 and multiplied by the number of GFT faculty. Source: Web of Science



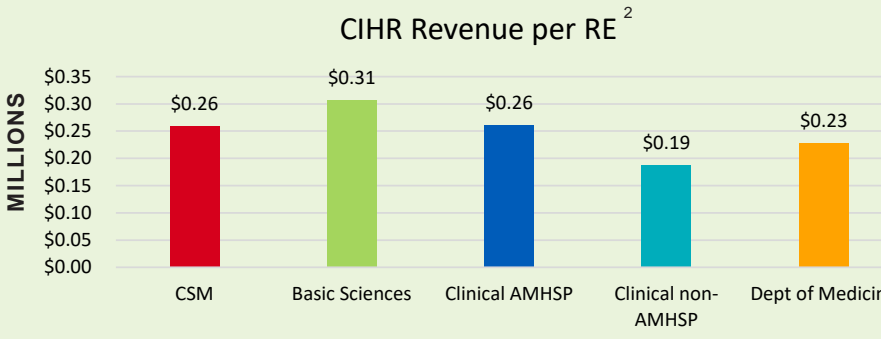
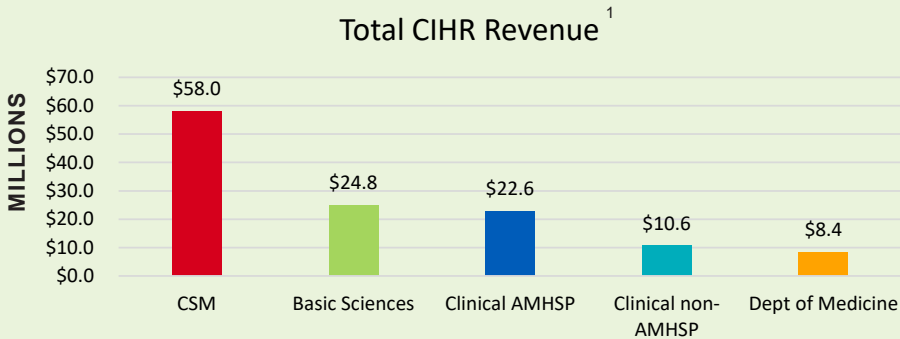
# Research Revenue Data

CSM   Basic Sciences   Clinical AMHSP   Clinical non-AMHSP   Department of Medicine

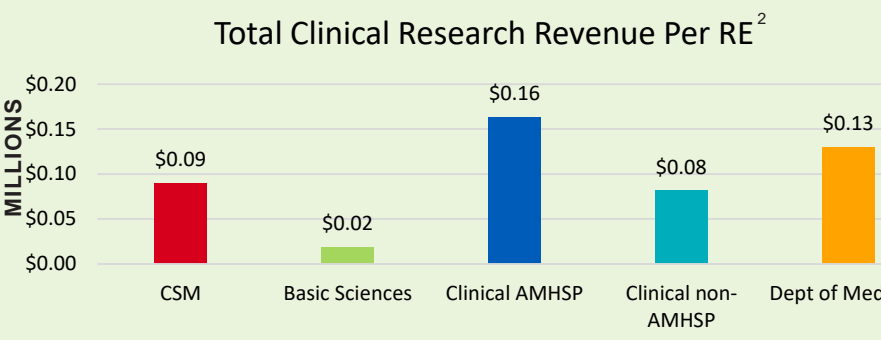
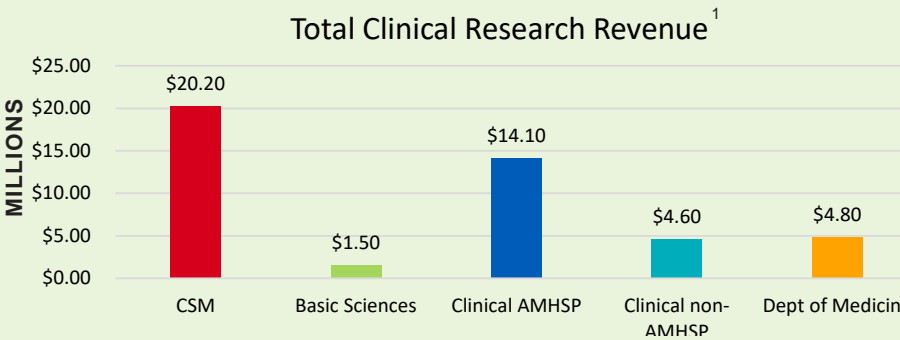
## TOTAL RESEARCH REVENUE COMPARISON



## CIHR RESEARCH REVENUE COMPARISON

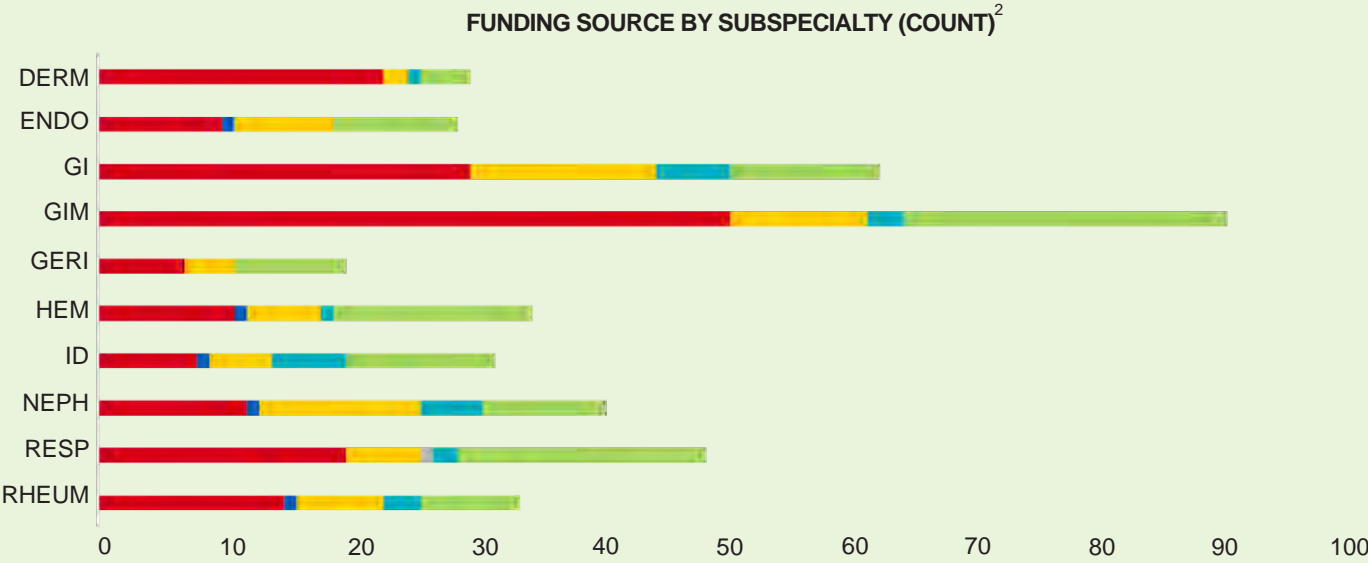
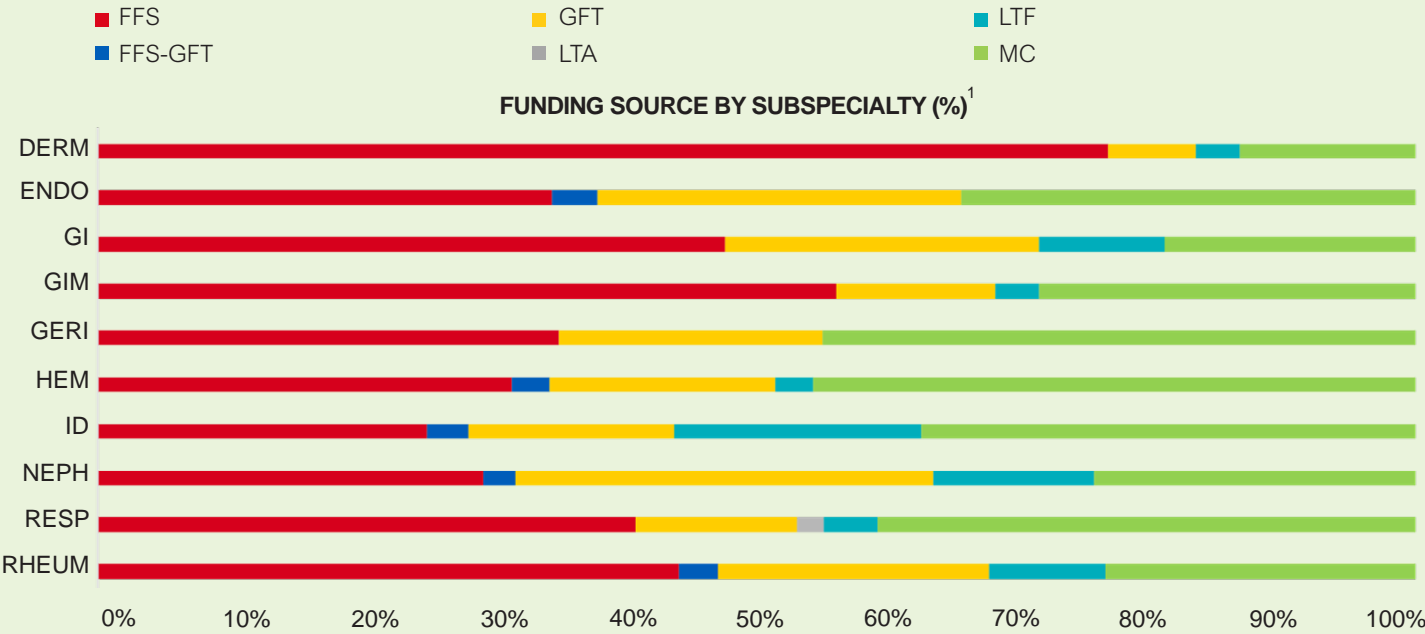


## CLINICAL RESEARCH REVENUE COMPARISON



1. Annual Research Revenue assigned to a Department / Comparator Group based on the Project Department. Source: Enterprise Reporting / Research & Trust Accounting datamart.  
2. RE: average research time allocation for GFT faculty members, divided by 100 and multiplied by the number of GFT faculty. Source: Enterprise Reporting / Research & Trust Accounting datamart

# Physician Funding Data



Faculty Rank	DERM	ENDO	GERI	GI	GIM	HEM	ID	NEPH	RESP	RHEUM	Grand Total
FFS	23	10	7	30	51	11	8	12	20	15	187
FFS-GFT		1				1	1	1		1	5
GFT	2	8	4	15	11	6	5	13	6	7	77
LTA									1		1
LTF	1			6	3	1	6	5	2	3	27
MC	4	10	9	12	26	16	12	10	20	8	127
Grand Total	30	29	20	63	91	35	32	41	49	34	424

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

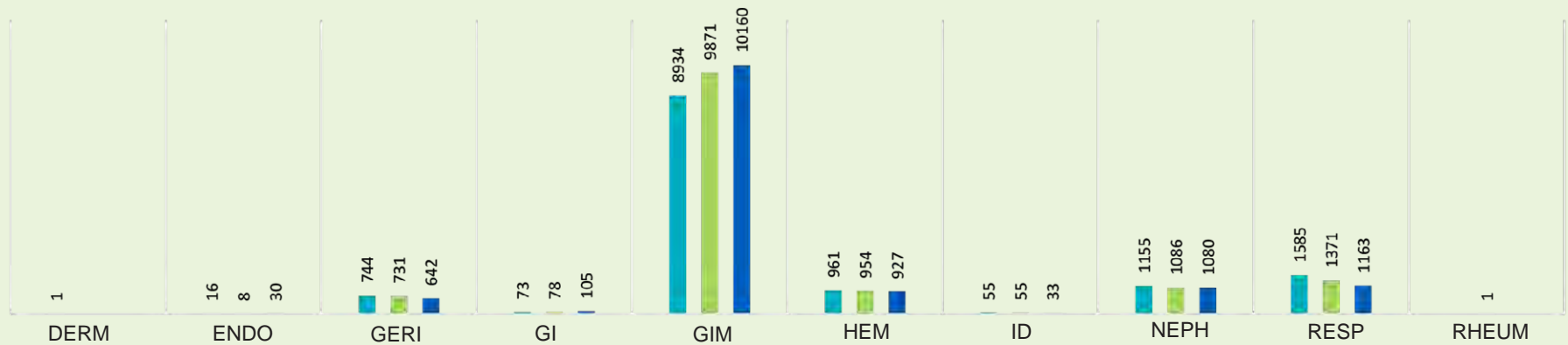
FFS: Fee-For-Service  
FFS-GFT: Fee-For-Service Geographic Full Time  
GFT: Geographic Full Time  
LTA: Locum Tenens AMHSP Funded  
LTF: Locum Tenens - FFS Funded  
MC: Major Clinical AMHSP Member



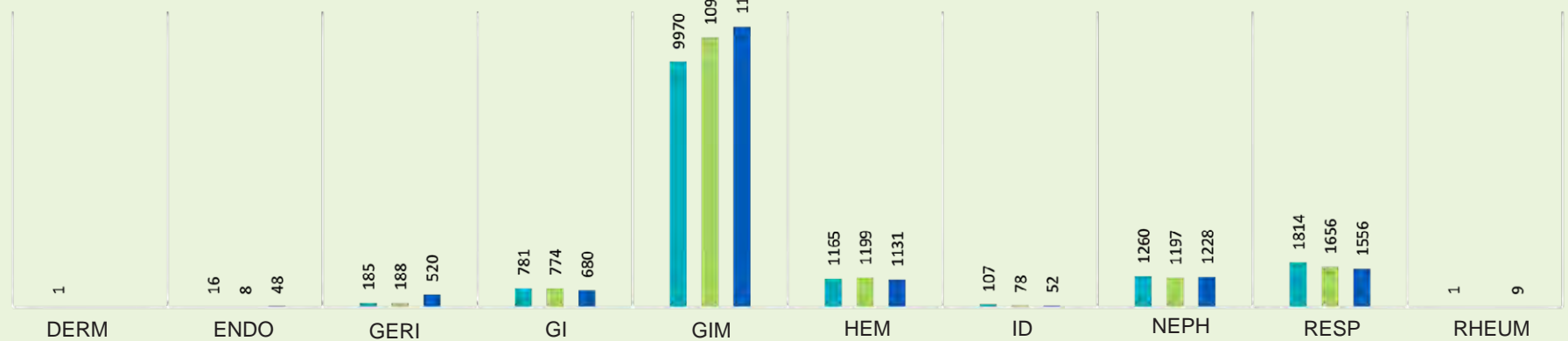
# Inpatient Data

2018/19 2019/20 2020/21

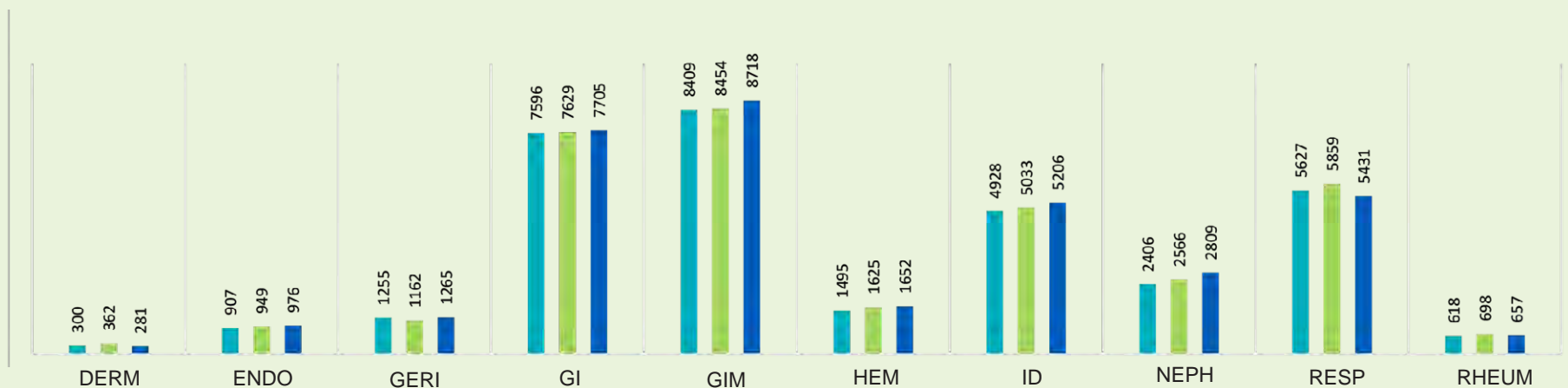
## INPATIENTS ADMITTED <sup>1</sup>



## INPATIENTS ATTENDED <sup>2</sup>



## INPATIENT CONSULTS <sup>3</sup>



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.

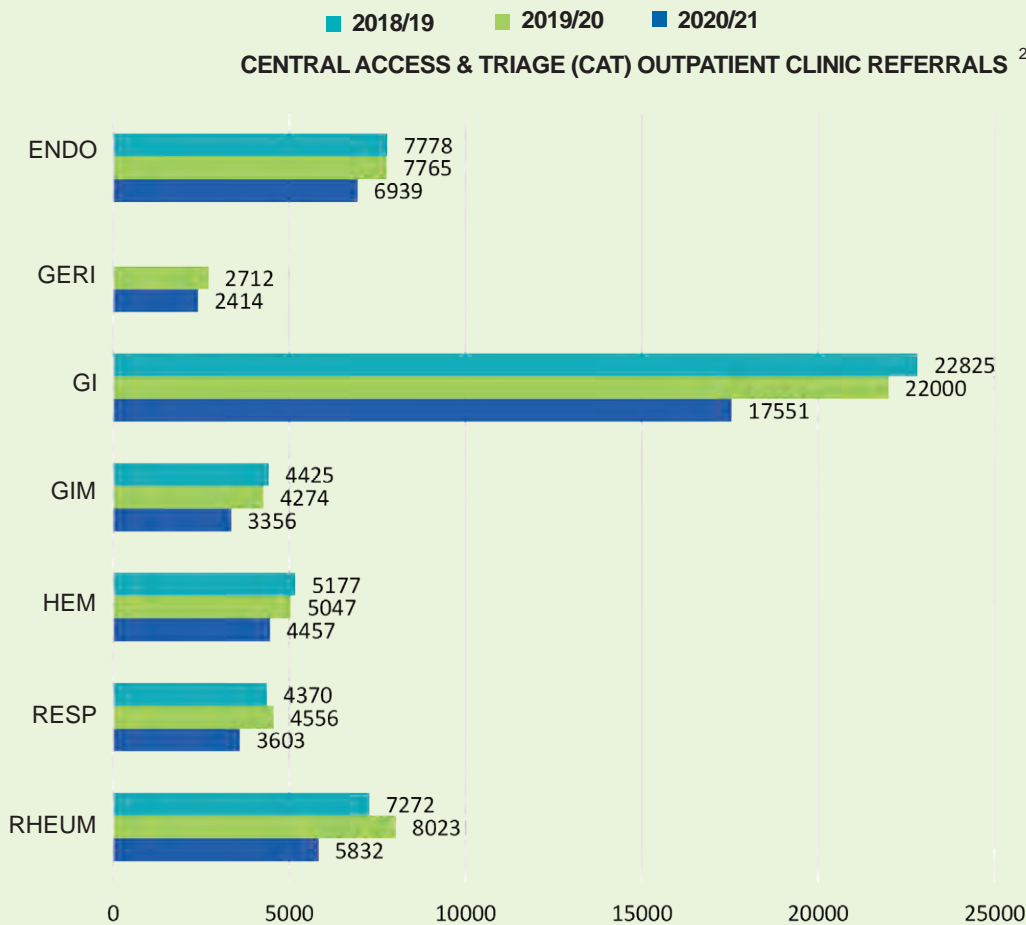
3. Source: Sunrise Clinical Manager (SCM). Consults ordered for inpatients are as per SCM data. Usually, the consult is ordered with a physician's name attached. However, sometimes the order includes only a group name (e.g. SHC GIM Medical Teaching Unit). Either are accepted but restricted so that there 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 2020/21<sup>2</sup>

Subspecialty	FMC	PLC	RGH	SHC
DERM	1.4	2.3	1	1.9
ENDO	4.4	1.7	1.4	3.2
GERI	3.3	2.6	3.5	2.6
GI	2.7	1.5	1.8	2.8
GIM	3.3	4	2.3	3
HEM	3.1	2.4	1.9	2
ID	3.1	3.8	2.6	3.8
NEPH	6.8	9.4	5.9	5
RESP	2.4	3.5	3.4	3
RHEUM	1.8	1.8	1.6	1.8

# Outpatient Data

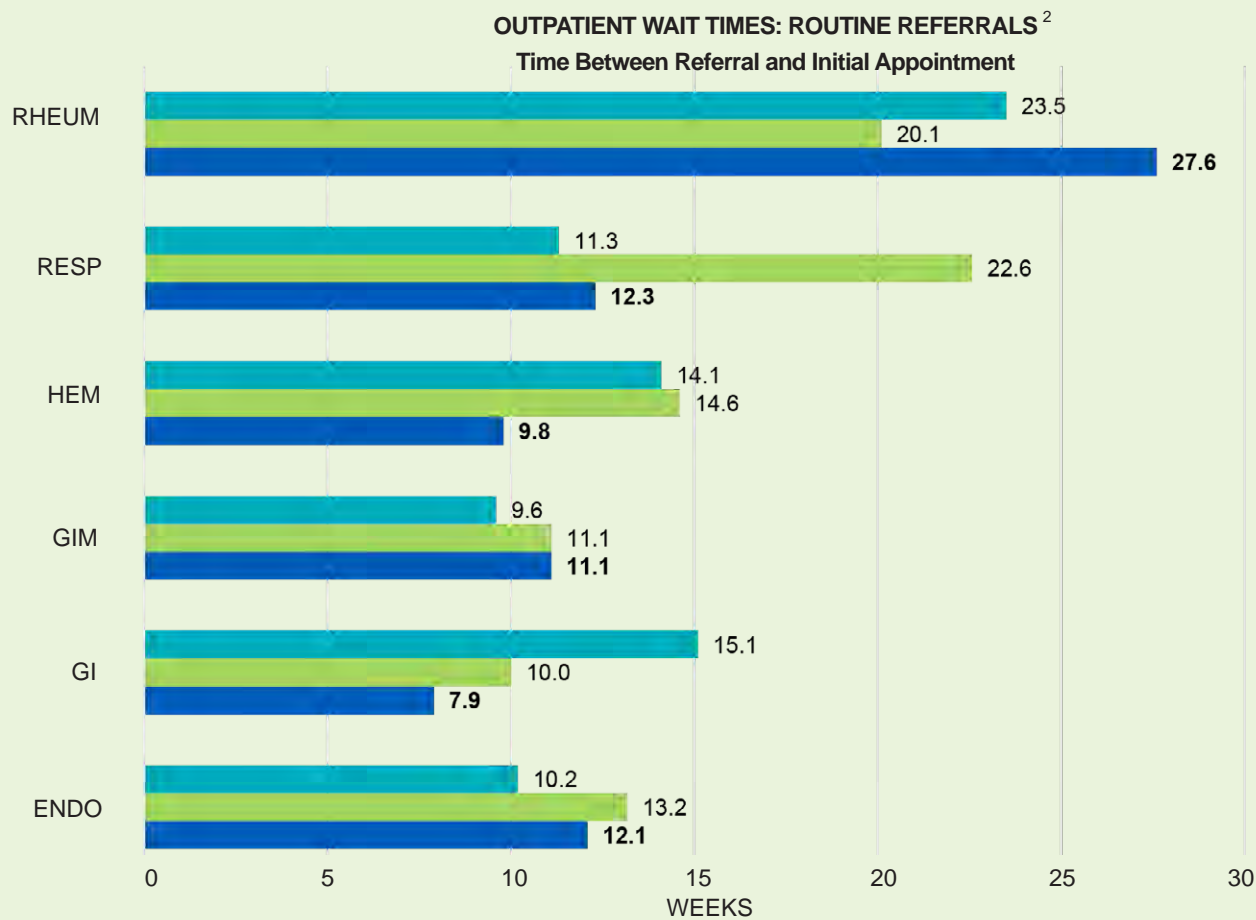
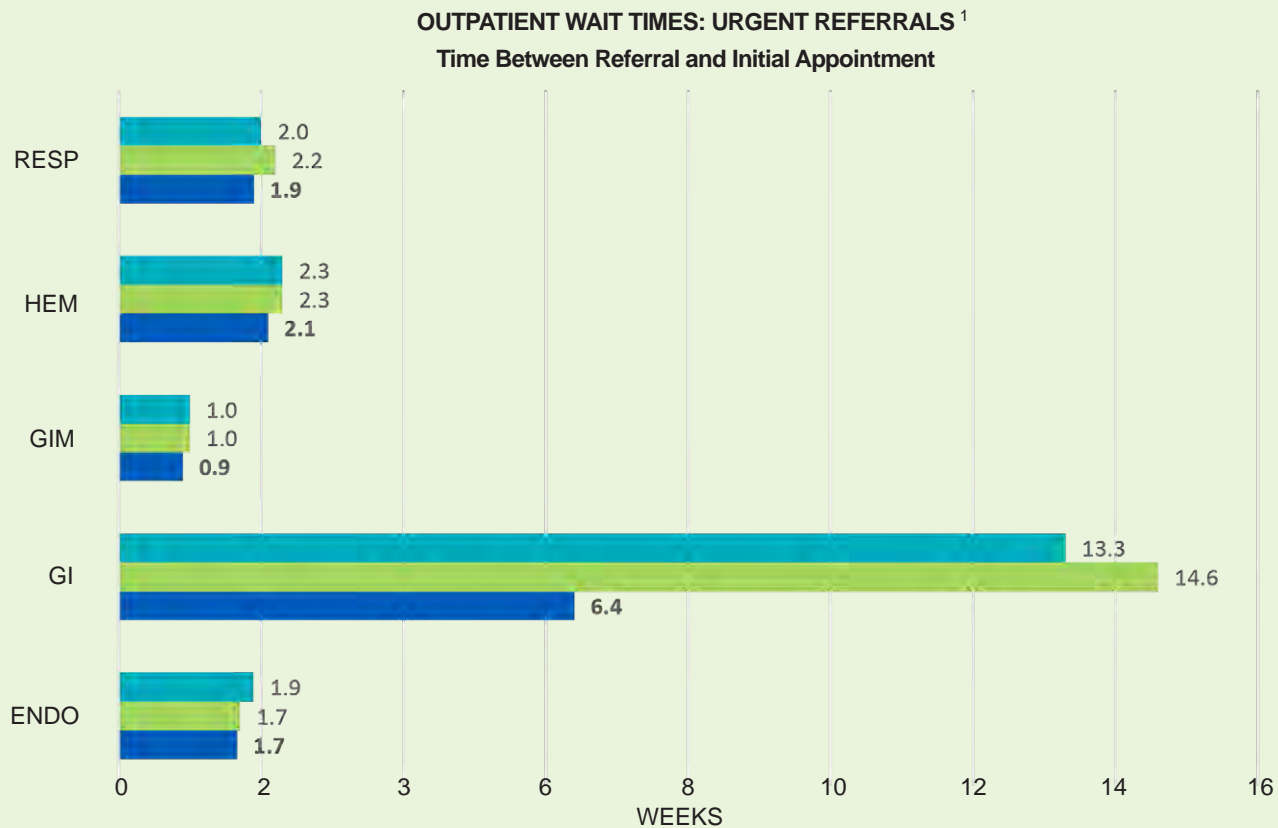


1. Source: Physician Billing. Consults ordered do not reflect how many patient encounters occurred. The rate table is based on Physician Billing data and shows for each consult ordered how many face to face encounters are likely to occur.

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)



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.

## Promotions

### Promotion to Professor

- Dr. Cheryl Barnabe
- Dr. Carla Coffin
- Dr. Rob Quinn
- Dr. Jennifer MacRae

### Promotion to Associate Professor

- Dr. Alex Leung
- Dr. Claire Barber

### Promotion to Clinical Associate Professor

- Dr. Alexander Aspinall
- Dr. Vimal Prajapati
- Dr. Victor Zepeda
- Dr. Nowell Fine

### Promotion to Clinical Assistant Professor

- Dr. Kim Cheena

## Awards

### Dr. Sofia Ahmed

- 2020 American Society of Nephrology Distinguished Mentor Award
- 2019 Foothills Medical Clinic Diversity and Inclusion Award
- 2020 UCalgary Diversity Award – As part of the CV & Me Team

### Dr. Ghazwan Altabbaa

- University of Calgary UME Honour Role for course Internal Medicine

### Dr. Amlani

- 2021 Helios Award

### Dr. Nizar Bahlis

- Department of Oncology Researcher of the Year

### Dr. Cheryl Barnabe

- Department of Medicine EDI award
- Cumming School of Medicine General Excellence award

### Dr. Leila Barss

- University of Calgary UME Honour Role for Course III

### Dr. Adam Bass

- University of Calgary UME Gold Star Teaching Award for Course IV

### Dr. Hanan Bassyouni

- University of Calgary UME Behind the Scenes Award for contributions to Pre-Clerkship Course IV
- University of Calgary Jersey Award

### Dr. Bourassa-Blanchette

- 2021 Helios Award

### Dr. Nathan Bracey

- University of Calgary UME Honour Role for course Internal Medicine - Resident

### Dr. Andrew Braun

- 2020 UCalgary Diversity Award – As part of the CV & Me Team

### Dr. Christopher Brown

- University of Calgary UME Honour Role for Course I

### Dr. Kelly Warren Burak

- Canadian Association for the Study of Livers Education Excellence Award
- Canadian Liver Foundation 50th Anniversary Recognition Award
- University of Calgary UME Gold Star Teaching Award for Course I

### Dr. Darren Burback

- Associate Dean's Letter of Excellence for Small Group Teaching in the Undergraduate Medical Education

### Dr. Sonia Butalia

- 2020 UCalgary Diversity Award – As part of the CV & Me Team

### Dr. David Campbell

- 2020 Petro-Canada Young Innovator Award

### Dr. Edwin Cheng

- University of Calgary UME Gold Star Teaching Award for Course I

### Dr. Justin Chia

- New Teacher of the Year Award from Continuing Medical Education and Professional Development Office

### Dr. Justin Chun

- KRESCENT CIHR New Investigator award

### Dr. Jack Cruikshank

- University of Calgary UME Honour Role for course Internal Medicine

### Dr. Erika Dempsey

- University of Calgary UME Gold Star Teaching Award for Course V

### Dr. Sandra Dumanski

- 2020 UCalgary Diversity Award – As part of the CV & Me Team

### Dr. Stephen Duncan

- University of Calgary UME Honour Role for Med Skills Course

### Dr. Stephen Field

- Dr. David Stather Award for Clinical Core

### Dr. Nowell Fine

- 2020 UCalgary Diversity Award – As part of the CV & Me Team

### Dr. Charlene Fell

- Department of Medicine: South Health Campus Physician of the Year Award

### Dr. Karen Fruetel

- University of Calgary UME Honour Role for Med Skills Course

### Dr. William Ghali

- University of Calgary UME Honour Role for course Internal Medicine

### Dr. Dawn Goodyear

- University of Calgary UME Honour Role for Course I

### Dr. Peter Grundy

- University of Calgary UME Honour Role for course Internal Medicine

### Dr. Jori Hardin

- Canadian Dermatology Association - Teaching Award
- University of Calgary UME Behind the Scenes Award for contributions to Course II PreClerkship
- University of Calgary UME Honour Role for Course II

### Dr. Oliver Haw For Chin

- University of Calgary UME Honour Role for course Internal Medicine

### Dr. Bobby Heydari

- University of Calgary UME Honour Role for Med Skills Course

### Dr. Laura Hinz

- University of Calgary UME Gold Star Teaching Award for Course IV
- University of Calgary UME Gold Star Teaching Award for Med Skills Course

### Dr. David Hogan

- Alberta Health Services 30 years of Service Recognition (2020)
- Alberta Medical Association Member Emeritus Distinction (2020)

### Dr. Deirdre Jenkins

- University of Calgary UME Honour Role for Course I

### Dr. Julie Jarand

- Division of Respiratory Medicine: Bob Cowie Award of Excellence

### Dr. Kerri Johannson

- European Respiratory Journal: Top Peer Reviewer
- University of Calgary UME Honour Role for Course III

### Dr. Michelle Jung

- University of Calgary UME Behind the Scenes Award for contributions to Course II PreClerkship

### Dr. Rahim Kachra

- Avenue Calgary Magazine – Top 40 under 40

### Dr. Gil Kaplan

- Named on the list of Clarivate Highly Cited Researchers 2020
- 2020 O'Brien Institute Mid-Career Research Leader Award

### Dr. Susan Kinnear

- University of Calgary UME Gold Star Teaching Award for course Internal Medicine

### Dr. Kerkerian

- 2021 Helios Award

### Dr. Gregory Kline

- University of Calgary UME Honour Role for Course IV

### Dr. Paul Kubes

- Named on the list of Clarivate Highly Cited Researchers 2020

### Dr. Samuel Song-Gu Lee

- Candaian Liver Foundation 50th Anniversary Recognition Medal

### Dr. Richard Leigh

- Department of Medine: Dr. John Dawson Award for Clinical Excellence



## Awards CONTINUED

### Dr. Ryan Lenz

-University of Calgary UME Gold Star Teaching Award for course Internal Medicine

-University of Calgary UME Gold Star Teaching Award for Introduction to Clinical Practice course

### Dr. Alexander Leung

-Avenue Calgary Magazine – Top 40 under 40

### Dr. Pin Li

-University of Calgary UME Honour Role for course Internal Medicine

### Dr. Christopher Ma

University of Calgary UME Gold Star Teaching Award for Course I

### Dr. Mahajan

-Dr. Marnie Hinton Award for Resident Wellness

### Dr. Kevin McLaughlin

-University of Calgary UME Gold Star Teaching Award for Course IV

### Dr. Jacqueline McMillan

-University of Calgary UME Gold Star Teaching for course Internal Medicine

### Dr. Amy Metcalfe

-2020 UCalgary Diversity Award – As part of the CV & Me Team

### Dr. Bonnie Meatherall

-University of Calgary UME Honour Role for Course I

### Dr. Daniel Miller

-University of Calgary UME Honour Role for Course III

### Dr. Marcy Mintz

-2020 Program Director of the Year award from the International Conference on Residency Education

### Dr. Mponponsuo

-2021 Helios Award

### Dr. Yasmin Nasser

- 2020 Chron's Colitis Canada Rising Star Award

### Dr. Kara Nerenberg

-2020 UCalgary Diversity Award – As part of the CV & Me Team

-Todd Anderson Cardiovascular Research Award – Libin Cardiovascular Institute

### Dr. Carolyn Owen

-University of Calgary UME Honour Role for Course III

### Dr. Laurie Parsons

-University of Calgary UME Behind the Scenes Award for contributions to Course II PreClerkship

-University of Calgary UME Gold Star Teaching Award for Course II

### Dr. Vaibhav Patel

-2020 UCalgary Diversity Award – As part of the CV & Me Team

### Dr. Remo Panaccione

-Named on the list of Clarivate Highly Cited Researchers 2020

-Crohn's and Colitis Canada Award for Canadian Outstanding Physician of the Year

### Dr. Paula Pearce

-University of Calgary UME Honour Role for Med Skills Course

-Associate Dean's Letter of Excellence for Small Group Teaching in the Undergraduate Medical Education

-Platinum Award for UME teaching

### Dr. Troy Pederson

-Calgary UME Gold Star Teaching Award for course Internal Medicine

### Dr. Brianne Philipenko

-2021 Helios Award

### Dr. Michele Ramien

-PARA Clinical Teaching Award

### Dr. Luke Rannelli

-UME Gold Star Teaching Award for course Internal Medicine

### Dr. Shannon Ruzyski

-Nomination 2019 Foothills Medical Clinic Diversity and Inclusion Award

### Dr. Natalia Rydz

-University of Calgary UME honour Role for Course I

### Dr. Marcello Tonelli

-Named on the list of Clarivate Highly Cited Researchers 2020

### Dr. Jeffrey Shrum

-University of Calgary UME honour Role for course Internal Medicine

### Dr. Leslie Skeith

-University of Calgary Cochrane Distinguished Achievement Award

### Dr. Caley Shukalek

-Foothills Medical Clinic - MSA Diversity and Inclusion Award 2019

### Dr. Mitesh Thakrar

-Department of Medicine: Dr Howard McEwan Award

### Dr. Christina Thornton

-2021 Helios Award

-Division of Respiratory Medicine: Chris Mody Advanced Fellowship Training Award

### Dr. Alan Tremblay

-American College of Chest Physicians: Distinguished Educator Award

### Dr. Jason Weatherald

-2020 UCalgary Diversity Award – As part of the CV & Me Team

-University of Calgary UME Honour Role for Course III

### Dr. Sarah Weeks

-University of Calgary UME Gold Star Teaching Award for Course III

-University of Calgary Jersey Award

-UME Leadership Award

### Dr. Stephen Wilton

-2020 UCalgary Diversity Award – As part of the CV & Me Team





CREDITS

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Shutterstock  
Leah Hennel (Front Cover, Back Cover, Page 7,  
9, 12, 28 & 29, 30 & 31, 38 & 39, 42)

**Copywriting**  
Department of Medicine Staff

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LEGEND

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

