

# ANNUAL REPORT

**April 1, 2014 - March 31, 2015**



## OUR VISION

*“Building the medical network of the 21st century, a network without walls, without boundaries, without limits to quality patient care, research and education for the benefit of society”*

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## EXECUTIVE SUMMARY

The 2014-2015 fiscal year has been a productive year for the Department of Medicine (DOM) with expansion in both its scope and size. The Department of Medicine has grown to 339 members out of which 211 are Academic Alternative Relationship Plan (AARP) members. 62% of the members are men and 38% of the members are women. The Department of Medicine is taking a leadership role in development of Provincial Academic Medical Framework and continues to work in a transitional phase. The Department is further strengthening its Social Accountability and is fine tuning its Evaluation Metrics to support an environment of continuous improvements and evidence-informed decision making. The Department has a strong focus on patient-centered care as well as providing care for special populations. Scholarly activities were particularly significant over this fiscal year with a real focus on translational science and significant success at external grants including AIHS CRIO grants and CIHR grants.

### Recruitment and retention

Over this fiscal year 26 new members including AARP and Fee for Service were recruited to the Department of Medicine. At the same time, there were 7 resignations/retirements. High profile recruit worth highlighting include: Dr. Frank Jirik – a prominent basic scientist and rheumatologist. Departmental administrative appointments include the recruitment of Satyam Patel as the Evaluation & Innovation Project Manager and Stormy Marshall as Senior Financial Consultant.

### Clinical and Administration

Overall, the DOM members provided over 15,524 specialist inpatient consults and discharged 11,230 inpatients (an increase of 6.6% over the previous year) during 2014-15 fiscal year. The average length of stay remains unchanged and is currently 10.4 days. The Central Access and Triage handled approximately 44,000 outpatients and most sub-specialties have improved or stabilized their median wait-times for both urgent and routine referrals despite the 8.7% increase in referrals.

A number of new projects/initiatives were added to the Department's clinical programs over this fiscal year, these include:

- A multidisciplinary juvenile localized scleroderma clinic in conjunction with pediatric rheumatology.
- "Community Access Physician" program - an endocrinologist is available during business hours to assist triage staff, to take all requests for phone advice and to see any urgent referral such as new-onset type 1 diabetes. Over 1,800 referrals were handled by an endocrinologist without a clinic visit.
- Non-traditional consultation process for diabetes referrals - A nurse-led and physician supported consultation patient care process that will facilitate the ability to produce consultation-level care advice for diabetes for primary care physicians without reliance upon the traditional clinic visit.
- Establishment of a dedicated Primary Sclerosing Cholangitis-IBD Clinic (the first in Canada).
- Calgary Centre for Digestive Health – Strategic move for the development of gastroenterology and hepatology clinical services, research and education within the Calgary Zone under one umbrella; to accelerate the pathway from research discovery to patient wellness.
- Development of an immune deficiencies program involving adult and pediatric Hematology, Transfusion Medicine, General Internal Medicine, Rheumatology, and TBCC.
- City-wide Thrombosis program is being developed to support clinical areas of need, research, and guideline development.
- Rheum4U longitudinal database - the goal of which is to integrate research and quality improvement in order to facilitate continuous improvement in patient care and collaborate with Prediatric Rheumatology to be able to follow patients from childhood into adulthood.

The DOM has significant involvement in the care of vulnerable populations. These include diabetes clinics and General Internal Medicine clinics at Stoney Health Centre, CUPS Health Centre, Calgary Zone tuberculosis clinic, Alexandra Community Health Clinic, Elbow River Healing Lodge at Sheldon Shumir Health Centre and Southern Alberta Clinic for patients with HIV. This has been a significant deliverable for the Department's AARP.

During this reporting period, 145 AARP members of the department assumed a total of 1,047 leadership roles at all levels and contributed 35,955 hours to representing Medicine.

## **Education and Research**

The University of Calgary, Internal Medicine Residency program and all ten subspecialty programs underwent a successful accreditation review and received high praise from the Royal College of Physicians and Surgeons of Canada in February of 2015. The Internal Medicine Residency Program had 99 residents in the “core” PGY 1 to 4 years. The Subspecialty Residency Programs within the DOM trained an additional 82 residents soon to join the medical workforce as independent specialists. In total, the DOM educates over 170 residents every year in its own specialty programs. The Department also contributes substantially to teaching our undergraduate medical students and residents from other residency programs. Advanced simulation based training and research focus remain highlights of our residency programs.

Our recognized researchers continued to serve the department’s research mission producing over 500 peer reviewed publications and secured almost 60 million dollars of external funding to support our scholarly enterprises. The department remains a strong global player in Clinical trials with over 100 trials running at any given time that brings latest therapies to our patients. Members achieving top honours research contributions are listed below:

## **Recognition and Awards**

Dr. Norman Campbell

Dr. Douglas Hamilton

Dr. Paul Beck

Order of Canada

Frederic Newton Gisborne Starr Award

Fellow of Canadian Academy of Health Sciences

University of Calgary Clinical Research Award

Killam Annual Professorship

## **Future Vision and plans**

In view of upcoming significant changes in the department’s senior leadership and importantly current economical climate in the province, the department embarked on a long consultative process with our internal and external stakeholders to derive its Strategic Plan for next five years to buffer through the external forces. A strong focus over the coming years will be on improving Primary Care providers access to the specialist in order to promote knowledge translation and efficiently manage chronic care patients in the community. Our care approach will shift to “Preventative” measures to prevent avoidable hospitalisations and reduce burden on our acute care facilities. We will continue to innovate models of care capitalizing on skills of allied healthcare professionals to improve patient access, manage specialist demands and cut through wait-lists. On other fronts, the department will continue to play a key role in the Province-wide AARP planning and support of clinician scientists in the post-AHFMR era. It is anticipated that the workforce will have a modest growth at best and optimization of workforce through renewal will be essential.

**DEPARTMENT OF MEDICINE – STRUCTURE AND ORGANIZATION**  
**April 1, 2014 to March 31, 2015**

Department Head	Dr. Subrata Ghosh
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**Site Chiefs**

Foothills Medical Centre	Dr. Kelly Zarnke
Peter Lougheed Centre	Dr. Ian Scott
Rockyview General Hospital	Dr. Stefan Mustata
South Health Campus	Dr. Leanne Reimche

**Section Chiefs**

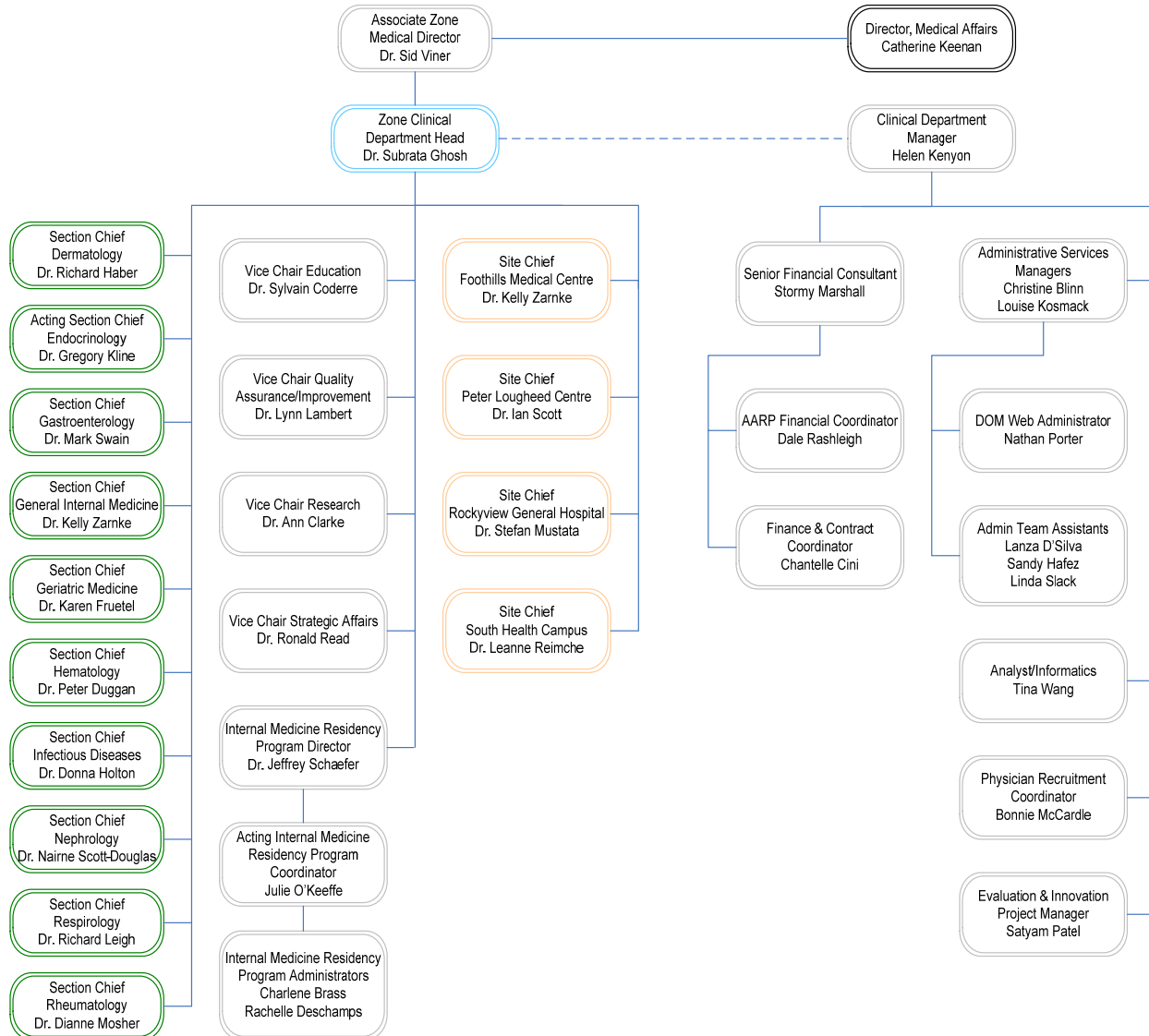
Dermatology	Dr. Richard Haber
Endocrinology & Metabolism (Interim)	Dr. Greg Kline (Interim)
Gastroenterology	Dr. Mark Swain
General Internal Medicine	Dr. Kelly Zarnke
Geriatric Medicine	Dr. Karen Fruetel
Hematology & Hematological Malignancies	Dr. Peter Duggan
Infectious Diseases	Dr. Donna Holton
Nephrology	Dr. Nairne Scott-Douglas
Respiratory Medicine	Dr. Richard Leigh
Rheumatology	Dr. Dianne Mosher

**Education Directors**

PGME Director	Dr. Jeffrey Schaefer
Clerkship Director	Dr. Fiona Dunne
CME Director	Dr. Adam Bass

## DEPARTMENT OF MEDICINE – ORGANIZATION CHART

April 1, 2014 to March 31, 2015



## Internal Medicine Residency Program Annual Report for April 01, 2014 to March 31, 2015

The Internal Medicine Residency training program is the largest Specialty Post-Graduate training program at the Faculty of Medicine. Led by Program Director, Dr. Jeffrey Schaefer, Vice Program Director, Dr. Marcy Mintz, and Associate Program Directors, Drs. Ghazwan Altabbaa, Paul Davis, Stacey Hall, Jennifer Landry, and Irene Ma, the Program is responsible for 99 PGY1 through PGY4 level trainees. Residents are an integral and valuable part of the patient care at all Calgary acute care sites (Foothills Medical Centre, Peter Lougheed Centre, Rockyview General Hospital, and South Health Campus), GIM Clinics at Richmond Road Diagnostic and Treatment Centre; and at our distributed learning sites in Lethbridge, Grande Prairie, and Yellowknife. The round-the-clock nature of the residents' workweek significantly increases access to care. We continue to deploy Senior Medical Residents at the Rockyview General Hospital and South Health Campus 365 nights per year. This continues to be very well received by the Emergency Department and Medical Staff. The Senior Residents provide support to the Junior Residents and Clinical Clerks, which also enhance their educational experience.

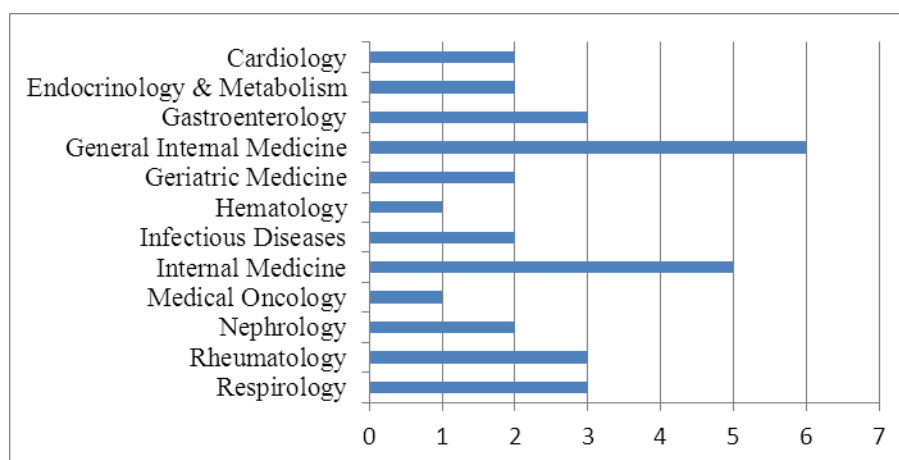
In 2014 the Program received over 500 applications through CaRMS for the 32 positions offered which includes 25 spaces in the CMG stream and 7 spaces in the AIMG stream. Of the 25 CMG's matched to the program, 14 were graduates of the University of Calgary. All of our PGY-3 Residents advanced to complete a fourth year of internal medicine training or subspecialty training. The table below describes the destination of our core residents at conclusion of their PGY-3 year (32 completed) with 3 residents off-cycle (yet to enter the match).

PGY1: 32

PGY2: 30

PGY3: 35

PGY4: 2



### Program Highlights

- ✓ In January 2015, the IMRP underwent an external review by the Royal College of Physicians and Surgeons of Canada. The accreditation was exceptionally successful and the program was judged to be outstanding. Identified highlights included the Life Long Learning Program, Mentorship Programme, Weekly IM Update Newsletter and Website; a collaborative and collegial environment, quality and quantity of learning available resources, and the enthusiasm of our residents, faculty, and administrators. Full Accreditation with no identified weaknesses was the final outcome.

*"Full Accreditation was granted, with no identified areas of weakness"*



- ✓ The Life Long Learning Program (LLLP) was launched in July 2014. The LLLP allows residents to self-assess and focus on their individual learning needs. This ‘Resident Centred Education’ aligns with the Association of Faculties of Medicine recommendations. The LLLP is patterned on the RCPSC Maintenance of Competency Program, which prepares our residents for post-certification expectations. The Life Long Learning Program was highly successful with 19,720 credits documented by the residents.
- ✓ Simulation based training continues to be a priority and asset of the program. At RGH, Dr. Altabbaa’s high fidelity simulation program delivered 217hrs over 129 sessions to 891 learners. Session topics included: Social Intelligence drills, Patient Safety: diagnostic cognitive biases, PGY1 senior resident training and an MTU Bootcamp. Dr. Altabbaa (Clinical Simulation Director of the Program) has disseminated knowledge around Simulation Training at the national and international levels:

Altabbaa G, Kaba A, Laberge J. *Poster Presentation*: Teaching Cognitive Biases That Lead to Diagnostic Errors Using High-Fidelity Human Patient Simulation: The Next Level of Conversation with Learners at the Point of Care. International Meeting on Simulation in Healthcare. San Francisco, CA USA, Jan 25<sup>th</sup> 2014.

Altabbaa, Ghazwan; Kaba, A; Laberge, J. International Meeting on Simulation in Healthcare. *Oral presentation*, Topic: Teaching Cognitive Biases That Lead to Diagnostic Errors Using High-Fidelity Human Patient Simulation: The Next Level of Conversation with Learners at the Point of Care. San Francisco, CA USA, Jan 25<sup>th</sup> 2014.

Altabbaa, Ghazwan; Barrett, Robert. Simulation Summit by Royal College of Physicians and Surgeons of Canada. *Workshop*, Topic: Fly as you learn and learn as you fly: Aviation training and evaluation programs applied to healthcare simulation. Toronto, Canada Sept 12<sup>th</sup> 2014

Altabbaa, Ghazwan; Boscan, Alejandra; Cook, Donald. Canadian Society of Internal Medicine national meeting. *Workshop*, Topic: High Fidelity Human Patient Simulation. Calgary, Canada Oct 2014.

Altabbaa, Ghazwan; Kaba, Alyshah. International Meeting on Simulation in Healthcare. *Workshop*, Topic: Shame and guilt hit at the core: are you ready for this difficult conversation? New Orleans, USA Jan 13<sup>th</sup> 2015.

Altabbaa, Ghazwan; Kaba, Alyshah. Canadian Council for Medical Education. *Workshop*, Topic: Speaking up across the medical hierarchy: Are you ready for this difficult conversation? Vancouver, Canada April 25<sup>th</sup> 2015.

Altabbaa G., Beran T., Kaba A. Safety in Numbers: are physicians really being “helpful” by going with the flow? *Academic Medicine* 2014, Vol 89, Issue 12: 1580-1581

At FMC, 17 small group simulation-based procedural training sessions were held, along with 11 sessions of scenario-based simulation training (high fidelity simulation) and 21 additional hours of ultrasound training (procedural simulation) in 2014. An Internal Medicine specific ultrasound curriculum-working group was established and after meetings in Calgary, this work was published along with study specific to volume assessment of the medical patient.

- Western Canadian Internal Medicine Ultrasound Curriculum Committee. Expert Consensus on a Canadian Internal Medicine Ultrasound Curriculum. *Can J Gen Intern Med* 2014;9(3):106-111.
- Low D, Vlasschaert M, Novak K, Chee A, Ma IWY. An Argument for Using Additional Bedside Tools, Such as Bedside Ultrasound, For Volume Status Assessment in Hospitalized Medical Patients: A Needs Assessment Survey. *J Hosp Med* 2014;9(11):727-30.



- ✓ Resident Research continues to be among our Program's strength. Several residents have been chosen to present their research at various conferences across Canada and the United States. Resident Research Day was highly successful and the mixed format of mentorship sessions, poster presentations, and oral presentations was well received. It was a privilege to have Dr. Andreas Laupacis, Canada Research Chair in Health Policy and Citizen Engagement from the University of Toronto as a special guest speaker and judge.

### Resident Scholarly Work

**Ballard M**, Schönheyder HC, Knudsen JD, Lyytikäinen O, Dryden M, Kennedy KJ, Valiquette L, Pinholt M, Jacobsson G, Laupland K. On Behalf of the International Bacteremia Surveillance Collaborative. The epidemiology of group b Streptococcus. Poster session presented at 24th European Congress of Clinical Microbiology and Infectious Diseases, ECCMID 2014, Barcelona, Spain. Submitted to Clinical Microbiology of Infection, 2014.

**Benham J**, Leung K, Tang N, Parker K, Wytsma K, Ravani P, Quinn R, Chowdhury T, Ma Z, Mustata S, MacRae JM. Intradialytic Exercise in Hemodialysis Patients and Physical Function: A Prospective Cohort Study [abstract]. In Abstracts and Poster Presentations of the 46th Canadian Society of Nephrology Annual General Meeting; 2014 April 24 –26; Vancouver, BC. CSN page 086.

Billington E, **Phang S**, Gregson D, Laupland K, Pitout J, Ross T, Church D, Parkins M. Incidence, Risk Factors and Outcomes for Enterococcus spp. Blood Stream Infections. Int J Infect Disease 2014;26:76-82.

**Campbell D**, King-Shier K, Hemmelgarn B, Sanmartin C, Ronksley P, Weaver R, Tonelli M, Hennessy D, Manns B. The Association Between Financial Barriers And Care And Outcomes For Patients With Chronic Disease. Health Reports. PLoS One 2014;10;9(4):e94007.

**Campbell DJ**, Ronksley PE, Manns BJ, Tonelli M, Sanmartin C, Weaver RG, Tonelli M, Hennessy D, Manns B. The Association of Income with Health Behavior Change and Disease Monitoring among Patients with Chronic Disease. PLoS ONE 2014;9(4):e94007.

Ronksley P, Sanmartin C, **Campbell D**, Weaver R, Allan M, McBrien K, Tonelli M, Manns B, Hennessy D, Hemmelgarn B. Perceived General Barriers To Primary Care Among Western Canadians With Chronic Disease. Health Reports 2014;25(4):3-10.

**Mann BS**, Barnieh L, Tang K, **Campbell DJ**, Clement F, Hemmelgarn B, Tonelli M, Lorenzetti D, Manns BJ. Association Between Drug Insurance Cost Sharing Strategies And Outcomes In Patients With Chronic Diseases: A Systematic Review. PLOS ONE 2014;9(3):e89168.

Weaver R, Manns B, Tonelli M, Sanmartin C, **Campbell D**, Ronksley P, Lewaanczuk R, Braun TC, Hennessy D, Hemmelgarn B. Access To Primary Care And Other Health Care Use Among Western Canadians With Chronic Conditions: A Population-Based Survey. CMAJ OPEN 2014;2(1):E27-E34.

Pang JXQ, Zimmer S, Niu S, Crotty P, Tracey J, Pradhan F, **Shaheen AAM**, Coffin CS, Heitman SJ, Kaplan GG, Swain MG, Myers RP. Liver Stiffness by Transient Elastography Predicts Liver-Related Complications and Mortality in Patients with Chronic Liver Disease. PLoS ONE 2014;9(4):e95776.

James PD, Kaplan GG, Myers RP, Hubbard J, **Shaheen AA**, Tinmouth J, Yong E, Love J, Heitman SJ. Decreasing Mortality From Acute Biliary Diseases That Require Endoscopic Retrograde Cholangiopancreatography: A Nationwide Cohort Study. Clin Gastroenterol Hepatol 2014;12(7):1151-1159.

Jaworsky D, **Chew D**, Thorne JG, Morin C, McNaughton N, Downer G, Paddock S, Lees R, Rachlis A. People Living With HIV As Instructors For Medical Students: A Pilot Study In HIV Counseling And Testing. *J Ther Manag HIV* 2014;2(1):10-15.

Hawryluk G, Spano S, **Chew D**, Wang S, Erwin M, Chamankhah M, Forgione N, Fehlings M. An Examination Of The Mechanisms By Which Neural Precursors Augment Recovery Following Spinal Cord Injury: A Role For Remyelination. *Cell Transplant* 2014;23(3):365-80.

**Drew-McKinstry M**, **Walker J**, Simon J, Holroyd-Leduc J, Lalumiere G, Sinnarajah A. Evaluation of a Standardized Electronic End-of-Life Order Set Targeted at Improving the Quality of End-of-Life Care within Hospital Inpatients. Oral presentation to the 20th International Conference on Palliative Care in Montreal, Canada.

**Mann BS**, Manns BJ, Dart A, Kappel J, Molzahn A, Naimark D, Nessim SJ, Soroka S, Zappitelli M, Sood MM on behalf of the Canadian Knowledge Translation and Generation Network (CANN-NET). An Assessment of Dialysis Provider's Attitudes Towards Timing of Dialysis Initiation in Canada. *Can J Kidney Health Disease* 2014;1:3.

**Marr KJ**, **Shaheen AA**, Lam L, Stapleton M, Burak K, Raman M. Performance of Multiple Nutrition Assessment Tools Among Cirrhotic Patients. *Gastroenterology* 2014;146(5):S799.

**Shaheen AA**, **Marr KJ**, Pang JXQ, Zimmer S, Niu S, Swain MG, Myers RP. Performance of Non-invasive Fibrosis Markers, MELD, and Transient Elastography for the Prediction of Hepatic Complications and Mortality. *Canadian Digestive Diseases Week* 2014;Abstract #A114.

**Moran Toro C**, Janvier J, Zhang K, Fonseca K, Gregson D, Church D, Laupland K, Rabin H, Elsayed S, Conly J. Community-associated methicillin-resistant *Staphylococcus aureus* necrotizing pneumonia without evidence of antecedent viral upper respiratory infection. *Can J Infect Dis Med Microbiol* 2014;25(3):E76-E82.

Southern DA, **Ngo J**, Martin BJ, Galbraith PD, Knudtson ML, Ghali WA, James MT, Wilton SB. Characterizing Types of Readmission After Acute Coronary Syndrome Hospitalization: Implications for Quality Reporting. *J Am Heart Assoc* 2014;3:e001046.

**Ngo JT**, Holroyd-Leduc JM. Systematic Review of Recent Dementia Practical Guidelines. *Age Ageing* 2014;44(1):25-33.

Adilman R, Rajmohan Y, Trinkaus M, Chung C, Naseem M, Hammad N, Leonard R, **Roldán-Urgoiti G**, Brooks E, Poonja Z, Simmons C. Social Media Use Amongst Oncologists: Results of a National Physician Survey. *J Clin Oncol* 2014;32:(suppl abstr e17519).

**Sun GR**, Purdy A. Acute Shortness of Breath. *Can J Diagnosis* 2014;31(6).

**Tom S**, Galbraith JC, Valiquette L, Jacobsson G, Collignon P, Schønheyder HC, Søgaaard M, Kennedy KJ, Knudsen JD, Ostergaard C, Lyytikäinen O, Laupland KB. Case Fatality Ratio and Mortality Rate Trends of Community-Onset *Staphylococcus aureus* Bacteraemia. *Clin Microbiol Infect* 2014;20(10):O630-2.

Podgorny P, Liu Y, Dharmani-Khan P, Pratt L, **Jamani K**, Luider J, Auer-Grzesiak I, Mansoor A, Williamson TS, Ugarte-Torres A, Hoegh-Petersen M, Stewart DA, Daly A, Khan FM, Russell JA, Storek J. Immune cell subset counts associated with graft-vs-host disease. *Biol Blood Marrow Transplant* 2014;20:450-62.

**Leadership***Director*

Dr. Jeffrey P Schaefer

*Vice Director*

Dr. Marcy Mintz

*Associate Program Directors*

Dr. Stacey Hall – FMC Portfolio

Dr. Jennifer Landry – PLC Portfolio

Dr. Ghazwan Altabbaa – RGH Portfolio

Dr. J. Paul Davis – SHC Portfolio

*Assistant Program Directors*

Dr. Irene Ma – Simulation Based Procedural Education and Ultrasonography

*Medical Teaching Unit Directors*

Dr. Aleem Bharwani – FMC

Dr. Paul Le Blanc – MTU Director and Chair MTU Committee

Dr. Oliver Haw for Chin – RGH

Dr. J. Paul Davis – SHC

*Chief Medical Residents*

Dr. Kim Cheema

Dr. Gregory Eustace

Dr. Qahir Ramji

Dr. Jeff Shaw

*Representatives*

Dr. Fiona Dunne – Clerkship Director

Dr. Jonah Mizzau – R4 Resident Representative

Dr. Mark Ballard – R4 Resident Representative

Dr. Prabh Lail – R3 Resident Representative

Dr. Luke Ranelli – R2 Resident Representative

Dr. May Choi – R1 Resident Representative

*Program Administrators*

Ms. Julie O’Keeffe

Ms. Jennifer Glow

Ms. Charlene Brass

Ms. Megan Stauth

Ms. Rachelle Deschamps

Ms. Bekah Bootsvelt

Ms. Sherry Schulz

**Future of IMRP**

We are excited of what’s to come in 2015-16:

- Transition to a competency by design (CBD) curriculum with implementation targeted for 2017. Over the past year, the program has been engaged in preparatory meetings at the national level.
- Establish a mutually beneficial partnership with the University of Georgetown (Guyana) Internal Medicine Residency Program with a view to: exchange learning opportunities through elective experiences for both institutions, and assist with curriculum development and evaluation of the recently established residency program.

- Align with the Choosing Wisely Canada campaign (CWC). The program is looking forward to working closely with Choosing Wisely Alberta (CWA) as one of the first residency programs to introduce the campaign into postgraduate education. Preliminary meetings have taken place to lay the groundwork for a demonstration project.
- Introduce the Distinguished Lecture Series, replacing Medical Grand Rounds for the Department of Medicine. The lectures will attract exceptional leaders in health care, education and research from around the globe.

The Program extends its heartfelt gratitude for the support received by preceptors throughout the Faculty of Medicine, the Post-Graduate Medical Education Office (PGME), the Undergraduate Medical Education Office (UME), and the many talented and dedicated administrators.

***Our program is our people!***

## **Elective Rotation: Health of Vulnerable Populations (HVP)**

### **April 1, 2014 to March 31, 2015**

The Health of Special Populations rotation started in July 2010 as an elective experience within the Internal Medicine Residency Program curriculum. In 2011 the name was changed to “Health of Vulnerable Populations” (HVP) to better describe the focus. A more complete description of the rotation is available as the “Terms of Reference” or “Objectives” of the rotation presented in Royal College of Physicians and Surgeons format. The HVP rotation is predominantly an elective longitudinal rotation of four weeks duration which can be taken in any of the three core years of residency. In addition, HVP offers a supplemental horizontal elective experience and a more substantial project which can be taken during personal academic time such as on Academic Half Day, a research elective block, and/or during weekly horizontal academic time with permission of the primary rotation. The primary objective of the HVP rotation is to focus on the health of peoples who encounter challenges in accessing health care in the traditional Canadian Medical Model. For the purposes of this rotation the following peoples are emphasized: (1) Aboriginal (Indigenous) First Nations peoples, (2) Refugees from other countries, (3) Recent immigrants from developing countries with inadequate health care resources, (4) The homeless people (predominately urban but also in smaller communities), (5) Persons living in poverty.

The experiences planned for the rotation are attendance at structured clinics supervised by a member of the Department of Medicine, directed reading on this topic, and conducting a mini-project on the subject of HVP. Opportunities for clinics included the following:

- Diabetes at the Stoney Health Centre (SHC) (Dr. Rorstad). The SHC is located in Morley, AB, on the Stoney Reservation, about 50 km west of Calgary
- General Internal Medicine at SHC (Dr. Pin Li)
- Hepatitis clinic at the Calgary Urban Project Society (CUPS) clinic (Dr. McPhail).
- Calgary Zone tuberculosis clinic, Sunridge
- Alexandra Community Health Clinic (Dr. Bassyouni)
- Elbow River Healing Lodge in the Sheldon Chumir Health Centre
- Southern Alberta Clinic for patients with HIV

The academic year July 2014 to June 2015 was the fifth year the HVP rotation was offered. During the past year April 1, 2014 to March 31, 2015 fifteen clinics in diabetes mellitus were held at the Stoney Health Centre. Six clinics included participation of Internal Medicine residents. Four clinics included Residents (Fellows) in the Endocrinology and Metabolism Residency Program). The HVP rotation lends itself particularly well to having residents learn the RCPSC competencies as applied to underprivileged populations: Medical expert, communicator, collaborator, manager, health advocate, scholar, and professional, especially conduct and attitudes toward disadvantaged peoples.

Finally, the Health of Vulnerable Populations rotation should be regarded as a work in progress. A major challenge for the coming years is recruiting more clinical experiences during the four week block. Barriers include workforce shortage of internists in some areas. The numerous organizations which provide care for vulnerable populations present challenges of jurisdiction and organization.

## Calgary Urban Project Society (CUPS) Report April 1, 2014 to March 31, 2015

### EXPECTED OUTCOMES

To improve access to specialist care for marginalized patients by addressing a gap in services to this population and to provide “hands on” advice and education for CUPS clinicians.

### VISITS TO DATE

	# clinic days	# patient visits	2014/15 Avg #visits/day	2013/14 Avg #visits/day	2014/15 # no-shows	2014/15 no-show rate (%)	2013/14 no-show rate (%)
<b>Internal Medicine</b>	<b>11</b>	<b>26</b>	<b>2.4</b>	<b>2</b>	<b>9</b>	<b>26</b>	<b>33</b>
<b>Rheumatology</b>	<b>4</b>	<b>19</b>	<b>4.8</b>	<b>3.8</b>	<b>5</b>	<b>21</b>	<b>32</b>
<b>Internal Med/OB</b>	<b>6</b>	<b>18</b>	<b>3.0</b>	<b>4.7</b>	<b>18</b>	<b>50</b>	<b>25</b>
<b>Cardiology</b>	<b>6</b>	<b>25</b>	<b>4.2</b>	<b>3</b>	<b>9</b>	<b>26</b>	<b>45</b>
<b>Gastroenterology</b>	<b>9</b>	<b>52</b>	<b>5.8</b>	<b>4.4</b>	<b>22</b>	<b>30</b>	<b>41</b>
<b>Dermatology</b>	<b>N/A</b>			<b>6.7</b>			<b>29</b>

### CUPS Visiting Specialists include the following Physicians:

Internal Medicine: Dr. Janet Gilmour one half day monthly

Rheumatology: Dr. Liam Martin one half day quarterly

Internal Medicine in Obstetrics: Dr. Eliana Castillo one half day monthly

Cardiology: Dr. Edward O'Brien one half day monthly.

Gastroenterology: Dr. Kerri Novak and Dr. Michelle Buresi sharing one half day monthly.

Dermatology: Dr. Patricia Ting did not return to CUPS after her maternity leave.

### DISCUSSION

The addition of these various specialists to CUPS Health and Education Centre has been extremely valuable.

CUPS patients highly benefit from **timely** access to Specialist care due to significant challenges in contacting these patients. Many of our patients are homeless and living “rough” in camps or on the streets, or use the homeless shelters, and therefore have little in the way of reliable contact information. Most do not have cell phones or addresses and contacting these patients to leave a message at the shelters or with their relatives/friends is usually unsuccessful. When appointments for Specialists are many months or years away, patients are often a no-show because we cannot inform them or remind them of appointments. Furthermore, many patients have significant barriers related to social determinants of health that make it challenging for them to attend specialist outpatient appointments. These include lack of reliable transportation, poverty, homelessness, unstable mental health and addictions. As the specialists at CUPS are mostly here monthly, it is easier for patients to remember the appointments and although our no-show rates are still high, they are likely improved over appointments made at outpatient clinics.

CUPS Health Centre is well-known to the downtown homeless and poor and we work with our community partners in providing comprehensive holistic care to this socially and medically complex population. We see about 100 new patients every month and about one third of these patients stay engaged and need some sort of referral for their complex health requirements. Our Centre is a **comfortable, non threatening place** to come to and we feel that patients keep appointments here because of the familiarity of the building and care team. Having specialists come to CUPS allows our patients to come to our site, which improves the no show rate compared to an external outpatient site where most have to take public transportation and navigate unfamiliar buildings and systems. Many also face perceived social stigma when attempting to navigate unfamiliar environments. Despite improved access, we do recognize that there is still a fairly high no show rate (25-45%), which is consistent with other care providers in the clinic (Family Physicians, Nurse Practitioners), and reflects the social challenges of our patients.

In January 2014, the clinic has been a participant in a year-long quality improvement initiative called Alberta AIM (Access Improvement Measures), with the goals of improving access, efficiency and clinical care for our patients. Since starting this project, we have been able to accurately collect no-show rates for the clinic, and these rates are, as we predicted, very high, averaging about 30-40%. Alberta AIM has so far provided us with valuable tools and ideas to improve our clinic's access and efficiency for our patients. Several key changes we have made include phoning/emailing/text messaging patients to remind them of appointments, refining patient panels and attachment for each Family Physician and Nurse Practitioner, posting no-show rates in the waiting rooms, and educating our patients as to the importance of their appointments. We are now consistently phoning/texting/emailing patients to remind them of Visiting Specialist appointments and have overall seen significant reductions in no-show rates for our specialists, reflected in the table above. The average no-show rate between the specialists decreased from 35% in 2013-14 to 31% in 2014-15.

Finally, CUPS patients are very **complex** and most have a number of concurrent diagnoses that include mental health and addiction issues. These diagnoses add an additional barrier for patients to attend appointments, and also complexity to any management plan suggested by the specialists. The clinicians at CUPS have commented on the importance of onsite collaboration with the visiting specialists. This has improved patient care as some follow up work, problem solving and introduction of other CUPS services (eg. mental health) can be done the same day as the specialist visit, rather than waiting for the consultation report to take action. Some visiting specialists have taken time to call referring clinicians which establishes a collegiality that allows for easier access for new problems that need solving and improved collaborative team care.

We are extremely pleased with the level of support from our Specialist colleagues. Many are open to email questions or consultations or even phone calls when they are not physically on-site at CUPS, allowing for our primary care providers to have timely responses to important clinical questions. We have even established a system of booking endoscopy procedures for our patients with the Gastroenterologists that is timely and more accessible for our patients, many of whom never make it to these procedures as they are typically 12 months or more away.

We would like to thank all the specialists who are taking the time to come to us and we look forward to continued collaboration with all of them.



## Internal Medicine Clerkship Report April 1, 2014 to March 31, 2015

### Class Size Summary:

CLERKSHIP SUMMARY	Class of 2015	Class of 2016 (in progress)	Class of 2017
Total # of students with Calgary Clerkship	181 Block 1: 41 Block 2: 40 Block 3: 41 Block 4: 59	164 Block 1: 36 Block 2: 36 Block 3: 34 + UCLIC (42) Block 4: 35 + UCLIC (50)	166 Block 1: 38 Block 2: 37 Block 3: 36 + UCLIC (42) Block 4: 37 + UCLIC (49)
Students completing Longitudinal Integrated Clerkship (UCLIC)*	18 (rolled into Block 4)	23 (rolled into Block 3 & 4)	18 (rolled into Block 3 & 4)
Total graduated May/Nov**	179 (planned)	165 (planned)	166 (planned)
Time away for National Interview period (CaRMS)	Jan 19 – Feb 1, 2015 ***there will be NO clerks available during this time	Jan 18 – 31, 2016 ***there will be NO clerks available during this time	Jan 16 – 29, 2016 ***there will be NO clerks available during this time
Xmas Holiday	Dec 22, 2014 – Jan 4, 2015	Dec 21, 2015 – Jan 3 2016	
Additional information	Mandatory clerkship starts April 14, 2014	Mandatory clerkship starts April 13, 2015	Mandatory clerkship starts April 11, 2016

*\*UCLIC students complete the majority of their clerkship in the rural setting but return in Block 3 or 4 to do 4 weeks mandatory MTU and selective rotations*

*\*\*predicted graduation class, LOA etc and remediation may alter final number*

The Internal Medicine Clerkship is 10 weeks long. There is a mandatory 4-week Medical Teaching Unit (MTU) rotation, supervised by members of the Division of General Internal Medicine. The MTU's at all four sites take students for their rotations. There are 3 MTUs at FMC, 3 at PLC, 2 at RGH, and 1 at SHC. The remaining 6 weeks the students do selectives in some of the subspecialties of the Department of Medicine, and/or Departments of Critical Care, Cardiology, or Neurology. Most of these are two weeks, to increase the exposure to different areas, with the exception of the ICU rotation which is a four week block.

The Internal Medicine Clerkship Director is Dr. Fiona Dunne, Evaluation Coordinator Dr. Mike Slawnych, and five educational assistants: Drs. Paul MacEachern, Michaela Jordan, Jennifer Williams, Susan Huan, and Rahim Kachra. These members sit on our larger committee, which also includes members from all sites, and which meets quarterly. In addition to these members, we have a dedicated group of clinician/teachers who participate in providing didactic sessions and bedside teaching sessions. There is a heavy emphasis on education. In addition to a twice weekly didactic curriculum covering common topics in Internal Medicine, we provide six 2-hour small group bedside teaching sessions for each clerk. We are supported in our day to day tasks by an administrative coordinator in UME, and by the UME Assistant Dean of Clerkship and UME Student Affairs Department for any significant issues beyond the scope of our committee.

## **Internal Medicine Education Committee Report April 1, 2014 to March 31, 2015**

### **Summary of activities:**

A Departmental retreat was held December 2013 that focused on Educational Scholarship. Recommendations from that retreat included:

- Performing an environmental scan of available resources and teaching faculty
- Development of an in-house faculty- development programs in a variety of formats
- Provision of mentoring faculty interested in Educational leadership and/or scholarship independent of the Section Chiefs
- Development of an Educational Unit to co-ordinate educational activities, standardize reporting of educational activities

K Fruetel was asked to lead work in the development of an Educational Unit. A committee consisting of Drs. M Mintz, S Coderre and K McLaughlin is working on a proposal for an Educational Office and Vice Chair of Education position. This work will be informed by the literature and also interviews with other Departments of Medicine. Final recommendations are expected in the fall of 2015.

## **Section of Dermatology – Annual Report**

### **April 1, 2013 to March 31, 2014**

The Section of Dermatology consisted of five full-time ARP members and twenty community-based dermatologists during the reporting period. Twenty-one members of the Section of Dermatology held a University of Calgary academic appointment through the Department of Medicine during the reporting period.

#### **CLINICAL**

1. Dr. Régine Mydlarski ran specialty clinics in immunobullous disease and immunodermatology. These are tertiary referral clinics with complex patients receiving referrals from other Dermatologists, Rheumatologists and other allied specialists in Calgary, Western Canada, Central Canada, and parts of the United States. She continued to provide dermatologic assessment and treatment of high risk patients in her dermatology solid organ transplant clinic in conjunction with the Southern Alberta Transplant Program.
2. Dr. Laurie Parsons ran three subspecialty patch tests clinic per week with referrals from Dermatologists throughout Calgary. She also participated in three multi-disciplinary wound care clinics in her role as Medical Director of the University of Calgary Wound Care Clinic and one general dermatology clinic per week. She continued to be active in Telehealth, providing wound care Telehealth sessions.
3. Dr. Richard Haber ran two general Dermatology clinics per week. He also conducted a pediatric dermatology clinic at the Alberta Children's Hospital (ACH) once weekly and ran Telehealth Dermatology consultation clinics to the Siksika first nation, Claresholm and High Level, Alberta, each clinic running once a month.  
From April 2, 2014 to June 30, 2014, Dr. Haber was on sabbatical in Sydney, Australia to work with Dr. Dedee Murrell, a dermatologist and world expert in a genetic skin disease, epidermolysis bullosa.
4. Dr. Habib Kurwa ran a MOHS micrographically controlled Surgical Clinic to treat complex skin malignancies at the Richmond Road Diagnostic and Treatment Centre. He currently does four MOHS surgical clinics per week in addition to two surgical consultation clinics per week.
5. Dr. Lynne Robertson ran six medical dermatology clinics per week including establishing a specialized pigmented lesion/melanoma clinic using a Fotofinder mole mapping device and supervision of a Senior Dermatology Residency Clinic.

#### **RESEARCH**

1. Dr. Mydlarski continued to conduct dermatologic basic science research. Her areas of expertise are autoimmune bullous diseases, connective tissue diseases and cutaneous skin cancer. For the reporting period, Dr. Mydlarski received funding grants from the Canadian Dermatology Foundation in the amount of \$100,000.
2. Dr. Habib Kurwa was a co-researcher with Dr. Mydlarski investigating cutaneous skin cancer.
3. Drs. Parsons, Robertson and Haber were co-investigators for a Venous Leg Ulcer Study sponsored by Smith and Nephew/Healthpoint and the Complete Psoriasis Study sponsored by Abbvie.
4. Dr. Andrei Metelitsa was very active in clinical trials. He was principal investigator of 3 clinical drug trials and sub-investigator in 4 other clinical drug trials.
5. During this reporting period the Section published 16 peer-reviewed publications and 1 book chapter (see Addendum 1), 11 non-peer reviewed publications and 8 abstracts.

#### **EDUCATION**

##### **1. Invited Lectures/Presentations:**

The Section of Dermatology was very strong in medical education.

- a. The Section continued to run a very highly rated dermatology elective program for Internal Medicine residents with a resident in every block. They also supervised elective undergraduate medical students, clerks, family medicine residents and other medical residents (including medical genetics, plastic surgery, geriatrics and pediatrics).
- b. The Section sponsored the 9<sup>th</sup> Annual Day in Dermatology CME on November 1, 2014 and this event was attended by over 80 family physicians and approximately 20 final year family practice residents.
- c. Dr. Haber was an invited speaker/presenter as follows:
  - April 24, 2015. Pediatric Grand Round. St. George Hospital, Sydney, Australia. Paediatric dermatologic emergencies.
  - May 1, 2015. Medical Grand Rounds. St. George Hospital, Sydney, Australia. Cutaneous manifestations of Sarcoidosis.
  - May 30, 2014. Infectious Disease Grand Rounds. St. George Hospital, Sydney, Australia. Aquatic dermatology.
  - Sept 18, 2014. Combined Dermatology/Otolaryngology round. Richmond Road Diagnostic and Treatment Centre, Calgary, Alberta. Benign skin tumours of the head and neck.
  - Oct 2, 2014. Canadian Society of Internal Medicine/Rocky Mountain Annual Meeting, Calgary, Alberta. Rashes for internists.
  - Oct 30, 2014. Medical Grand Rounds. Foothills Medical Centre, Calgary, Alberta. Cutaneous drug eruptions.
  - Nov 1, 2014. 9<sup>th</sup> Annual University of Calgary Day for Family Physicians. Libin Auditorium, Health Science Centre, Calgary, Alberta. Cutaneous Infection Pearls.
  - Nov 19, 2014. Family Practice Review and Update Course. Calgary, Alberta. Twenty common dermatologic conditions.
  - Jan 13, 2015. Lecture for medical genetics residents. Alberta Children's Hospital, Calgary, Alberta. Epidermolysis bullosa.
- d. Dr. Robertson was an invited speaker/presenter as follows:
  - May 6, 2014. Medical Grand Rounds. Foothills Medical Centre, Calgary, Alberta. Cutaneous vasculitis – A Morphological Approach.
  - May 10, 2014. Alberta Children's Hospital Paediatric Update, Alberta Children's Hospital, Calgary, Alberta. Pediatric lumps and bumps.
  - Nov 1, 2014. 9<sup>th</sup> Annual University of Calgary Day for Family Physicians. Libin Auditorium, Health Science Centre, Calgary, Alberta. Viral Exanthems.
  - Feb 19, 2015. Calgary, Alberta. 9<sup>th</sup> Annual Canadian Melanoma Conference. Whistler B.C. Population-based screening for melanoma-an Alberta trial.
- e. Dr. Parsons was an invited speaker/presenter as follows:
  - Oct 31, 2014. Co-Presenter., Canadian Association of Wound Care and Canadian Association of Enterostomal Therapists Conference, Toronto, Ontario. Diabetic foot screening practices in Alberta.
  - Oct 31, 2014. Canadian Association of Wound Care and Canadian Association of Enterostomal Therapists Conference, Toronto, Ontario. Current diabetic foot screening practices in primary care: a quality assurance study.
  - Nov 2, 2014. Canadian Association of Wound Care and Canadian Association of Enterostomal Therapists Conference, Toronto, Ontario. Panel discussion of bariatric wound healing and skin health.
  - Nov 2, 2014. Canadian Association of Wound Care and Canadian Association of Enterostomal Therapists Conference, Toronto, Ontario. Peristomal skin eruptions and their treatments.
- f. Dr. Mydlarski was an invited speaker/presenter as follows:
  - May 21, 2014. Calgary Pemphigus and Pemphigoid Society (branch of the Canadian Pemphigus and Pemphigoid Society). Calgary, Alberta. Diet and Pemphigus.
  - June 27, 2014. Co-presenter. Canadian Dermatology Association Annual Meeting. Toronto, Ontario. Omalizumab in dermatology: a review of the literature.
  - June 27, 2014. Co-presenter. Canadian Dermatology Association Annual Meeting, Toronto, Ontario. Intravenous immunoglobulin for the treatment of recalcitrant atopic dermatitis.

- Dec 17, 2014. Rheumatology Rounds. Foothills Medical Centre, Calgary, Alberta. Neutrophilic dermatoses.
- March 1, 2015. Canadian Association of Gastroenterology Meeting. Banff, Alberta. Dermatology and Inflammatory Bowel Disease.

g. Dr. Kurwa was an invited speaker/presenter as follows:

- Nov 6, 2014. American Society of Dermatologic Surgery Annual Meeting. San Diego, California. Basal cell carcinoma of the nipple-areola complex. Case series and review of the literature.

h. Dr. Metilitsa was an invited speaker/presenter as follows:

- Sept 12, 2014. Dermatology Update. Vancouver, B.C. New Updates in Laser Therapy.
- Nov 1, 2014. Annual University of Calgary Dermatology Day for Family Physicians. Botox and its siblings, medical and cosmetic use.
- Nov 7, 2014. American Society of Dermatologic Surgery Annual Meeting. San Diego, California. 5 years of practice Early Pearls.
- March 21, 2015. American Academy of Dermatology Annual Meeting. San Francisco, California. Complications of fractional Resurfacing.

i. Dr. Woolner was an invited speaker/presenter as follows:

- Nov 1, 2014. Annual University of Calgary Dermatology Day for Family Physicians. Cutaneous Drug Eruptions.

j. Dr. Kalisiak was an invited speaker/presenter as follows:

- Nov 1, 2014. Annual University of Calgary Dermatology Day for Family Physicians. Hypo and depigmented skin conditions.

k. Dr. Zip was an invited speaker/presenter as follows:

- Nov 1, 2014. Annual University of Calgary Dermatology Day for Family Physicians. Rosacea Update.

## **2. Undergraduate Education**

- a. Dr. Laurie Parsons is the co-ordinator of MDCN-360 (Course II) which this year ran from Nov 19, 2014 to Nov 27, 2014.
- b. Drs. Haber, Mydlarski, Parsons, Poelman, Remington, Robertson, Woolner, and Zip lectured to the Undergraduate Medical Students during the 2014 MDCN-360 (Course II).

## **3. Graduate Education:**

- a. Dr. Régine Mydlarski was the module co-ordinator for IMM-3, Autoimmunity and Immunodeficiency (MDSC 639.03).
- b. One graduate student and one post doctoral student were trained in the Transitional Dermatology Lab under the supervision of Dr. Regine Mydlarski during the reporting period.

## **4. Public Service:**

- a. Dr Poelman participated in a public skin cancer screening clinic at the Eau Claire Centre in Calgary as part of the Canadian Dermatology Association 26<sup>th</sup> National Sun Awareness Week in June 2014. Walk-in patients were screened for skin cancer.

## **5. Awards and other Achievements:**

- a. Dr. Regine Mydlarski received the CDA resident teaching award in June 2014.
- b. Dr. Regine Mydlarski received the 2013-2014 PARA teaching award.

## **ADMINISTRATION**

1. Dr. Haber continued as the Chair of the Dermatology Specialty Committee of the Royal College of Physicians and Surgeons. He continued as the Medical Telehealth Advisor for the Department of Medicine. He organized the Section of Dermatology Patient Viewing Rounds and chaired the accompanying Sectional Business Meetings.

2. Dr. Laurie Parsons continued in her respective roles as the Medical Director – Wound Care for Calgary, Coordinator of the Undergraduate Dermatology Teaching for MDCN-360, and Organizer of the Section of Dermatology Journal Club. In addition, she was a member of the EMIS User Working Group, Wound Advisory Committee and Best Practice Committee of the Department of Medicine. Nationally, she was the Chair of the National Dermatology Undergraduate Education Working Group, an appointment of the Canadian Professors of Dermatology, Canadian Dermatology Association. Dr. Parsons continued in the position of dermatology representative on the ARP Management Committee. Dr. Parsons continued as the Chair of the Selection Committee for the University of Calgary Dermatology Residency Program.
3. Dr. Régine Mydlarski continued as the Program Director of the Dermatology Residency Program at the University of Calgary and did an excellent job in organizing all facets of our first Royal College residency external accreditation. She was the Medical Co-Director of the Medical Advisory Council of the Canadian Pemphigus and Pemphigoid Foundation. She was a member of the Advisory Board of the Skin Malignancy Working Group in Transplantation. Internationally, Dr. Mydlarski was a Medical Advisor for the Medical Advisory Council of the International Pemphigus and Pemphigoid Foundation. She continued to be the Director of Immunodermatology for the Section of Dermatology and was the Director of Transplant Dermatology for the Southern Alberta Transplant Program.
4. Dr. Lynne Robertson continued as the Chair of Evaluations for the University of Calgary Dermatology Residency Program.
5. Dr. Habib Kurwa continued as the Surgical Chair for the University of Calgary Dermatology Residency Program. He continued as the Section of Dermatology representative to the QA/QI committee of the Department of Medicine at the University of Calgary

## **OTHER ACCOMPLISHMENTS**

The University of Calgary Section of Dermatology Royal College Accredited residency program entered its 5<sup>th</sup> year. Our inaugural and senior residents will be the first cohort to take the Royal College fellowship examination in June of 2015.

The University of Calgary, Section of Dermatology accepted 2 first year dermatology residents via the 2014 CaRMS match. Our residency program will have a total of 14 dermatology residents starting July 1, 2015.

The University of Calgary, Section of Dermatology residency program underwent the first full external review in Feb 2015. The recommendation from the external review team was that the program receives full accreditation for the next 6 years.

Dr. Vimal Prajapati started a multidisciplinary juvenile localized scleroderma clinic in conjunction with pediatric rheumatology to run monthly out of the Institute for Skin Advancement in Calgary and the Alberta Children's Hospital. Dr. Prajapati also received his American board of Dermatology Subspecialty Certification in pediatric dermatology during the reporting period.

Dr. Haber completed a successful sabbatical in Sydney Australia which included the time period January 1, 2015 to June 30, 2015 in which he worked in a dedicated epidermolysis bullosa clinic.

Dr. Parsons who is the Medical Director of the University of Calgary Wound Care Clinic was able to obtain a 1.0 FTE ARP position in the Wound Care Clinic which will improve the efficiency and expertise in the clinic.

## **CHALLENGES AND FUTURE DIRECTION**

1. Dr. Haber will be completing his second five year term as Section Chief of Dermatology on June 30, 2015. A formal search and selection committee has been struck and tasked with choosing a new Section Chief.
2. The full-time ARP members of the Section of Dermatology work out of 6 clinical examination rooms at Richmond Road Diagnostic and Treatment Centre. However having availability of only 6 examination rooms for 4 full-time

dermatologists has limited clinic opportunities and efficiency of the clinic, especially in view of the large number of learners (residents and medical students) present in every clinic. It is imperative that more clinical examination rooms become available in order for expansion of patient numbers to occur. This is especially important as the Section will have a new Section Chief in the next year that will also need clinical examination rooms for his/her practice.

3. The phototherapy equipment at Richmond Road Diagnostic and Treatment Centre is not being used, again because of lack of necessary housekeeping funding. This has deprived the public from an important and necessary therapeutic treatment and this situation needs to be remedied on an urgent basis. Efforts to get funding for the Phototherapy Centre at RRDTC have been unsuccessful.

The Section of Dermatology urgently needs to recruit a full-time pediatric dermatologist for the Alberta Children's Hospital, as a mandatory 3 month rotation is a requirement for our dermatology residents under the Royal College Specialty Training Requirements. Dr. Haber has been in talks with several Heads of Pediatrics since his appointment as Section Chief in 2005 but little progress has been made in getting a full-time ARP pediatric dermatology position established at the Alberta Children's Hospital. Currently our residents are required to do a 3 month pediatric dermatology rotation during their residencies in either Edmonton or Toronto and a formal Royal College mandated inter-university agreement is in place for our program to fulfill the Royal College Specialty Training Requirements. This position is a priority for the Section.

4. With the expansion of our dermatology residency program, the Section needs to recruit another full-time ARP dermatologist to assist with seeing patients at RRDTC and teaching dermatology to other rotating residents. The addition of a new Section Chief will help but additional full-time ARP clinical dermatologists are necessary for the Section to grow.
5. The Section needs the ability to recruit non ARP, fee for service dermatologists to work at RRDTC to assist with seeing patients, teaching residents and establishing specialized clinics such as the high risk mole and melanoma clinic. We hope that a mechanism to recruit these dermatologists will be developed in the near future.



## Section of Endocrinology and Metabolism - Annual Report

### April 1, 2014 to March 31, 2015

The Section of Endocrinology presently consists of 22 faculty members who maintain offices in Richmond Road Diagnostic and Treatment Centre, Health Sciences Centre FMC, PLC, South Health Campus and in the Associate Clinic Gulf Canada Square. The majority of the clinical work is conducted in the Endocrine Clinics at RRDTTC, in proximity to the Diabetes, Hypertension and Cholesterol Centre and the Osteoporosis Centre. The Section includes 6 Full Clinical Professors, 5 Clinical/Associate Professors, 9 Clinical/Assistant Professors and 2 Clinical Scholars.

#### CLINICAL

- a) **As a whole, clinical care comprised 52% of the contracted Sectional activity** which translates to 8.7 FTE clinicians. This represents stability compared to the prior year. Two new maternity leaves commenced while another one ended; one faculty returned from sabbatical and one faculty commenced a long term leave of absence.
- b) **The Section of endocrinology continues to provide both inpatient and outpatient consultative and chronic care in all areas of the specialty.** In the past year, the Endocrinology Central Access and Triage (CAT) received 6723 outpatient referrals for MD appointments, (not including Diabetes in Pregnancy) of which 82% were accepted and booked into a clinic appointment. Of all urgent referrals, 90% were seen in less than six weeks whereas the 90% last year were seen in three weeks. The median wait time for a non-urgent consultation in general endocrinology is approximately 8 weeks but for osteoporosis and diabetes referrals, the mean wait time is now 38 and 32 weeks respectively. These figures demonstrate the Section's concerted efforts to meet the community demand for endocrine services. However the increasing wait times underline the need for additional recruitment of physicians with a diabetes or osteoporosis focus, especially since the stated figures do not include other DHCC or DIP program referrals or the almost 650 patient referrals which are currently waiting to be scheduled (largely diabetes and osteoporosis).
- c) **The Section maintains and supervises the regional endocrinology testing unit** under the direction of Dr. Bernard Corenblum where specialized metabolic testing is performed. The majority of such tests are done for endocrinology patients but the testing unit also supports some work by nephrology and general medicine. During the past fiscal year, the unit performed over 400 specialized endocrine test protocols (which typically take one half to one full day) and provided 413 additional patients with specialized parenteral outpatient endocrine therapies and education not otherwise available in Day Medicine. In terms of total patient visits to the unit, there was a 6% increase this year compared to last year. Since 2012, the ETU has seen a 36% increase in demand for patient tests and visits but without increase in staffing or space during that time.
- d) **The endocrinology Section maintains primary responsibility for the Diabetes, Hypertension and Cholesterol Centre (DHCC)** under the direction of Dr. Julie McKeen. In the past year, the DHCC conducted over 12,000 one-on-one patient care visits through the MDs and allied health workers. In addition, there were over 1700 new referrals for Diabetes in Pregnancy (not included in other referral numbers), under the direction of Dr. Lois Donovan. The DHCC has pioneered and delivered a large number of community diabetes education and support training modules to help the various PCNs maximize up-to-date diabetes management in the community setting.
- e) **The Section provided clinical services in a wide diversity of settings.** In addition to clinics for diabetes and hypertension, the Section staffs clinics for Diabetes in Pregnancy at all 4 acute care sites, General Endocrinology, Osteoporosis and Metabolic Bone Disease, Thyroid Cancer (TBCC), Neuroendocrine Tumour (TBCC), Solid Organ Transplant and an Outreach Clinic on the Stoney Reserve run by Dr. Otto Rorstad. Section members continue to operate two separate "tumour boards" for thyroid and neuroendocrine cancers in order to facilitate a multi-disciplinary team approach to management. A transgender endocrine therapy clinic has been started by Dr. Nathalie Saad.
- f) **The Section has pioneered a weekly "Community Access Physician" program** to assist with urgent referrals and wait list management. Each week, an endocrinologist is available during business hours to assist triage staff, to take all requests for phone advice and to see any urgent referral such as new-onset type 1 diabetes. This has been well received in the community and is felt to have streamlined the ability of community physicians to get immediate access to endocrinology services. The 25% of CAT referrals that are not booked into a clinic appointment are dealt with by the Community Access Physician who still offers phone consultation or a letter to assist the referring physician in such cases. This means that over 1800 referrals were handled by an

endocrinologist without a clinic visit, a very important tool for waitlist management made possible through the AARP program.

- g) **The Section has begun to create a non-traditional consultation process for diabetes referrals.** Dr. Shelley Bhayana has returned to the Section with a primary focus on auditing and developing a nurse-led and physician supported consultation patient care process that will facilitate the ability to produce consultation-level care advice for diabetes for primary care physicians without reliance upon the traditional clinic visit. Once implemented it is estimated by early modelling that the process may increase the patient-assessment capacity by up to 100% and reduce waiting lists as patients are spared a long wait for one-on-one physician visits.

## RESEARCH

- a) **As a whole, the Section spends 19% of its time in research pursuits**, with protected research time equivalent to 3.4 FTE researchers. This is unchanged compared to the prior year.
- b) **The Section produced 58 peer reviewed publications (the same as the prior year)** in journals with mean impact factor 3.34, 15 non-peer reviewed publications, 42 peer-reviewed abstracts and 1 book chapter. Work published by Section members since 2012 has been cited 1204 times. The research efforts of Drs. Hanley and Rabi are particularly acknowledged for their Section-leading productivity as together they accounted for almost 50% of all publications.
- c) Section members delivered 33 invited local academic presentations, 9 academic presentations at a national level and 8 invited addresses at international meetings.
- d) A total of 4 new, peer-reviewed grant applications including 3 CIHR grants were awarded research funding, joining the 34 other approved studies that were ongoing during the year.

## EDUCATION

- a) **As a whole, educational pursuits comprise 12% of the contracted time of Section members** with an FTE equivalent of 2.0 full time teachers, no change over the previous year.
- b) **The Section has trained 3 new endocrinologists in the past year:** Dr. Leanne Gutierrez started a community endocrinology practice in Comox, British Columbia in summer 2014. Dr. Erik Venos commenced a two year Masters in Health Economics in July 2014 and Dr. Emma Billington departed for a one year research training program in Metabolic Bone disease with Dr. Ian Reid in Auckland, New Zealand. There were 2 second year fellows and 3 first year fellows also in training. The endocrinology training program received high praise and accreditation from the Royal College external review, highlighting the leadership of Dr. Vicky Parkins.
- c) **Undergraduate medical education continues to be a major focus of the endocrine Section.** As a whole, the Section provided 297 hours of direct, didactic teaching to the medical school (a 19% increase over prior year) with a mean teaching score of 4.1/5 in student evaluations. Additionally, over 400 hours were provided for other direct, planned educational activities for residents, allied health workers and professional CME. Dr. Hanan Bassyouni has continued as co-chair of the endocrinology-nephrology course in the medical school. Section members received 7 different teaching awards in the past year.
- d) **Bedside teaching in the outpatient clinics** was provided with 1037 clinics in which a clerk, resident or fellow worked alongside a faculty member, in addition to the regular inpatient service. This represents a 7% increase over last year.
- e) **22% of Section members directly supervised at least one student project** in the past year, ranging from medical student projects to PhD thesis with several members supervising multiple students.
- f) Dr. Chris Symonds continued in his position as Medical Director of the Physician Learning Program, an AMA/University of Calgary/University of Alberta project that helps physician groups perform quantitative analysis of their practice patterns with subsequent educational programs to improve care. Multiple projects were completed and presented across a wide range of medical disciplines.

## ADMINISTRATION

- a) **As a whole, the Section members spend 16% of their time in various administration activities**, roughly approximating the work of 2.7 FTE administrators, no change over the prior year.
- b) Dr. Alun Edwards continues as Senior Medical Director, AHS Strategic Clinical Network for Diabetes, Nutrition and Obesity which has been instrumental in bringing the provincial insulin pump program to

fruition along with a well developed structure for monitoring of implementation and outcomes. As such, Alberta is the only province in Canada with an insulin pump program that has an outcome-based evaluation program in place.

- c) Dr. Gregory Kline has continued in the role of Interim Section Head. An international candidate for the position has been hired (Dr. Ralf Paschke from the University of Leipzig) and his arrival is expected in mid 2015.
- d) Dr. Peter Grundy continued in his role as Chair of the ARP Management Committee for the Dept. of Medicine and continued to play a key role for the department of medicine in all aspects of the re-negotiation and administration of this most important salary program.
- e) Dr. Julie McKeen is the Medical Director of the Diabetes, Hypertension and Cholesterol Centre
- f) Dr. David Hanley is the Medical Director of the Calgary Osteoporosis and Metabolic Bone Centre
- g) Multiple members sit on national and international committees in metabolic bone disease, diabetes care and obesity.

## FUTURE CHALLENGES

- a) **Access to parenteral therapies and specialized testing.** Over the past 5 years, the practice of endocrinology has changed dramatically with the advent of novel (and often high-cost) parenteral therapies such as zoledronic acid, teriparatide, denosumab, pegvisomant, octreotide, lanreotide, rhTSH etc. Many of these drugs are now in very common use. The time – work burden of administering these therapies includes extensive reimbursement paperwork, often repeated applications for special coverage programs and a requirement for space and staff to administer the drugs. These processes/drugs currently cannot be off-loaded to primary care and demand is ever increasing. There will likely be a need for more support staff and space to facilitate all aspects of these therapies.  
 This comes in addition to an increasing demand for specialized testing in the Endocrine testing unit. With a 36% increase in patient visits over the past 3 years, the clinic is now approaching maximum capacity. Demands for service are also coming from the growing community specialist sector which sends patients for tests and treatments but contributes nothing to overhead and staff salaries. Direction has been sought from AHS administration regarding appropriate access parameters for non-Sectional physicians. If full access is continued and community specialty groups continue to expand, AHS will need to invest in a significant expansion of the testing unit space and staff.
- b) **Citywide Inpatient Endocrine Consultation Coverage** continues to be a challenge. Without sufficient funding to support a split group call schedule, endocrinologists on call continue to be expected to provide inpatient consultations at each of the four acute care facilities in Calgary, in addition to supporting physicians calling in from across Southern Alberta. Given the physical impossibility of multi-site in-person attendance, this arrangement is highly unsatisfactory from a patient care and safety perspective. AHS is urged to fund a second call group.
- c) **Geographical disparities in outpatient endocrine/diabetes coverage.** Data from the Diabetes, Nutrition and Obesity SCN indicates that Northeast Calgary in particular requires an urgent concentration of services directed towards even basic diabetes and metabolic management. Patients from this region do not frequently access the diabetes services located at RRDTC in NW/SW Calgary. There is a critical need for University affiliated academic and teaching endocrinologists to move into NE Calgary and recruitment to this post should be a major AHS priority.
- d) **Patient “no-shows” and the impact on human resources and waitlists.** In the fiscal year being reported, 42% of new patients referred for an initial diabetes consultation with an endocrinologist failed to attend the appointment. Of those patients already attached to an endocrinologist, only 10% failed to attend a follow up appointment. This data shows that most patients who attend the diabetes clinic tend to continue their follow up care at the clinic. However, nearly half of all newly referred patients never come to the initial appointment despite a multi-step phone reminder process in the days leading up to the appointment. The Section will need to study the reasons and barriers to patient access for diabetes. As well, the Section will need to invest in projects that attempt non-traditional chronic disease care models such as diabetes drop-in clinics and nurse-led case conferences that do not require patient attendance.
- e) **Projected retirements/leaves/departures:** 30% of the Sectional membership is approaching a time of potential retirement in the next 2 to 5 years. With Dr. Hanley’s retirement in mid 2015, it is expected that there will be a significant decrease in the overall Sectional research output in the coming years. Recruitment of Dr. Emma Billington as a metabolic bone clinician-researcher will be a useful start in regenerating

Sectional research but there is still an urgent need to recruit multiple new physicians with a research focus. GFT-ready young endocrinologists are in very short supply and thus the Section will need to make a concerted effort to support any quality trainee with research potential. Expansion of the AARP program will be necessary to permit recruitment of physicians who will take on any type of non-clinical roles in addition to their clinical work.

## **Section of Gastroenterology and Hepatology – Annual Report April 1, 2014 to March 31, 2015**

The Section of Gastroenterology officially changed its name to the “**Section of Gastroenterology and Hepatology**”.

The Section has developed an overarching strategic plan that encompasses a vision for the development of gastroenterology and hepatology clinical services, research and education within the Calgary Zone; all under the umbrella, **Calgary Centre for Digestive Health (CCDH)**. The vision is to establish the Calgary Centre for Digestive Health to accelerate the pathway from research discovery to patient wellness. The goal is to be the top digestive health team in Canada in five years, and to be recognized as one of the top ten digestive health groups in the world within 10 years.

**FMC – Foothills Medical Centre (Site Chief, Dr. Christopher Andrews):** Switching to a Calgary Zone EMR remains a priority in order to take pressure off of the centralized paper chart room. As in previous years within the Zone, the clinical demand for GI and hepatology services remains high and is increasing at the FMC and UCMC GI clinic - with GI Central Triage now receiving ~1800 referrals per month, and Hepatology Central Triage receiving ~450 referrals per month. Review and implementation of triage pathways has kept wait times for urgent cases within reasonable timeframes (i.e. less than 6 weeks). The successful flexible sigmoidoscopy and thin-scope endoscopy clinics continue in the UCMC area - further improving patient access to investigations. Extensive work by Central Triage and GI executive physicians in conjunction with Primary Care Network teams have led to the development of Enhanced Primary Care Pathways to encourage the management of common routine GI problems (such as irritable bowel syndrome (IBS) and functional dyspepsia) within their “medical home” (i.e. the primary care setting) in the majority of cases. It is anticipated that this will allow redirection of a large number of routine referrals to GI Central Triage back to specialized teams within the PCN's. The Hepatology clinical capacity continues to expand with further nurse practitioner support and the hiring of 2 new FFS hepatologists (Drs. Borman and Congly).

**RGH – Rockyview General Hospital (Site Chief, Dr. Mani Kareemi):** The Gastroenterology team at the RGH is comprised of 10 gastroenterologists and 1 Hepatologist, providing strong clinical service supporting both outpatient and inpatient GI care, and averaging over 10,000 endoscopic procedures per year. The volume of inpatient and emergency room consultations remains high in spite of opening of South Health Campus. A fourth endoscopy room has been approved to facilitate inpatient procedures and improve patient flow through the inpatient wards and emergency room. Funding has been approved and we are awaiting commencement of construction. There are also potential plans of redesigning the combined urology / gastroenterology space with possibility of some expansion for GI endoscopy. With the departure of Dr. Chalmers-Nixon to Fernie, British Columbia, we have hired two new members to the GI team; Dr. Isaac Soo and Dr. Liisa Meddings. Both have nutrition training and the mandate is to enhance the city-wide provision of nutrition support through further organization of nutritional care at the RGH, contribution to the home enteral / parenteral program and involvement in nutritional care for NAFLD/ bariatrics programs as well as cancer care nutrition within the Calgary Zone. The group continues to be a major contributor to services at the Colon Cancer Screening Centre. Educational activities include undergraduate teaching for the first-year medical school courses, rotation of medicine residents (first year through third year) and GI Fellows rotating through the Rockyview Hospital. We have had excellent feed-back from the medicine residents. Quality of teaching has been acknowledged by members being placed on the undergraduate teaching honor roll and clinical teaching awards from GI Fellows. Members of the Section also play a significant administrative role through the Alberta Society of Gastroenterology (ASG) with Dr. Cynthia Cleary as fees representative to the AMA and Dr. Khaliq-Kareemi as outgoing representative to the AMA Rep Forum and Dr. Jennifer Williams as incoming representative to rep forum.

**PLC – Peter Lougheed Centre (Site Chief, Dr. Rachid Mohamed):** The Gastroenterology group at the PLC, which comprises of 11 gastroenterologists, continues to be a very active and diverse group consisting of a combination of both fee-for-service and ARP funded physicians. Many of the gastroenterologists at the PLC participate in the citywide GI central triage service. Over 11,000 endoscopic procedures took place at the PLC, including about 1400 therapeutic procedures such as ERCP. The PLC is Southern Alberta's only therapeutic endoscopy Centre, performing all adult ERCP and endoscopic procedures which require fluoroscopy in southern Alberta and southeastern BC (British Columbia). Endoscopic ultrasound for biliary disease has been integrated into the therapeutic service and complements the already well-established ERCP service. Patients presenting with a low risk for common bile duct stone can now have an endoscopic ultrasound, a safer and quicker alternative to ERCP. Expansion of endoscopic ultrasound indications and procedures at the PLC is ongoing. Cholangioscopy (directly visualizing the biliary tree) has grown tremendously in the past year. The PLC was able to purchase a new digital cholangioscopy scope through collaboration with our Hepatology



colleague Bertus Eksteen, who specializes in Primary Sclerosing Cholangitis (PSC). The double balloon enteroscopy program has been phased out of the site as previously planned (moved to the FMC). The PLC therapeutic endoscopy group recently underwent an external review by a well-respected and prominent national figure, Dr. Gary May from Toronto. The review of clinical services provided were overwhelmingly positive. Strong medical and operational leadership support for a dedicated Regional Therapeutic Endoscopy Centre to be located at the PLC was given, and preliminary discussions regarding a potential new unit are ongoing. This would be a unique centre in western Canada and serve as a pillar for academic and clinical therapeutic endoscopy nationally.

**SHC - South Health Campus (Site Chief, Dr. Michael Curley):** The Section of Gastroenterology and Hepatology was established at the new South Health Campus (SHC) in 2012. Michael Curley took over as GI site chief with Dr. Alex Aspinall stepping down in March 2014. Drs. Meena Mathivanan and Michael Stewart are the newest permanent Gastroenterologists at SHC; starting in mid-summer 2014 and bringing the total number of GI staff to seven. These new recruits added IBD expertise to the group (three with expertise in GI motility and upper GI disorders (Gupta, Buresi, and Curley) and two Hepatologists (Aspinall and Jayakumar). This group maintains close links to the IBD experts present at the other sites within Calgary, and are a great asset to IBD care at the SHC. The Calgary Gut Motility Centre (established late 2012) continues to be very busy with well over one thousand procedures per year. Wait times for motility studies are still less than two weeks in the Calgary Zone (compared to a wait of several months prior to establishing this centre). The anorectal manometry program opened in spring 2013 and aids in the evaluation and management of patients with lower GI tract motility disorders. The opening of the Endoscopy unit at the SHC in February 2013 has contributed much needed endoscopy resources to the Calgary Zone. This impact has been most pronounced on the direct-to-procedure (DTP) wait list. The creation of a SHC Hepatology service (which is part of the University of Calgary Liver Unit) continues to facilitate patient access and reduce wait times, and accommodates an increasing volume of Hepatology consults within the Calgary Zone. The Hepatology clinics opened at the SHC in October 2012. Two transplant-trained Hepatologists (Drs. Aspinall and Jayakumar) work at the SHC Hepatology clinics, with specialty clinics in non-alcoholic fatty liver disease (NAFLD), Viral Hepatitis, General Hepatology and Hepatocellular Carcinoma. Collaborative links exist with the Southern Alberta Liver Transplant Clinic and includes weekly video-conferencing with the University of Alberta Transplant Program. A full-time Hepatology nurse clinician supports the clinics. Dr. Jayakumar has been the medical lead for a multidisciplinary clinic for NAFLD called IFLEW (Introductory Fatty Liver Education Workshop). This program involves a nurse clinician, dietitian, YMCA fitness trainer, and social worker with a focus on patient education and risk factor modification. The clinic provides a full spectrum of multi-disciplinary support for patients with liver disease, including Fibroscan. Six IFLEW clinics were held in 2014 and the plan is to expand this further. Innovative models to deliver care to patients with motility and functional bowel disorders through the Nurse Navigator pathways at the South Calgary Primary Care Network have continued and expanded to include irritable bowel syndrome in the fall of 2014. Greg Heather (RN) has taken over the permanent Nurse Navigator position. Drs. Buresi and Curley have also participated in educational events for primary care physicians including evening dinner presentations and “Lunch and Learn” sessions. This educational role will be expanding over the next year to include public forum presentations and visits to long term care facilities. Drs. Gupta and Curley, Colleen Laidlaw (SHC endoscopy unit educator) and Jessica McLarty (GI clinic/Endo unit manager) make up the QA/QI team at SHC, and GI and have been involved with a variety of projects in this area in 2014-15.

## CLINICAL

### (i) Innovations in Clinical Care Delivery:

**1. Functional GI Disorder Nurse Navigator program (NN):** The Nurse Navigator program initiated within the Calgary Foothills PCN has continued to expand. The NN program is now independent of Central Access and Triage (CAT) with internal self-referral and management, overseen through collaborative leadership between a GI-expert GP based within the medical home and gastroenterology – Dr. Kerri Novak. The service includes any chronic functional bowel disorder with a focus on GERD, dyspepsia, IBS, chronic abdominal pain syndromes and chronic constipation. The NN program at the South Health Campus has also grown, and now includes IBS as a common indication. The FMC NN program was started in January 2014, with more than 250 patients assessed to date with close collaboration, again with a multidisciplinary education format with group assessment. Close collaboration is ongoing with the Living Well program, which provides nutrition support. All of these clinics and the clinical care by para-professionals are supported by the development of best-evidence clinical care pathways (with four finalized to date; GERD, dyspepsia, IBS and constipation) overseen by expert GI physicians. In addition, education and knowledge translation within the Primary Care Networks, with an aim to improve the care for common GI conditions within the medical home, has been facilitated by ‘lunch and learns’, where

gastroenterologists visit the medical home, to educate and collaborate with physicians in their home office setting. Evening CMEs have also facilitated this process.

**2. Central Access and Triage (CAT):** Our single point of entry model for access to GI services receives approximately 1800 referrals per month for 37 GI physicians representing both academic and private practice. Allocation of triage priority is based on medical acuity and urgency, according to Canadian Association of Gastroenterology guidelines for medically acceptable wait times. Triage is mainly performed by nurses with physician support and oversight. Efficiency within CAT continues to improve through process mapping, education and training of nurses and clerks, and benchmarked throughput. Updated fax communication forms have improved clarity of correspondence with referring physicians and put a unified face and brand to GI CAT. Real-time tracking of referral volume and indication, priority and pathway allocation, and wait times has been facilitated in the last year by linking data pipelines to visualization tools. Improved accessibility of essential CAT data has enabled a variety of quality improvement projects. The introduction of the Fecal Immunochemical Test in Calgary resulted in immediate and sustained increase in demand for urgent GI care which was met by CAT by expansion and refinement of the Direct to Procedure and Urgent Clinic pathways. Enhanced Primary Care pathways were developed to help referring primary care physicians investigate and treat GI disorders in the patient's medical home. The CAT telephone consult service expanded to include GI Specialist Link, a Monday to Friday phone consult service available to primary care physicians for advice in managing non-urgent GI issues, and has been very successful in terms of responsiveness, accessibility, and service to both our general practitioner colleagues and their patients. CAT has also reached out to primary care physician groups in Calgary by leading 'Lunch & Learn' sessions, a forum in which GI medical topics and access issues are discussed.

**3. Urgent Referral Pathway:** Priority for this pathway is given to the sickest patients, as these patients are top priority in our triage management system. Dedicated urgent GI clinics with matched urgent endoscopy times have been further enhanced with the addition of more physicians to allow for 1-2 dedicated clinics and endoscopy slots per week. In addition, our direct-to-procedure (DTP) stream for extremely urgent patients has continued to allow for 1-2 such patients a day to be seen by the GI physician on call. Furthermore, clinic and endoscopy templates have been altered to allow more flexibility for scheduling urgent patients. As always, referrals from the Emergency Department and Tom Baker Cancer Centre are prioritized, in addition to those urgent referrals received by fax from the community. As a result of this focus, urgent wait times have significantly dropped from previous years and despite the increase in urgent referrals, have been maintained to a mean of less than 6 weeks to be seen in clinic; and less than 2 weeks for those triaged as extremely urgent.

**4. Telephone Consult Service:** The telephone consultation service coordinated through CAT since early 2012 has been expanded with the establishment of a rapid access phone consultation service, administered by the Calgary Foothills PCN, known as 'Specialist Link'. This important innovation has been highly successful with excellent referring physician feedback, as a means to translate knowledge, facilitate / potentially resolve queries regarding non-urgent referrals, and reassure physicians about diagnosis and management. This service started as a pilot, and given the success and utility, has now expanded to the entire Calgary Zone as a permanent service. It will serve as an example for other specialty services for the provision of this type of telephone consultation.

**5. Non-CCSC Colorectal Cancer Screening and Surveillance:** Approximately 10% of the overall referral volume at CAT is for colorectal cancer screening, colorectal neoplasia surveillance, or positive fecal immunochemical test. Most of these patients are ineligible for colonoscopy at the Forzani & MacPhail Colon Cancer Screening Centre (CCSC) due to age or medical comorbidities. GI CAT remains an important point of timely access to colonoscopy for diagnosis and prevention of colorectal cancer in many high risk patients. This year, weekly meetings have taken place between GI CAT and CCSC to ensure that patients referred for colorectal cancer screening have their colonoscopies performed in the most appropriate facility. From a CAT perspective, this has led to some patients appropriately being diverted from CAT to CCSC, which has helped reduce the use of hospital colonoscopy resources for screening purposes. Similarly, from a CCSC perspective, this collaboration has facilitated handover to CAT of patients deemed ineligible for colonoscopy at CCSC.

**6. Direct to Procedure Clinical Pathway:** Approximately 25% of all referrals to CAT are appropriate for assessment and endoscopy on the same day – a pathway called "direct to procedure" (DTP). This pathway has reduced patient wait times for urgent triage priorities. A nurse navigator-led follow up clinic for patients seen through the DTP pathway is being established, with significant improvements observed to date with continuity of care and improved patient follow-up. Many of these patients are effectively followed up by telephone by the nurse, obviating the need for a clinic visit. One of the main aims of this pathway is to improve communication with referring physicians and improve overall patient continuity



of care.

**7. Thin scope endoscopy (TSE) clinics:** TSE allows for un-sedated upper endoscopy to be performed in the clinic setting. By utilizing the clinic setting for low risk patients with certain indications for upper endoscopy (e.g. screening for esophageal varices and Barrett's esophagus, screening for pathology in patients with heartburn or abdominal pain and concerning symptoms) these endoscopies can be removed from the acute care GI endoscopy unit. Up to 8 such thin scope endoscopies can be performed per half day clinic – endoscopies that would have typically required sedation in an acute care GI endoscopy room in the FMC, recovery time, and endoscopy nursing support. These clinics are also being held at SHC four half days per month (Drs. Chris Andrews, Michael Curley and Milli Gupta) and at the FMC (screening for esophageal varices in cirrhotic patients). Patient outcomes and satisfaction, as well as economic benefits are being captured prospectively.

**8. GI Clinic and Endoscopy Utilization:** Utilization of GI clinics and endoscopy slots continue to improve across all sites in the city. City-wide endoscopy patient slot templates have been implemented (i.e. at all sites, if endoscopy slots cannot be filled by site members, they are opened up to section members city-wide). It is critical for GI to maximize utilization of this limited resource. The FMC has also standardized UCMC GI clinic patient templates and expectations for physicians to optimize patient throughput. At the FMC, patient endoscopy and clinic time slot utilization continues to be managed by our Physician Booking Optimization clerk within UCMC, and as such utilization of these resources continues to be positively impacted. We recruited two full-time fee-for-service gastroenterologists in 2014 to the AARP group at the FMC that has further allowed us to optimize resource utilization. At the PLC, SHC and RGH, endoscopy slot allotment is managed by the site chiefs and has been successful for the optimization and utilization of endoscopy resources at these sites.

**9. Calgary GI Motility Centre at SHC.** The Calgary Gut Motility Centre (CGMC) opened at the South Health Campus (SHC) in December 2012. The mandate of the CGMC is to provide excellence in care for patients with gastrointestinal motility disorders. Three full time physicians with specific interest/training in motility disorders (Drs. Gupta, Buresi, and Curley) work directly at the centre. Dr. Chris Andrews is the motility program lead and has run weekly motility clinics at the CGMC since July 2013. While primarily an IBD expert, Dr. Michael Stewart has a specific interest in the overlap of functional disorders and inflammatory bowel disease. Commonly seen disorders at CGMC include motility disorders such as gastroesophageal reflux disease and gastroparesis, as well as functional disorders such as irritable bowel syndrome, chronic constipation, and functional dyspepsia. The CGMC has innovative technology which is only available at a few centres in Canada and includes the Bravo probe (48 hour wireless pH probe); 24 hour combined multichannel intraluminal impedance (MII) and pH testing; and high resolution esophageal manometry. Combined MII and pH testing allows for the detection and characterization of esophageal exposure to acid, weak acid and non-acid refluxate. Esophageal manometry is used for the detection and characterization of esophageal motility disorders such as achalasia. The motility lab performed over 1200 upper GI tract procedures in 2014 and the wait time for these procedures continues to be less than two weeks. The anorectal manometry program opened in spring 2013 and aids in the evaluation and management of patients with lower GI tract motility disorders. Anorectal manometry is typically reserved for patients with severe issues with defecation and therefore the number remains relatively low compared to upper GI tract procedures. Thirty of these procedures were performed in 2014. Links to the FMC Pelvic Floor Clinic have been established to help manage these patients. New for 2014 is the procurement of an EndoFLIP system. This is a novel technology used to assess the dimensions and function of the esophagus. It can also be used to perform therapeutic dilation of the lower esophageal sphincter without the need for fluoroscopy. In-clinic endoscopy is also available and allows for unsedated thin-scope endoscopy to be performed when necessary. The CGMC has dedicated motility clinics in which patients with various motility disorders are seen. These are true multidisciplinary clinics which include participation by physicians, nurses, pharmacists, and dietitians. The CGMC also has close ties with the South Primary Care Network nurse navigator program (both functional dyspepsia and irritable bowel syndrome) as the two supervising physicians are based at the CGMC (Drs. Buresi and Curley). On the education front, the motility group continues to be busy with multiple elective residents and students spending time with the group over the last year. A formal rotation in motility for the Gastroenterology fellows has been created and will begin in summer 2015. The CGMC has continued to host an annual Motility Disorder Symposium for Primary Care Physicians. This is a well-attended educational event and attendee feedback is overwhelmingly positive. The third annual event is scheduled for October 2015. A GI Motility Fellowship Program is beginning in fall 2015 with Dr. Curley as the fellowship program director. A trainee has already been chosen and funding secured. Several potential candidates have expressed interest in applying for the program in 2016. Future plans include the generation of a database of motility disorder patients and participation in clinical research trials.

**10. High Risk Malnutrition Clinic:** This clinic has now been fully established, being led by Dr. M. Raman and involving a dedicated nutritionist. The clinic is designed to provide multi-disciplinary nutritional care to pre-liver transplant patients. All pre-liver transplant patients are assessed in this clinic as part of their pre-transplant care. Malnourished IBD patients receive nutritional care through this clinic as well. Over 90 patients have been assessed through the clinic to date, of which 65 patients are pre-liver transplant assessments. A research database has been created and is fully operational to capture nutritional and clinical data to assess efficacy of this clinic. Novel strategies to capture energy requirements and optimize nutritional strategies using a hand-held indirect calorimeter are being rolled out, with a plan to validate clinic tools to the gold standard indirect calorimeter. Results to date confirm the prevalence of malnutrition in the pre-liver transplant population, with personalized nutritional therapy leading toward decreased frequency of infections and hospitalizations. Clinical data generated from this clinic was presented at the 2015 annual DDW meeting. Future directions include expanding anthropometric testing to routine cirrhosis clinics, with consideration to hire a part time RD to operationalize the interventions. To take this work to the next level, a national working group will be created to develop and implement national level guidelines for nutrition in cirrhosis. This clinic works closely with the Home Enteral Clinic, as some patients require home enteral nutrition therapy to optimize nutritional care.

**11. Non-alcoholic Fatty Liver Disease (NAFLD)/diabetes Clinic at SHC:** A multidisciplinary NAFLD clinic has been established at the SHC. Currently, there are two to three half-day NAFLD clinics per week, conducted by both an attending hepatologist (Dr. Jayakumar) and a dietician trained in NAFLD diets who is available to advise patients. There are ~8-12 patients seen in each clinic, with disease severity ranging from hepatic steatosis to NAFLD-related decompensated cirrhosis. Currently, patients requiring a liver biopsy are also asked to consent for research inclusion, and have storage of both serum and liver tissue in the Liver Unit Biobank and database. As of September 2013, a multi-disciplinary clinic was organized, wherein patients who are deemed to be high risk for vascular complications are seen by one of three dedicated general internists (Dr. A. Boscan, Dr. P. Davis, and Dr. R. Hawkins), who manage these patients with a goal of modifying their vascular risk factors, such as poorly controlled diabetes, uncontrolled hyperlipidemia, and the vascular disease itself (either coronary artery disease, cerebrovascular disease, or peripheral vascular disease). This multidisciplinary approach allows for optimization of care for these patients whose risk factors and diseases are currently managed either by their family doctor or a nurse practitioner, and will also allow for further research to be undertaken with regards to patients with NAFLD and vascular disease/risk factors. This clinic also allows for the establishment of an additional database for future longitudinal studies, and for the identification of special groups of patients that might benefit from inclusion into NASH/NAFLD studies (such as patients with “lean” NASH, and patients with advanced disease, but not cirrhosis). In addition to the above mentioned high risk NAFLD multidisciplinary clinic, as of September 2014, the South Health Campus will also launch a new, low risk NAFLD clinic. Currently, the wait list for patients with NAFLD to be seen by a hepatologist is in excess of 2 years and when ultimately seen, patients often do not have clinically significant disease. Patients who are referred to a hepatologist for the reason of possible NAFLD will undergo non-invasive testing of their liver stiffness (with a Fibroscan; a surrogate marker of liver fibrosis). Patients who do not have evidence of fibrosis, and who are at low risk for developing fibrosis in the future, will be triaged to the Initial Fatty Liver Education Workshop (IFLEW) clinic. These patients will then be booked into a class consisting of 8-12 patients, where they will be educated about their disease and lifestyle modifications they need to undertake in order to treat this disease. This will be done by the fatty liver nurse clinician, the GI dietician, a social worker, and an exercise trainer from the YMCA affiliated with the SHC Hospital. Each session will last for a half day, and patients will have pamphlets outlining the material covered in the class, and the referring physician will also receive a form letter detailing the lifestyle changes the patient needs to implement, and also when to re-refer if there are concerns.

**12. Esophageal Diseases Clinic at SHC:** A weekly “esophageal diseases clinic” is held at SHC, dedicated to general esophageal conditions including gastroesophageal reflux disease, eosinophilic esophagitis, motility disorders, and functional esophageal diseases (visceral hypersensitivity; functional heartburn; dyspepsia). This clinic runs in conjunction with the Calgary Gut Motility Centre, and can perform esophageal manometry, EndoFLIP, 24h combined pH/impedance studies and wireless BRAVO pH probe studies. As well, availability of thin scope endoscopy in the same clinic space allows for immediate endoscopic assessment when indicated. Having all of these tests available at one Centre allows for truly integrated provision of care. These clinics run weekly and are staffed by two alternating gastroenterologists with an interest in the esophagus (Drs. M. Curley and M. Gupta) and assess an average of 9-12 patients/wk. Endoscopic mucosal resection and radio frequency ablation (RFA) have been established for the treatment of Barrett’s Esophagus (BE) in Calgary. These techniques have been transferred to the SHC for integration and consolidation with other esophageal testing programs (described above). These minimally invasive endoscopic techniques are an alternative option to surgery (esophagectomy), and offer a safe method of managing early esophageal cancer/dysplastic Barrett’s esophagus and have been well validated in multiple research trials. In conjunction with the Department of Anesthesia, bimonthly endoscopic

treatments of such patients are performed. Two gastroenterologists with experience in this field (Drs. P. Belletrutti and M. Gupta) perform these procedures with dedicated nursing personnel. Thirty five RFA procedures were performed in 2014. Results have been promising and there have not been any significant complications. In the near future a dedicated Barrett's esophagus clinic will be held bimonthly to streamline evaluation and management of Barrett's esophagus patients within Southern Alberta and surrounding areas. Drs. Belletrutti and Gupta also hosted a very well attended (50 attendees) educational symposium on Barrett's esophagus in spring 2015. Feedback from participants was extremely positive.

**13. Home Nutrition Support Program:** Under the direction of Drs. Raman and Stapleton, the IV/MG (intravenous magnesium support) program has been established to offer IV hydration therapy either with or without electrolytes to patients at home when indicated. Previously, patients requiring IV Magnesium therapy due to high losses were dependent on Day Medicine or urgent/emergency based strategies to receive this care. Following a successful pilot project demonstrating feasibility and safety, IV magnesium therapy is now available at home.

**14. GI Section Website:** A sectional website continues to be modified and expanded, based on feedback from users. The site was launched on Sept 2, 2013 ([www.calgarygi.com](http://www.calgarygi.com)) and aims to integrate key clinical, research and educational information and updates, as well as profiling Sectional members and their accomplishments. It continues to be a patient centered resource regarding wait times, access and disease specific education, in addition to an expanding resource for referring physicians, with access to best-evidence clinical care pathways for common conditions, as well as referral guidelines and wait times.

**15. Small Bowel Capsule Program at SHC:** The Small Bowel Capsule Program is led by Dr. Michelle Buresi, and Tara Green is the capsule nurse / coordinator (0.6 FTE). In the last 2 years, we have been using Covidien/Medtronic (previously known as Given®) as the capsule provider due to ease of installation and distribution of software, as well as more efficient reading of studies (as assessed via RFP in 2013). The referral and triage processes have been standardized, and studies are now stored in a central database on a drive accessible to all those reading capsules from any AHS computer, or remotely via FOB. This has improved efficiency and consistency in reading and reporting. Accessibility to reports has been vastly improved through availability on Endopro and Netcare for procedures completed after April, 2015. The use of patency capsules was introduced in February 2014. These allow for prediction of patients at high risk for capsule retention. We are currently funded for 100 capsules per year, including patency capsules. We receive an average of 4 referrals per week, and complete 2-4 capsule studies per week. Physicians currently reading capsules include Drs. Shane Devlin, Fatin Adams, Michael Ma, Michelle Buresi and Ali Rezaie. Wait times (time to procedure) are on average 4 days for priority/inpatients, 11 days for urgent referrals, 63 days for moderate referrals, and 81 days for routine referrals. The capsule program continues to face several challenges. We are currently unable to import images from these studies onto Endopro. With the pending implementation of Endopro IQ it is our hope that images will easily be imported from procedure software. Given the volume and urgency of referrals, we will need to increase the number of capsules funded per year. Increased capsule nurse coverage will augment feasibility of urgent and especially inpatient studies. With this in mind, a second 0.5 FTE RN is expected to join the team in September 2015, thus ensuring full-time Monday to Friday Capsule availability. A second capsule nurse will also allow for the creation of a searchable database to facilitate research on the local yield and impact of capsule endoscopy, as well as for the assessment of varying protocols, bowel prep, and comparison to other small bowel imaging modalities.

**16. Direct Bile Duct Visualization with Spyglass at the PLC:** Cholangioscopy continues to grow and expand at the PLC. The new digital Spyglass platform was recently purchased at the PLC through collaboration with our Hepatology colleague Dr. Bertus Eksteen, who specializes in primary sclerosing cholangitis (PSC). PSC remains our main indication for cholangioscopy and results/outcomes obtained thus far have been tracked and are very positive. The digital platform has improved our diagnostic and therapeutic indications. Collaboration with Dr. Eksteen has created novel research areas that will continue to evolve going forward.

**17. Inflammatory Bowel Disease and Pregnancy Clinic:** This clinic was established by Dr. Yvette Leung and Dr. Cynthia Seow in September 2012, and to date, close to 200 patients have been enrolled in the pregnancy registry. This is the first specialized IBD and pregnancy clinic that follows an MD driven clinical care pathway; with scheduled visits each trimester and in the postpartum period. Patients are also given the opportunity to be seen preconception, with the aim of optimizing disease control to improve pregnancy outcomes and to educate patients on the safety of IBD medications both during pregnancy and lactation. Patients who have active disease are triaged as urgent consults and seen within 1-2 weeks; with immediate advice given to referring gastroenterologist by phone when warranted. Scheduled visits ensure that

patient's disease and nutrition status is optimal with monitoring for subclinical inflammation in the form of biomarkers (CRP); and ultrasound (Dr. Stephanie Wilson). The clinic communicates closely with the referring gastroenterologist, family physician and obstetrician. Furthermore, due to our section being citywide with central triage; referrals are sent to this clinic from all parts of the city and from non-tertiary care sites in Southern Alberta. The clinic has clinical and research collaborations with the Medical Disorders in Pregnancy group (Internal Medicine), the High Risk Obstetric Group at Foothills Hospital, and the regional Infertility Centre. In terms of research funding, the registry was first established with funds obtained by Dr. Seow from Alberta Innovates: Health Solutions (AIHS) and Future Leaders in IBD (FLIBD). More recently, Dr. Leung has obtained a research grant from the American College of Gastroenterology. With the collaborations from our obstetrics colleagues another grant has been obtained from the MSI Foundation. From a research perspective this is the first IBD and pregnancy registry in North America in which patients are seen preconception, peri-partum and postpartum, with full phenotyping, prospective follow-up of disease activity, the ability to link to the Alberta Perinatal Database and with prospectively stored biospecimens including blood and urine. With the funds acquired, the registry has hired a dedicated full time research coordinator, Dr. Elnaz Ehteshami to help process all the participants. The IBD and pregnancy clinic has now established contacts with 11 other referral centres in Canada and formed MORE CaRe- IBD (Maternofetal Outcomes Research, a Canadian Registry in IBD), a national initiative with Dr. Leung as the clinical chair and Dr. Seow as the research chair in November 2013. All sites follow the model developed at the University of Calgary that is, linking excellence in clinical care to a research registry. Dr. Seow is also on the steering committee for SCOPE-IBD (The Scientific Consortium for Optimizing Pharmaco-Epidemiologic data in IBD) representing the IBD and pregnancy section. Establishing the University of Calgary's presence, Dr. Seow is the co-lead author and Dr. Leung is on the steering committee for the soon to be released Canadian Association of Gastroenterology endorsed Clinical Practice Guidelines in IBD and pregnancy.

**18. Point-of-care Ultrasound in the Clinic for IBD Patients:** The University of Calgary Inflammatory Bowel Disease (IBD) Clinic is the first clinic in North America to establish the use of bedside or clinic-based transabdominal ultrasound as an adjunctive assessment tool, in addition to the standard use of clinical history, physical exam and serologic inflammatory markers, to routinely follow/monitor patients with IBD, by trained gastroenterologist, working in collaboration with Diagnostic Imaging. Through fundraising and public awareness campaigns, in addition to an award from the Department of Medicine (Business Costs Innovation Program, \$30,000), the IBD clinic was able to generate funds to purchase a permanent, high quality, high resolution US machine for dedicated use for clinic patients. There are a number of ongoing research projects with over 300 patients recruited to date, to assess the accuracy, satisfaction and quality of US use at the bedside for clinical assessment. In September of 2015, a consistent referral process will be established for the Section, to improve US access to all members, including those not associated with the FMC. This will endeavor to improve access to this safe, non-invasive technology for patients across the city, as wait times for DI-based US are long, and are often separated in time from clinical assessment and clinical decision making. Dr. Kerri Novak is the medical lead for this clinic-based imaging, working closely with Diagnostic Imaging, and has had the opportunity to advance this technology through continuing medical education in Athens, Greece and in Rome, Italy with local presentations scheduled for the fall in British Columbia.

**19. Liver Transplant Clinic:** The Liver Transplant Clinic (Director, Dr. Kelly Burak) continues to excel at providing true multidisciplinary care of patients before and after liver transplantation. This clinic consists of 5 hepatologists, 4 RNs, a social worker, a dietician, and pharmacists. The clinic operates 3 half days per week with a weekly teleconference with the University of Alberta liver transplant group. Dr. Burak continues as the Chair of the Organizing Committee for the Canadian Liver Transplant Forum, with a successful CLTF8 being held in Montreal.

**20. Hepatocellular Cancer (HCC) Clinics:** These clinics were originally held only at the FMC, but are now also established at the SHC. Weekly multidisciplinary team conferences are held at the TBCC to discuss patients with liver cancer and are led by a HCC dedicated nurse practitioner and hepatologists in association with hepatobiliary surgeons and diagnostic/interventional radiologists. In conjunction with this clinic, a new highly innovative automated HCC surveillance program has been developed and implemented within the Calgary Zone for high risk patients with liver disease, in partnership with EFW Radiology. This program involves specialized ultrasound clinics, standardized reporting, database and automated recall policies to improve uptake and is being prospectively assessed and validated. In addition, Dr. Burak has recently been cross appointed to Medical Oncology to facilitate multidisciplinary care of HCC patients.

**21. Calgary Cirrhosis Clinic:** This nurse practitioner run clinic utilizes 2 NP's to care for patients with the complications of cirrhosis, and includes 2 abdominal paracentesis clinics per week that have been implemented to keep patients with refractory ascites from needing to come to radiology and emergency departments.



**22. IBD Research and Wellness Centre:** Planning for the IBD Research and Wellness Centre continues. The University of Calgary has entered into an agreement with Crohn's and Colitis Canada to co-fundraise for the initiative. A gala was held in the spring of 2014 and raised over \$190,000 towards the initiative. Fundraising efforts continue as do negotiations with AHS to secure space for the Centre. As part of the pre-planning two IBD nurse clinicians will be hired and trained. A three year commitment for support for these positions has been secured through industry partnership.

**23. Infliximab Blood Level Monitoring:** Together with the University of Alberta, infliximab antibody and trough blood level measurement has been established in Alberta (through AHS). Alberta is the only province with publicly accessible funding for this test, which greatly improves patient care.

**24. Outreach Clinics for underserved areas and socioeconomically challenged citizens:**

*(i) General GI Outreach Clinics:* These clinics continue at CUPS, a well-established Calgary-based non-profit organization that aims to improve the health of patients with financial insecurity that may have particular challenges accessing care. The GI on-site clinic occurs once monthly, in addition to providing patient education and resources, access to free endoscopy preparation kits and transportation post-endoscopy.

*(ii) Hepatology Outreach:* In the spring of 2014 the Calgary Liver Unit opened the East Calgary Viral Hepatitis Outreach Clinic. Northeast Calgary has a high prevalence of chronic viral hepatitis, but many patients from this area are unable or unwilling to travel to FMC or SHC to see a Hepatologist. Currently, this clinic is operated by Dr. Meredith Borman, alternating with hepatology nurse practitioners, at the East Calgary Family Health Centre on a monthly basis. A portable fibroscan capability has been established within the clinic for the non-invasive assessment of liver fibrosis. This outreach clinic will expand over the years to come, and there are plans to perform point-of-care testing for viral hepatitis in the community, so that we can identify and treat more patients with chronic viral hepatitis. Regular ongoing outreach clinics are also operational at the Southern Alberta Clinic (HBV-HIV and HCV-HIV co-infected patients seen by Dr. Coffin) and the Calgary Refugee Clinic (viral hepatitis patients seen by Dr. Lee).

*(iii) IBD Outreach:* Recognizing the disparity in the quality of care for complex inflammatory bowel disease in many rural regions of Southern Alberta given the lack of access to expertise and specialty care, the IBD clinic was established to attempt to bridge gaps in care and facilitate knowledge translation. Starting in early 2015, an outreach program to facilitate the care of IBD patients in rural regions was undertaken, with 3 on-site IBD clinics and 2 tele-health clinics with Medicine Hat completed to date. In addition, 2 very well attended evening educational events were conducted with a multi-disciplinary audience comprised of surgeons, family physicians and internists, with a focus on the management of complex hospitalized IBD patients. A similar case-based educational event with a collaborative IBD clinic (Dr. David Kogler, Lethbridge, Dr. Raj Hundal, Lethbridge, Dr. Kerri Novak, Calgary) is scheduled to begin in September, 2015.

**25. Primary Sclerosing Cholangitis (PSC) Clinic:** The PSC clinic run by Dr. Eksteen now follows over 400 patients from Western Canada. This dedicated specialized clinic is multidisciplinary and is supported by the Malnutrition and Inflammatory Bowel Disease teams, and has established PSC clinics in both the pre- and post-liver transplant setting. This clinic is the leading clinical trials site for patient recruitment to PSC studies globally, with currently two clinical studies and another two to start early 2016. Data collected from the PSC patient cohort followed in this clinic is forming the basis of a large multi-national PSC genetic susceptibility study.

**26. City-wide Liver Fibroscan Service:** More than 4000 fibroscans are performed annually at the FMC site alone (with further capacity established with the recent addition of SHC fibroscan capabilities, and portable fibroscanning capacity at Outreach clinics) to assist in the non-invasive prognostication and management of patients with chronic liver disease. Fibroscanning often allows patients to avoid undergoing invasive liver biopsies.

**27. Hepatitis B and Pregnancy Clinic:** Dr. Carla Coffin, Dr. Eliana Castillo Maternal Fetal Medicine (Internal Medicine), Dr. Steven Martin (Alberta Children Hospital), Ms. Trudy Matwiy, (Nurse Practitioner) with support of other members of the Calgary Liver Unit have established a HBV in pregnancy clinic and an associated clinical care pathway for management of mothers with hepatitis B in pregnancy, post-partum, as well as infant follow-up (to ensure comprehensive clinical care). This has also enabled successful research collaboration, involving Alberta Public Health Disease Surveillance/Epidemiology Branch and Alberta Provincial Laboratory (Dr. Carmen Charlton). We have established a long-term registry/database, established a biobank (in consented patients), and are working to expand

collaborations province-wide (including Dr. Karen Doucette and Jason Yap in Edmonton), and nationally as part of the Canadian HBV Network.

(ii) Innovations and Initiatives in QA/QI:

**1. Innovations to Improve Access:** Ensuring timely access for the sickest patients is our first priority, with wait times maintained below 6-8 weeks for urgent clinics and DTP, and consistently under 2 weeks for the most urgent referrals (i.e. urgent priority). However, waits for routine (non-urgent) referrals continue to be unacceptable (> 24 months). Therefore, a number of important innovations in the last year (in addition to those outlined above) include the **formation of a steering committee, comprised of leadership from the 4 Calgary Zone Primary Care Networks, rural PCNs, and community/ fee for service GI physicians and FMC GI site medical and operational leadership**. This strategic committee has been successful in the following endeavors:

- a) **‘Specialist-Link’: A Telephone Consult Service** - The current telephone consult service through CAT has been expanded to the Calgary Zone with administration through the Calgary Foothills PCN. This began as a pilot, with very good physician feedback, for routine non-urgent concerns. Specialist-link is now being expanded to include internal medicine and neurology.
- b) **Wait-listed patients: ‘The Bucket’** – Given more than 5500 patients waiting for consultation within the queue in CAT, it was felt that addressing these patients, with no current supports/ guidance nor intervention, was key. As a result, a subcommittee was formed with an aim to:
  - expand and disseminate clinical care pathways to enhance care for patients while they wait
  - develop a strategy to support patients while on the wait list, including letters to both referring physician and patients, with organized, multidisciplinary education sessions aimed to improve symptoms and reduce the ultimate need for GI assessment (patients will be directed back to their referring physicians where available, offered the education class, and declined further GI formal consultation – re-referral recommended if indicated)
- c) **‘Lunch and Learn’** – GI physicians, where requested, have been going to group primary care physician practices to engage in a case-based educational exchange to enhance the care of GI patients and optimize care in the medical home.
- d) **Clinical Care Pathway Development** – given the need for both improved referral quality and care within the medical home, it was recognized that summary algorithms for best-care were important components of knowledge translation to primary care. As a result, the development of four common clinical care pathways have been undertaken to help guide both Section members in the best-evidence care for common non-urgent referrals, as well as referring physicians. Pathways include:
  - Dyspepsia
  - Gastroesophageal reflux
  - Irritable Bowel Syndrome
  - Chronic functional constipation

**2. Endoscopy Utilization, Quality and Reporting:** Endoscopy utilization is a focus for the Section, given the need to optimize the use of this important and limited resource. With existing funds, a full-time Physician Booking clerk was employed in 2014, and continues. AHS quality and improvement will be conducting a 6 month evaluation of FMC endoscopy process and utilization, with an aim to enhance all aspects of service delivery by early 2016.

**3. Patient Satisfaction:** Collection of patient satisfaction data occurs at most sites annually or biennially, but not consistently. Therefore the aim of the Section is to make this process more consistent across the zone, by facilitating the development of a standardized, uniform electronic assessment tool with easy computation/ outcome data. There will be 2 tools generated by the end of 2016, one for clinic and one for endoscopy. Results will be collated and distributed for each site annually.

**4. Endoscopy and Clinic Staff Satisfaction:** 33 employees in clinic responded to this survey, with the majority (87%) feeling they make a significant difference to patient care. Many felt patient care is a top priority and most felt they had the necessary skills to perform their tasks. More than 50% reported enthusiasm about their work, however better recognition for a job well done was identified as a source needing improvement, which Section medical and operational leadership will be addressing.

**5. Clinic Patient Teaching Documents:** Complete revision of endoscopy preparation and teaching sheets has been completed, with standardization across the Zone for both academic and private physician’s offices. Three components

include preparation, procedure information (risks, expectations) and frequently asked questions. Teaching sheets specific for inpatients have been developed and will be included upon discharge for all patients who have undergone an inpatient procedure (this was a clearly identified gap as no inpatients received this information previously). All materials will be made available on the GI Sectional website. Direct collaboration with HealthLink has ensured consistent messaging around after hours care for patients, particularly post-procedure.

**6. Standardization of Admission Orders:** In an attempt to improve access to decision support tools for complex medical conditions, two order sets have been developed: the gastrointestinal bleed order set was developed by a multi-disciplinary team and implemented in January, 2015. A second order set for inflammatory bowel disease (IBD) is aimed at implementation by August 1<sup>st</sup>, 2015. Evaluation of the use of both order sets will be undertaken for late 2015.

**7. Hepatology Clinic Process Review:** In order to better understand bottlenecks and improve access for patients awaiting Hepatology consultation, the Liver Unit formally consulted with a Process Engineer to conduct a review of clinic practices and process design in the Viral Hepatitis clinic. The goal was to identify opportunities to enhance access to care, and the plan is to implement critical report findings in the summer and fall of 2015.

**8. Province-wide Electronic Gastroenterology & Hepatology Referral Guideline and Standardized Referral Process:** A province-wide, consensus generated referral guideline, chaired by Dr. K. Novak with Dr. S. van Zanten (Head GI, Edmonton) has been completed and finalized. This will serve as a guideline or template for all individual GI/Hepatology, either rural or urban practices throughout the province, and will be trialed as a triage algorithm within the Calgary Zone Central Access and Triage (CAT) in the fall of 2015.

**9. Gastrointestinal Bleed Working Group:** This multi-disciplinary group (representation from GI site leadership, Emergency Department (ED), General Internal Medicine (GIM), and Hospitalists, this group is charged with improving both the quality of care (with input from a number of participants to a province-wide clinical care pathway to direct/improve the care of non-variceal upper GI bleeds), the appropriate disposition and timing of definitive diagnostic/endoscopic management. To date, a multi-disciplinary CME has been completed, led by all disciplines, as well as the generation of an evidence based disposition algorithm, based on the Glasgow Blatchford Score (GBS), to be vetted by all stakeholders at a leadership meeting scheduled for September 2015. The group is chaired by Dr. Mike Libin, a Hospitalist, with leadership from Dr. Kerri Novak from the GI-side. Dr. Chris Hall and Dr. Kerri Novak, are also co-investigators in a large PRIHS grant awarded to Dr. Eddy Land from Emergency Medicine and Dr. Subrata Ghosh, Gastroenterology, with an aim to develop clinical decision support tools to better direct the medical management of upper GI bleeds presenting to the ED, with translation and dissemination to 7 different sites, urban and rural, Calgary and Edmonton, throughout the province. The FMC will be the first trial site in this process.

**10. QA Trainee Projects, City Wide Rounds:** Implementation of mandatory QA training for GI trainees began in 2013/14 with inclusion of QA within the core curriculum. In addition, requisite QA projects will be completed during their 2-year training program. Residents will also be expected to participate in QA city-wide rounds, where complex clinical cases will be reviewed and core content regarding QA will be presented.

**11. Development of Gastroenterology Acute Care Consultation Communication Guideline:** Care of inpatients at the FMC is increasingly complex, given multiple comorbidities and medical acuity. With an aim to optimize in-patient consultative care for GI, a communication guideline was developed, to outline goals of communication for endoscopic results and management, follow up/ outpatient care to the most responsible physician. This may become a tool applicable to the Department of Medicine for other consultative services.

**12. Individual Endoscopy Report Quality:** In early 2015, individual quality reports (see Appendix \_\_) were generated for Sectional members, each reflecting the total number of endoscopies (all completed, including gastroscopy, colonoscopy and manometry, EUS, and ileoscopy), the total number of procedures completed with a trainee (either a GI trainee or surgery resident), as well as an aggregate (total assessed = 150) data summary of endoscopy report quality – to demonstrate consultation completeness, commentary on the impression and follow up. The aim is to a) distribute a quality report for members of the Section annually b) expand the document to include i) patient comfort and medical dose medians ii) in-endoscopy unit complication rates iii) individual endoscopy report quality.

**13. Clinical Decision Support Tools/ Admission Order Sets:** In addition to existing, general medical admission order sets, the Section of Gastroenterology developed, in conjunction with expert input from nursing, advanced practice nursing



(Nurse Practitioner), and physicians, to develop two admission order set, one for gastrointestinal bleeding, and one for inflammatory bowel disease. Both have been in use for only 1 year and evaluation of their use will be a goal for 2016, with modification as indicated.

### **Section QA/QI Goals and Directions for 2015/16**

**1. Innovations to Improve Access:** As outlined above, efforts will continue to increase nurse-navigator directed patient care in clinic and at various Primary Care Network (PCN) sites to help optimize access. In addition, multi-disciplinary education sessions for large groups (lecture format) have been initiated for patients with functional bowel disorders in the fall of 2014. This program is nurse-led and multidisciplinary, with an aim to improve patient self-efficacy for the management of their functional bowel disorders. In addition, the Section was awarded a CMO grant (\$25,000) and funds are being directed towards improved understanding and support of primary care for the care of patients within their medical home. Expansion of current clinics within the Zone is our goal, with targets including the Calgary NE (Mosaic) and South Central PCN.

**2. Patient Education:** The development of a Section of GI website is ongoing with the goal of providing a key resource for patients and referring physicians, including wait times, bowel preparation and teaching sheets, as well as nutrition and disease-based education resources. Short patient education “YouTube-style” videos are being developed and posted on the GI Section website for easy access to evidence-based information.

**3. Central Access and Triage (CAT) Process Mapping and Audit:** Ongoing evaluation of CAT to ensure quality of triage process, by both physicians and nurses, will be completed. In addition, validation of wait times will be evaluated and these quality measures will be implemented quarterly. Current notification systems are being developed so that when the triage process lags behind a 3-day processing period, or when wait times for key patient streams (urgent clinic, urgent to endoscopy) exceeds 2 weeks, interventions may be undertaken to reduce the wait times back to < 2 weeks. As well, internal process audits are being conducted to ensure gaps in process are identified and standard procedures are working.

**4. Acute Endoscopy Unit QA/QI Data Collection:** Currently, there is no infrastructure to collect quality data in acute care GI endoscopy units. The goal in 2015 is to implement a sustainable system for data collection (nurse-generated, clerk entered) starting with patient-centered quality measures (validated scores for preparation quality, comfort scores), with expansion to be established for endoscopic quality measures (completion that is documentation of the appendiceal orifice, withdrawal times, adenoma detection rates, complication rates).

**5. Expansion of Endoscopist’s Quality Reports:** As above, the current reports will be expanded to include more exhaustive quality indicators. In addition, continued practice support/ education plans will be implemented to support those physicians whose quality scores do not meet required expectations.

**6. Evaluation of Clinical Decision Support Tools:** Targeted for the fall of 2015, use of the GI bleed order set will be undertaken within the Zone, with subsequent potential revision and update for optimization. Review of the IBD order set will occur 6 months after initiation.

### **RESEARCH**

Research within the Section of Gastroenterology and Hepatology remains strong in the areas of basic science, clinically focused studies and clinical trials. Inflammatory bowel disease (IBD), liver disease research (including viral hepatitis, autoimmune liver diseases and liver cancer), GI inflammation, colorectal cancer screening, and gastrointestinal motility remain the core research areas of excellence within the Section.

The University of Calgary Liver Unit (UCLU) is the premier liver unit in Canada (Lead, Dr. K. Burak), and the IBD Group (Lead, Dr. R. Panaccione) is recognized nationally and internationally for excellence. Links between the IBD and Hepatology groups have been further strengthened by the formation of a combined PSC-IBD clinic (PSC, Primary Sclerosing Cholangitis which is a lethal biliary tract disease closely associated with IBD) funded originally in part by a successful Faculty of Medicine (FoM) Emerging Team grant (PI, Dr. M. Swain), which was leveraged into CIHR Team Grants. The IBD group continues to lead IBD research efforts regionally, nationally and internationally with ties to the University of Alberta, University of Manitoba, and University of Toronto, University of North Carolina (i.e. CCFA Partners), several European Centres, China, and Japan. The Alberta IBD consortium facilitates ongoing recruitment of

patients and specimens and now is considered one of the largest IBD biobanks in the world, and has opened more international partnerships. The University of Calgary IBD unit continues to be a leading recruiting centre into the GEM project run under the umbrella of the CCC, and is one of the founding members of the Canadian National IBD Network. Under the guidance of Dr. M. Iacucci the IBD team has expanded into leading edge endoscopic imaging research in IBD in an attempt to better understand and classify IBD.

The Section continues to have strong ties with basic scientists in the Gastrointestinal Research Group, Inflammation Research Network, Cancer Biology and Immunology. Many Section members have collaborative grants with basic scientists, and are involved in Provincial and National Group Grants (see below).

The GI Section was again very successful in securing both external peer-reviewed (including Tricouncil funding) and industry sponsored funds. Funds awarded to the Section include those to support peer reviewed basic science and clinically focused research, as well as funds obtained to support clinical trial research.

### Clinical Trial Summary

The IBD and Hepatology programs continue to have very strong international clinical trial involvement and remain two of the most active groups within the Faculty of Medicine. Specifically, between April 1, 2014 and March 31, 2015 the Hepatology group had an average of 25 active clinical trials running per month in the Heritage Medical Research Clinic (HMRC), and the IBD group had an average of 12 trials per month. Moreover, 13% and 5% of all patient HMRC visits during this time period were related to hepatology and IBD clinical trials, respectively.

### Publication Overview

The Section continued to be highly productive and successful in publishing research findings in peer reviewed journals. These publications were often co-authored by various members of the Section and included work in basic science, clinical innovations and outcomes, epidemiology, health economics, education and quality assurance. For 2014-2015 the Section published well over 100 manuscripts in high impact journals that included JAMA, PNAS, Gastroenterology, Journal of Hepatology, GUT, Nature Reviews in Gastroenterology and Hepatology, Gastrointestinal Endoscopy, Journal of Neuroscience, Infection and Immunity, Journal of Viral Hepatitis, American Journal of Gastroenterology, Academic Medicine, CMAJ Open, and Cancer.

### Research Awards and Distinctions

- Dr. Paul Beck, Awarded the Killam Annual Professorship. Killam Annual Professors are selected for demonstrating excellence in research and teaching for 10 years or more, while serving their academic discipline and their community outside the university, University of Calgary and Killam Foundation.
- Dr. Paul Beck, Awarded the Canadian Association of Gastroenterology Research Excellence Award, 2015.
- Dr. Paul Beck, University of Calgary Medical School Alumni of Distinction Award for Mentorship.
- Dr. Paul Beck, Awarded the Great Teacher Award in 2014 by the Medical School Class of 2015.
- Dr. Gil Kaplan – selected to be a member of the AGA Future Leaders Program.
- Dr. Remo Panaccione, elected to International Organization of IBD (IOIBD).
- Dr. Remo Panaccione, named Chair of the CAG clinical practice guidelines in Crohn's disease.
- Dr. Subrata Ghosh, Patron of Brazilian Society of IBD.
- Dr. Mark Swain, appointed as a Fellow of the American Association for the Study of Liver Diseases.
- Dr. Mark Swain, elected to Executive Committee, International Society for Hepatic Encephalopathy and Nitrogen Metabolism (ISHEN).
- Dr. Maitreyi Raman, CAG Young Educator Award (2014)
- Dr. Chris Andrews, CAG Visiting Clinical Professorship award (2014)

### Innovations in Research

**1. Development of Dedicated GI Clinical Research Support Space;** The Section has implemented a number of strategic plans to allocate contiguous space near the GI clinic, and within GI office space on the 6th floor of the TRW, for the facilitation of translational clinical research. This research space will directly enhance clinical research components of the 2 CIHR Team Grants awarded to the Section.

(i) *The Clinical Integrative Research Space (CIRS)* has been physically established in a room in close proximity to the Gastrointestinal Ambulatory Clinic within UCMC (HSC Rm G192 and G194). The CIRS supports multidisciplinary research including: epidemiological and clinical research, population health, health services & outcomes research, gene-

environment interaction studies, biomarker studies, translational studies, and biobanking. The CIRS also facilitates patient recruitment, consenting, phenotyping, genotyping, envirotyping, serotyping, and microtyping. Researchers can use the CIRS to collect comprehensive phenotypic data through patient interviews, medical chart review, and electronic medical records. All data extracted in the CIRS is stored in the Research Data Haven supported by a Canadian Foundation for Innovation Leaders of Opportunity (\$175,391) and Alberta Advanced Education and Technology Small Equipment Grant Program (\$175,391) (grant recipients Drs. G. Kaplan, C. Saunders and C. Coffin). The Research Data Haven is a Citrix-based server that creates a virtual research environment that is secure, accessible, and supportive of collaboration.

(ii) *The GI Clinical Research Unit* currently houses research staff, data analysts, and trainees who are supervised by several members of the Section. The Clinical Research Unit is located in dedicated space within the GI Section footprint on the 6th floor of the TRW building. This unit allows for seamless interactions between translational clinical researchers and research staff, and directly supports translational research projects within the Section.

**2. Expansion of the University of Calgary IBD and Liver Unit Biobank:** Through support from the Metcalfe Foundation, the Cal Wenzel Family Foundation Chair in Hepatology, the CCC IBD Chair, the GI and Hepatology Biobank has been established and is operational, housed within the GIRG footprint. The UCLU-Metcalfe BioBank will be linked with the IBD Consortium Biobank which has already been established within the GIRG.

**3. Establishment of a Dedicated PSC-IBD Clinic in UCMC** (the first in Canada - PSC Lead, Dr. B. Eksteen; IBD Lead, Dr. G. Kaplan): Funds obtained through a successful Faculty of Medicine Team Grant allowed for the establishment of this joint clinic, with dedicated research assistant support, which allows for the performance of excellent clinical care for these patients coupled with world class translational research.

**4. Ongoing Development of State-of-the-Art IBD and Hepatology Databases:** Funded through a successful CFI grant awarded to Drs. G. Kaplan, C. Coffin and C. Saunders. A BioBank Biosample Manager has been hired (funded by the CCC IBD Chair and by the Cal Wenzel Family Foundation Chair in Hepatology) to oversee tissue and sample processing, storage and retrieval for the Biobank. This environment has been further expanded with development of “partnernet” to support collaborative research nationwide for Dr. Coffin (i.e., through the Canadian HBV Network, [www.canadianhbvnetwork.ca](http://www.canadianhbvnetwork.ca)). Demo site: <https://partnernet.ucalgary.ca/research/liver/SitePages/Home.aspx>

**5. GI-Section Co-funding of an AHS Data Analyst:** A 0.5 FTE data analyst (0.25 funded through the GI Section and 0.25 through AHS) has been hired and is in place to facilitate extraction of AHS data (and patient billings data linked through DIMR) to support excellence in patient care, as well as facilitate clinically based outcome and cost analysis research performed by Section members.

## EDUCATION

Education remains a key pillar of strength within the Section, with the Section again excelling in both internal and external awards that reflect the highest standards and commitment of Section members to educational programs and service locally, provincially, nationally and internationally.

(i) Educational Leadership Roles for Section Members within the Faculty of Medicine:

- Dr. Sylvain Coderre, Associate Dean of UME.
- Dr. Jon Meddings, Dean, Cumming School of Medicine.
- Dr. Burak, Director of Teaching Innovation in the UME office.
- Dr. Ron Bridges, Senior Associate Dean, Cumming School of Medicine.
- Dr. Subrata Ghosh, Head, Department of Medicine
- Dr. Maitreyi Raman, Associate Director of Admissions, Faculty of Medicine
- Dr. Jennifer Bailey, Associate Director (Student Wellness), Student Affairs, Faculty of Medicine

(ii) Faculty Education Awards and Distinctions:

- Dr. Sylvain Coderre awarded class of 2016 Gold Star, MDCN 350; Class of 2015 Dr. Allan R. Jones award for educational leadership, graduating classes 2003-2012 alumni survey: 40 nominations as excellent teacher, mentor, leader; class of 2015 Clerkship Award for Excellence in Clinical Teaching; class of 2015 Gold Star-Course 8.

- Dr. Maitreyi Raman, PGME award for Outstanding Commitment to Residency Education
- Dr. Burak overseeing the “Flipped Classroom Initiative”, which was piloted in the Liver Unit part of Course 1 in 2014.
- Dr. Burak continues as the Chair of the Organizing Committee for the Canadian Liver Transplant Forum, with a successful CLTF8 being held in Montreal.
- Dr. Kelly Burak, University of Calgary Teaching Excellence Award, Honorable Mention.
- Dr. Munaa Khaliq-Kareemi, Clinical Masters Program.
- Dr. Jennifer Williams, RPC GIM Core Program committee, member IM Education committee, Mentor for GIM “setting sail” mentoring Program.

(iii) GI Section Rounds:

Sectional rounds under the leadership of Dr. K. Rioux have been rejuvenated with the Friday morning rounds now including pathology/radiology rounds, interesting case rounds, state-of-the-art lectures, and translational rounds on a rotating basis; all of which are eligible for continuing medical education credit. Special lectures have been aimed at faculty development, educational case review, and quality improvement topics. Efforts have been made to encourage attendance by members of the Gastrointestinal Research Group, Immunology Research Group, and Inflammation Research Network to encourage cross-talk between clinical and basic science faculty and trainees. In fall 2015, the rounds will be webcast on a regular basis to GI section members at the PLC, RVH, and SHC hospital sites.

(iv) CME:

Dr. Paul Belletrutti continued as the Coordinator of the City Wide Continuing Medical Education Lecture Series. These rounds have been very successful in the past year. One to two evening rounds are organized per month. The topics chosen are based on a sectional needs assessment that was undertaken in 2012, and included issues in IBD, viral hepatitis, GI oncology, functional bowel disorders, esophageal motility and advanced endoscopy. A diverse range of invited and internal speakers have participated. Attendance has increased by about 30% over previous years. Feedback from attendees has been very positive with high ratings for speaker quality and topic relevance. We will continue to improve the quality and further enhance attendance for these rounds in the coming year.

(v) Postgraduate:

The GI Residency program in Calgary, led by Dr. Melanie Stapleton (Program Director), has established itself as the premier GI training program in Canada. The training program underwent an external review by the Royal College of Physicians and Surgeons and received full accreditation. This year’s graduating class had a successful celebration and awards dinner in June 2015 which included Drs. Sunny Singh, Andrew Flynn, Tiffany Poon, and Ahmed Al Darmaki.

Our graduating residents and fellows have distinguished themselves in the following ways:

- Dr. Sunny Singh – Dr. Singh has been accepted into an IBD fellowship at the University of Calgary in July 2015. Following that training he will be starting a GI practice in Kelowna BC.
- Dr. Andrew Flynn – Dr. Flynn will be providing locum coverage for Dr. Lorne Price at the Foothills Medical Centre starting in July 2015. Following that, he will be undertaking advanced training in GI motility.
- Dr. Tiffany Poon – Dr. Poon has been accepted for further training in medical technology at Cambridge University and therapeutic endoscopy at the Mayo Clinic in Arizona.
- Dr. Ahmed Al-Darmaki – Dr. Al Darmaki will undertake a 2-year fellowship in IBD at the University of Calgary before returning to Oman and an academic gastroenterology practice focused on IBD.

The residents selected the following faculty members for teaching excellence awards:

- |                                     |                       |
|-------------------------------------|-----------------------|
| • Overall Excellence in Teaching:   | Dr. Melanie Stapleton |
| • Research Mentorship Excellence:   | Dr. Gil Kaplan        |
| • Formal Teaching Excellence:       | Dr. Paul Belletrutti  |
| • Clinical Teaching Excellence:     | Dr. Paul Beck         |
| • Endoscopy Teaching Excellence:    | Dr. Edwin Cheng       |
| • Excellence in Providing Feedback: | Dr. Stephen Congly    |

The incoming new GI residents are Dr. Christopher Ma (University of Alberta), Dr. Kaleb Marr (University of Calgary), and Dr. Henry Nguyen (University of Calgary).

Calgary Fellowship training positions for 2014-2015 have been awarded to the following individuals:

- IBD: Sunny Singh and Ahmed Al Darmaki
- Hepatology: Maen Al Mattooq and Matt Sadler
- Therapeutic Endoscopy: Takuya Ishikawa
- Motility: Abdullah Alqaraawi

(vi) Undergraduate:

Course 1 (Gastroenterology and Hematology) flourished during 2014-2015 with Dr. M. Raman and Dr. E. Cheng leading the course. With Dr. Burak's leadership in innovation in education, the pilot "flip classroom" was very successful, resulting in improved examination performance with the flip intervention. Course ratings were high. Innovations to Course 1 for 2015-2016 include expanding the flip to a larger content in course 1; introducing a self-reflective exercise for students to complete based on clinical core experience and introducing a longitudinal pilot Wellness curriculum to focus on nutrition and lifestyle content. Dr. Saumya Jayakumar will be assuming course 1 leadership for 2015, and Dr. Edwin Cheng will continue as the course evaluation chair.

(vii) International Collaborations and Educational Initiatives:

1. The joint University of Calgary/Chinese Medical University (CMU Beijing, Youan Hospital) Liver Unit has been established and ongoing collaborations continue, including the establishment of formal graduate level research experiences for Chinese trainees in Calgary.
2. The University of Calgary Liver Unit began a formal collaboration with King Saud University (KSU) Liver Unit in Riyadh, Saudi Arabia. This collaboration has resulted in the establishment of clinical trial research coordinator preceptorships, and in two students from KSU pursuing MSc programs in GIRG labs at the University of Calgary. Further exchange visits and clinical preceptorships are planned for the future.
3. The IBD group continues to take a leadership position nationally in IBD education. Dr. Panaccione remains the co-chair of the Crohn's and Colitis Canada Future Directions in IBD program. He also sits on the steering committee of the Mentoring in IBD program. These are the two premier national educational programs in IBD.
4. The TAILOR Liver meeting was held at the Rimrock Hotel in Banff from September 19-21, 2014. This meeting included a large international faculty of liver immunologists, clinicians and translational scientists (50 attendees) and highlighted the University of Calgary Liver Unit and its' members to a wide audience of leaders in hepatology. The meeting was a huge success.
5. A formal MOU for a collaborative link between the University of Calgary Liver Unit and ESSAULD in Lima, Peru has been signed and formal exchanges are moving forward.

(viii) Innovations in Education:

1. The Section will continue a formal mentorship program for the Fellows, and this will be led by Dr. Eldon Shaffer
2. Creation of a GI Sectional website to function in part as a portal for education of staff and patients ([www.calgarygi.com](http://www.calgarygi.com)).
3. Dr. Paul Beck continues as the Director of the highly successful Leaders in Medicine Program. This program has 70-80 students that are jointly pursuing an MD degree combined with either a PhD or MSc or MBA. The Leaders in Medicine Program is one of the largest, most active and innovative programs in Canada, and was highlighted as a strength in recent reviews of both the University of Calgary Medical School and the Faculty of Medicine Graduate Program.
4. HepAPptology has been constructed and is now being beta tested as an iPad application for education in Liver Disease (Drs. Kelly Burak and Chad Saunders [Haskayne School of Business]). It will be used as a resource for the UME course as well as PGME and CME.
5. A joint collaboration between Family Medicine and Gastroenterology has been struck to involve extended GI teaching opportunities for family medicine residents. The FMC outpatient GI clinic will take family medicine



residents for preceptorship. Measurement of the impact of a GI curriculum in family medicine will be undertaken with a view to refining the experience based on findings.

## ADMINISTRATION

### Career transitions and promotions for Section members:

- Dr. Paul Belletrutti and Dr. Christopher Andrews are now Medical Co-Leads, UCMC GI Clinic/FMC Endoscopy Unit.
- Dr. Paul Belletrutti was appointed as Chair for the Calgary Zone Endoscopy Management Committee, replacing Dr. Love.
- Dr. Carla Coffin has taken over as Medical Lead, Viral Hepatitis Clinic from Dr. Rob Myers (thank you Rob).
- Dr. Kerri Novak continues in her role as Medical Lead, QA/QI.
- Dr. Kevin Rioux continues as Medical Lead, GI Central Access and Triage.
- Dr. Michelle Buresi continues as Medical Lead, Small Bowel Capsule Program
- Dr. Melanie Stapleton continues as the GI Fellowship Program Director.
- Dr. Steven Heitman continues as Director, Forzani and MacPhail Colon Cancer Screening Centre and the Southern Alberta Colon Cancer Screening program, and as Lead, Therapeutic Endoscopy Training Program..
- Dr. Sylvain Coderre continues as Associate Dean, Faculty of Medicine UME (chair of the UME subcommittee for accreditation, member of 2016 accreditation steering committee, revamped formative Associate Dean's test).
- Dr. Maitreyi Raman was appointed as the Medical Director for Nutrition Services for the Calgary Zone.
- Dr. Saumya Jayakumar was appointed as the new incoming Course 1 Chair for Gastroenterology (replacing Dr. Raman).
- Dr. Rachid Mohamed continues as Medical Lead, Therapeutic Endoscopy Calgary Zone.
- Dr. Puja Kumar continues in the role of FMC GI Clerkship Director.
- Dr. Rob Myers has taken a LOA from the Section as of April 1, 2015 until March 31, 2016 - taking on the role of Senior Director, Clinical Research, Liver Diseases Therapeutic Area, Gilead Sciences, Inc., Forest City, CA.
- Dr. Christopher Andrews resigned from the ARP to take on a FFS role at the FMC.
- Drs. Stephen Congly and Meredith Borman were hired as a FFS hepatologists at the FMC to help support clinical care and health economic assessment initiatives within the Section.
- Dr. Michael Stewart joined the SHC group after completing his IBD fellowship at Cedars-Sinai in California (as of August 2014) and Dr. Meena Mathivanan joined the SHC group (as of July 1, 2014) after completion of her IBD fellowship in Calgary.
- Dr. Tara Chalmers-Nixon resigned her position at the RGH and has moved to Fernie, BC.

### Update on GI/Hepatology Section-Linked Endowed Chairs:

**(i) Cal Wenzel Family Foundation Chair in Hepatology** (Held by Dr. Mark Swain): The interest generated from the \$3.5 million Chair endowment was leveraged and used to support basic science and clinical research within the Calgary Liver Unit, the Liver Unit Biobank infrastructure and support personnel, bridge operating and pilot study funding, database support, data analyst salary support, and helped to fund the Calgary Liver Unit TAILOR meeting in Banff.

**(ii) N.B. Hershfield Professorship in Therapeutic Endoscopy** (Held by Dr. Steve Heitman): The therapeutic endoscopy group developed a vision and embarked on a pathway to become a world-class clinical research and academic training program in therapeutic endoscopy. To support this, an Award of \$75,000 was granted to Dr. Heitman through the Noel Hershfield Professorship in Therapeutic Endoscopy, based on the interest generated from the current Chair endowment. These funds were used to hire a data analyst to support research and quality assurance initiatives for the program, which has focused on using some of the rich existing clinical databases in Calgary and the United States. Success has already been achieved with 4 abstracts presented at national and international meetings including an oral presentation. The analyst has been instrumental in supporting the current academically focused therapeutic endoscopy fellows who have also earned provincial, national and international recognition through awards from AIHS, CIHR and the Swedish Medical Association. Additional research funding has also been leveraged through a successful Department of Medicine Research and Development Fund grant evaluating endoscopic ultrasound in Alberta, and through strategic collaborations with other members of the Section of Gastroenterology and Hepatology. Academic output has been ignited within the therapeutic endoscopy group which continues on an upward trajectory. Future plans are to establish a prospective database for therapeutic endoscopy that will ensure sustainable high quality research in the future.



**(iii) Dr. Lloyd Sutherland Professorship in IBD/GI Research** (Held by Dr. Simon Hirota): With the support of this New Investigator Award, Dr. Simon Hirota (a Ph.D. member of the Gastrointestinal Research Group) was able to secure a 3-year operating grant from Crohn's and Colitis Canada and equipment/infrastructure support from the Canada Foundation for Innovation John R. Evans Leaders Fund. Dr. Hirota was also recently named a Tier II Canada Research Chair in Host-microbe Interactions in Chronic Diseases.

**(iv) Crohn's and Colitis Canada Chair in IBD Research** (Held by Dr. Keith Sharkey): The interest generated from this endowed Chair was used to support the IBD tissue bank (led by Dr. P. Beck), support for a junior investigator in IBD research, personnel and lab support and to support the annual IDRUG lecture and Snyder Institute Endowed Chair seminar series visitor Dr. Charles Bernstein.

## CHALLENGES

**Personnel:** Recruitment and retention/promotion of leaders to oversee, develop and ignite discovery and excellence in research programs within the Calgary Centre for Digestive Health. Recruitment of "the best" to Calgary is an increasing challenge with the loss of AHFMR salary support programs, increased challenges in obtaining shrinking CIHR salary support dollars, lack of recruitment dollars from the Faculty of Medicine [FoM], and an inability to recruit clinician-scientists through the ARP in Calgary as a result of ongoing ARP budget pressures and uncertainties.

**Secure Ongoing Operational Financing:** Ensuring secured continued financial and personnel support for the bio-specimen repository and clinical databases is critical for their long-term sustainability. These capacities are currently funded in a 'piecemeal' fashion, and financial support for ongoing operations is at significant risk. Moreover, there are a lack of funds available to enhance Bio-Repository functionality to integrate fully with our patient databases.

**Links to the Faculty of Medicine Clinical Research Unit (CRU):** The CRU is planned to be a faculty-wide database support resource and is in the process of being operationalized. However, its capacity to support GI initiatives remains unclear, as the GI Section has already developed strong links with HiTec (within the University of Calgary) which have been operationalized through the successful CFI grant awarded to Kaplan, Coffin and Saunders.

**Lack of clear legal framework to effectively link AHS and University of Calgary databases:** This framework is critical to enable and enhance improved data sharing.

**Lack of operational funding to grow strategic clinical patient care-related areas:** There is a need to create access to resources to grow strategically focused areas of clinical excellence in Digestive Health, including (i) Therapeutic Endoscopy: regional high volume centre (serves Southern Alberta and Interior of BC) with state of the art functionality and expertise. Limited space to grow. Novel GI tract and bile duct imaging modalities, including SpyGlass® (directly visualizes the bile duct and can break up obstructing stones) and Confocal Endomicroscopy (visualizes the lining of the GI tract at near microscopic level) programs have recently been brought to Calgary to enhance patient care, and to serve as platforms for novel research programs). Operational funding has not yet been established for ongoing support of these programs. (ii) Motility: Newly established Calgary Gut Motility Centre at the South Health Campus. State-of-the-art equipment in place for motility assessments in patients. Operational funding in place for clinical capacity and testing, but research arm needs to be enhanced (including support staff to establish a clinical database and facilitate data input. In addition, there is a lack of ready access to data analysts and challenges with links to basic science motility work being performed within the GIRG at the Health Sciences Centre.

**Digestive Health Basic Science and Preclinical Research Support:** GIRG has been one of the top basic science GI research groups in Canada. However, new developments and areas of importance in Digestive Health warrant new investments to enhance our basic science capabilities in these areas to maintain our position as a leader in GI research. (i) Gut Microbiome: is increasingly being shown to be a key regulator of immunity, disease susceptibility and metabolic disease (e.g. obesity). To carry out research in this area we need access to a Germ Free Animal Facility which Calgary does not have. (ii) Emerging Pathogens: numerous pathogens have emerged as significant threats to human health, some have been labelled by the media as "Super bugs". Many "Super Bugs" can be GI pathogens (e.g. TB, C. difficile). These are dangerous and need an operational Level 3 Lab to study closely, which the Snyder Institute does not have (currently "mothballed").

Personalized Medicine: Need for enhanced capacity in areas of biodiagnostics, biomarker identification, bioinformatics, systems biology, and genetics to develop capacity in the area of “*personalized medicine*”. Clinical medicine delivery is being increasingly geared towards individual patient-focused therapeutic approaches. Calgary is ideally positioned to be a leader in personalized medicine in the area of Digestive Health. To do this, Calgary needs significant investment in genetics, systems biology, and bioinformatics. This will complement the ongoing investment made recently by Alberta Children’s Hospital Research Institute (ACHRI). Calgary will be able to catch up to other centres and become a leader within Canada and internationally with targeted investments. In addition, the CCDH will require increased capacity in the areas of biodiagnostics and biomarker identification through enhanced links with the MADL and acquisition of new state-of-the-art equipment (CyTOF mass cytometry system) and the capability to employ it effectively.

AHS Strategic Clinical Networks: The Section of Gastroenterology and Hepatology has a lack of a clear path to access AHS Strategic Clinical Network research investment, which has been linked to AI-HS clinical research and innovation funding (e.g. PPRIHS funding), as a result of the absence of a dedicated AHS Strategic Clinical Network (SCN) in Digestive Health.

## Section of General Internal Medicine - Annual Report April 1, 2014 to March 31, 2015

### CLINICAL

In 2014-15, the Section of General Internal Medicine (GIM) provided the following clinical services to the AHS Calgary Zone:

1. Nine Medical Teaching Units (MTU) and two General Medical Units (GMU) at four acute care hospital sites. The newest 9th GIM inpatient service and the new second GMU at the South Health Campus have now been functional for more than one complete year. These services are all 24/7, 365 days per year. Based on AHS Inpatient Discharge data, as we have annually reported for at least the past seven fiscal years, the clinical volume on these services continues to increase over and above the previous year (2013/14). At the time of writing, the Section has crude data for the 2014-15 fiscal year: Of note, 12 of the 12 months observed the highest number of discharges ever during the reporting fiscal year (and the first four months of 2016 fiscal year demonstrate a further increase) overall reflecting a further 12% increase over and above the 15 % increase observed in 2013-2014. This represents 28% increase over the previous two years and an overall increase of 59% over the past five year period (see Table below).

A discharge is counted under the patient's most responsible physician (a division) during the patient's per hospital stay

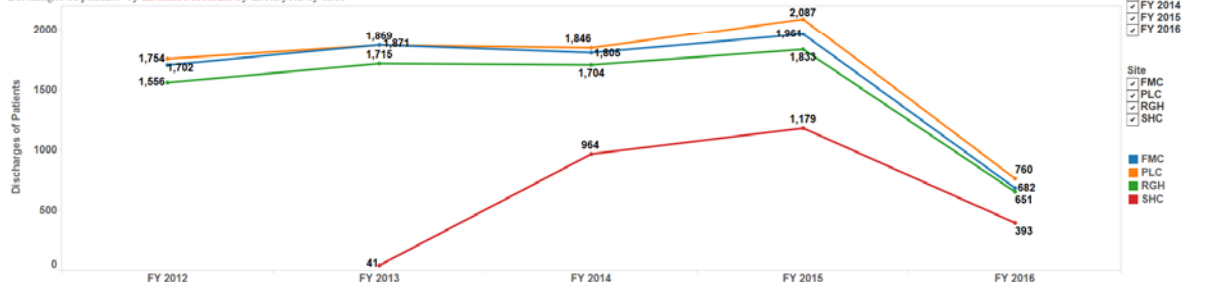
Discharges of the patients by Internal Medicine by Site: All

Year of Discharge	April	May	June	July	August	September	October	November	December	January	February	March	Grand Total
FY 2012	409	389	431	413	371	402	425	364	444	474	400	490	5,012
FY 2013	438	479	426	414	461	432	462	484	487	520	397	496	5,496
FY 2014	519	460	483	508	493	516	578	479	556	581	538	608	6,319
FY 2015	603	564	588	630	497	549	589	545	688	640	563	604	7,060
FY 2016	628	609	596	653									2,486

Most Responsible Physician

- ☐ Dermatology
- ☐ Endocrinology and Met.
- ☐ Gastroenterology
- ☐ Geriatric Medicine
- ☐ Hematology
- ☐ Infectious Diseases
- ☒ Internal Medicine
- ☐ Nephrology
- ☐ Respiriology
- ☐ Rheumatology

Discharges of patients by Internal Medicine by fiscal year by sites



These increases in clinical volumes in part have been managed by tolerance of higher average censi on the MTUs and GMUs, as well as continued gradual reductions in the ALOS by 2.3 days over the past five years. Another contributing factor to the Section being able to address the higher volume had been the addition of 20 GIM beds at the SHC. Of note, the intended design of a single 20 bed MTU immediately proved insufficient (confounded by the 2013 Calgary Flood) and led to the creation of the SHC GMU and in fiscal year 2016, the opening of a second SHC GMU. In aggregate, these new services continue to run over-capacity since their inception, as do all MTUs, now at virtually all points in time.

2. Seven inpatient GIM consultation services (most run 24/7/365d/yr.), including an Obstetrical Medicine service – to Surgical, Hospitalist, Neuroscience and Psychiatry colleagues.
3. Six daily streams of pre-operative surgical assessment clinics (mostly Monday-Friday) at four sites, including a pre-admission central intake clinic for the low-risk orthopaedic arthroplasty stream with the McCaig MSK program at Foothills Medical Centre (FMC). The requests for, and volumes of, peri-operative GIM consultation continues to grow at all sites. Of note, in the fall of 2014, the surgical uplift resulted in an increased demand for GIM pre-operative consultation services, necessitating a modest increase in service delivery affecting most of these PAC streams. Handling of this increase within GIM varies by site. Overall, an estimate of 8,000-9,000 GIM

pre-admission consultations were conducted this past year (detailed quantitative data not yet available). Off-site pre-operative consultation also occurs in the community (e.g., Gulf Canada clinic)

4. Outpatient clinics:
  - a. It remains difficult to accurately tabulate the total activity given a sizeable private clinic activity, much of it based in the community, among the Section's membership
  - b. As an example, the IMA associates involving GIM members at the Peter Lougheed Centre (PLC) run an Internal Medicine (IM) referral and follow up outpatient practice
  - c. The membership leads and/or participates in the Chronic Complex Disease Management (CCDM) clinics (PLC), Endocrine (DM) clinics at Richmond Road Diagnostic and Treatment Centre (RRDTC), Atrial Fibrillation clinics (FMC) and the Outpatient Anticoagulation program
  - d. At RRDTC, between 75 (summer) and 100 GIM clinics/month and 300-310 new referrals are received through our central access and triage process per month, with a steady increase in annual numbers, up over 30% over the past five years. Wait list times had been successfully reduced in previous years but these past two reporting years have begun to increase again. We have been able to keep the wait list for urgent referrals timely (about one week), but this has come at the expense of increased wait times for "routine" referrals, from 5-10 weeks five years ago to about 26 weeks this past fiscal year. Recently introduced and expanded GIM subspecialty residents' longitudinal clinics have been able to offer GIM consultative services to a proportion of new patients, but this has now reached saturation
  - e. At the RGH site, approximately 125 GIM clinics were offered in the UCMG area, a number that can grow (MD HR capacity met, but physical clinic capacity not met). During the past fiscal year, two MTU follow up clinics per week have been in operation as has an additional "cost-neutral" Chronic Complex Disease Management (CCDM). The former has proved to be very useful for short-term follow up of those being discharged from hospital, possibly contributing to a shorter length of stay. Regarding the RGH CCDM clinic, although all indicators would suggest a valuable health service delivery and health resource-sparing role, this has yet to reach its full potential given the paucity of dedicated RN and allied health support that successful clinics such as the PLC CCDM possess.
  - f. WRT (d & e), Central Access and Triage show an aggregate 59% increase in the number of consultations requested and provided over the past five years. Despite this steady growth, GIM has maintained a short time to urgent OP consultation of around one week – specifically through our Urgent Assessment Clinics. However in this past year, the wait times for routine and now semi-urgent consultation requests have continued to increase as noted last year, such that approximately 350 patients were currently wait-listed without appointments as of March 2015, with approximately 50% being deemed "semi-urgent" by our triaging physicians. In an analysis of potential contributing factors, these are multiple. They include more hospital-based follow ups and possibly more referrals that arise because of long waits in some sub-specialty areas. Another contributing factor to the wait times is our increased practice pattern of providing more extended follow up to patients with complex and/or diagnostic issues. The addition of our longitudinal GIM subspecialty residents' clinics has buffered some of the increase by providing additional capacity to see a higher percentage of new patients. Overall, net OP clinic access time has remained constant, despite increased demands. These increases in OP consultation requests and wait list duration is likely to continue, given that increased in-patient pressures outlined above will necessitate shifting some proportion of the GIM workforce from outpatient to inpatient clinical services.
  - g. Almost 300 Obstetrical Medicine clinics provided at the three acute care sites, with Obstetrical Medicine clinic support beginning at the SHC in the fall of 2014. Continued growth of Alberta population, particularly among young adults in child-bearing years and the trend among women to have children at a later age in life (with increased comorbidities) forecasts further growth in demand for Obstetrical Medicine services;
  - h. At the PLC site, the GIM site has been collaborating with the vascular surgery group to develop a model that enhances the medical and surgical co-management of peripheral vascular disease. This will involve risk factor modification, peri-operative care, and management of complications of PVD. The proposed model will involve a multidisciplinary team including physicians, nurses, podiatrists, orthotics, dieticians and other allied health care professionals. This remains under development;

- i. Outreach clinics occur regularly (with expanding numbers due to an increased Sectional focus on vulnerable populations):
  - Within the city at the following centres, focusing on populations with health disparities: SAC (HIV/GIM), CUPs (ObG Med-related and GIM) and the Calgary Refugee Clinic. The latter has an increased GIM presence this fiscal year (2014-15) with Dr. Gabriel Fabreau coming on Faculty. As well, GIM began providing regular and dedicated GIM First Nations clinics at the Elbow River Healing Lodge starting in September 2014. Another new initiative that started this fiscal year is the placement of regular GIM clinics with the East Calgary Family Care centre, with a focus on chronic complex disease co-management with primary care physicians among socially disadvantaged patients in the Forest Lawn area of the city.
  - Outside of the immediate urban setting: GIM membership continues to provide clinic and consultative services in Brooks, Canmore, Claresholm, Didsbury, Drumheller, Fort MacMurray, Morley, Red Deer, Strathmore and now Tsuu T'ina (all GIM consultations and optimization of CV risk).

Areas for necessary or possible growth and challenges in meeting these needs and opportunities:

1. Foremost, this will depend on available physician resources and the necessary support to make clinical services run efficiently;
2. Necessary growth:
  - a. It is anticipated that as our population grows and ages, the pressures on our inpatient services (in absolute numbers and acuity) will continue to rise. This is illustrated in the detailed AHS separation data: the greatest growth within the increases in inpatient numbers cited above has occurred in those 50 years of age and older (e.g. continuing increase in the number and percentage of octogenarians in the past year).
  - b. These same pressures will add to outpatient referral requests and opportunities to offer preventative care and management services among complex patients with chronic diseases
3. Opportunities for Growth:
  - a. GIM inpatient services have seen incessant and remarkable growth in demands for the past ten years. With an aging and growing population, it would be reasonable to assume that this trend will continue. During the past few years, this growth has been addressed by running higher censi on our inpatient units, shortening length of stay and the recent addition of 20 GIM inpatient beds at the SHC. A safe census limit has always been the topic of much debate. **Large scale published American data suggests that our MTU censi now consistently exceed a threshold above which there are associations with longer LOS and higher health care costs.** Given the complexity of MTU patients, we expect that we may be hitting “hard rock” regarding further reductions in LOS beyond the 2.3 day reduction that we have achieved in the recent years. Although our SHC GIM census is continuously at more than 50% above capacity, we would welcome any discussions regarding increasing GIM bed capacity in the Calgary Zone that might help facilitate organized service and GIM HR planning. We do not expect further increases in resident or trainee numbers. Thus anticipation of IP service growth requires deliberate consideration of and planning for (i) non-teaching GIM inpatient services; this in our opinion should be based on increased formal bed assignments; and (ii) expanded outpatient capacity for complex patients such as CCDM, MTU follow up clinics and an exploration of “virtual ward” concept that has been tried in other Canadian Centres to both prevent admissions and to shorten LOS for complex MTU patients.
  - b. Outpatient models of care that facilitate continuity of care following hospital discharge, management of complex patients and potential avoidance of admission or re-admission. In addition to the PLC CCDM clinic that is running at full capacity, this past year, two years ago, the Section has added the “cost-neutral” CCDM clinic to the RGH site. The FMC site is increasingly using RRDTC clinic capacity to arrange timely follow up of MTU and IP consultation patients with residual issues for the same purpose. Greater support at RRDTC and RGH to create a CCDM-like clinic concept would undoubtedly help offset our incessantly growing inpatient pressures. Economic modelling of such clinics elsewhere in the world support this claim and a historical economic analysis of the PLC CCDM clinic is ongoing
  - c. Opportunities for optimization of outpatient clinic facilities exist: at RRDTC and at RGH, there remains allocated physical space. Mutually acceptable costing, tithing and funding models for non-ARP/non-UCMG physicians remain vexing both for physicians and for AHS operations administrators. From a GIM perspective, resolving this shortfall would help address the outpatient care needs of complex patients not discharged to the community
  - d. Consultative leadership and participation in short-stay units (e.g., medical assessment, clinical decision or rapid assessment units) or innovative models such as a virtual hospital ward have been discussed within the Section – intuitively, these have appeal, but any or all require investment in operational support, space and the HR to allow



any such innovation to function; in order to be successful, such units would need to be developed with extensive input from and shared ownership by AHS and clinical departments and Sections such as ED, hospitalists, GIM, and other DoM subspecialty services;

- e. The GIM clinical needs for the South Health Campus have grown quickly. In 2015 fiscal year alone, a further increase of 22% was reported. The GIM workforce needs further HR growth to sustain the inpatient services and to balance out what is currently a disproportionate call service compared with the other acute care facilities in the Calgary Zone. Further, it has been sustained to date by the engagement of a number of long term locums. Over the next few years we expect to stabilize this site's GIM workforce with the recruitment of selected individuals with advanced training and skill sets that match the GIM Section's, Department's, AHS's and the University's long term vision for the site. Fundamental to this vision is the extent to which UofC and AHS sees the facility as a centre for more than solely clinical (albeit important) activity.
- f. Discussion with leaders in Aboriginal Health Services reveals an opportunity to provide necessary consultative services, especially within the urban setting. A subgroup of the Section has been formed and continues to develop to create strategies for high yield clinical work and includes research efforts with vulnerable populations with health disparities
- g. The indigent population of Calgary is sizeable and the ARP model of physician remuneration would permit provision of outpatient services to those who are complex and unwell (see d. immediately above); currently, three Section members and one Fellow provide services at CUPS and the Refugee Clinic. Conversations to strategize with Community Health Sciences, AHS and others, continue.

#### 4. Challenges:

- a. Our current clinical work force, despite ongoing modest growth, is at its capacity and remains in need of augmentation at all four existing sites within the next few years, given retirements and career transitions. More than one third of the Section is older than age 50 years of age. Some workforce planning data (CIHI) suggests that career transitions at this age often involve reductions in on-call participation, but continued outpatient activities. This will prove to be a challenge when such acute care needs are increasing while the available on-call work force is decreasing.
- b. The ongoing uncertainty regarding the conditions and availability of FTE within both the current ARP and the anticipated provincial AARP have significantly increased uncertainty about and compromised our ability to recruit GIM members with excellent clinical and especially non-clinical skills relevant to the study and delivery of our health care system. Expansion under FFS models and engagement of locum tenens physicians have been our primary methods of meeting these HR needs in the short-term. There are important challenges associated with an exclusive FFS model of HR expansion. First is the current absence of a reasonable business model for FFS members to fully use AHS outpatient facilities. While previously, there has been a welcome proposal under consideration, further discussion with physicians, completion of an acceptable model and successful offerings would be helpful. Second, there is, on average, a lower contribution by FFS members to AHS systems engagement and non-clinical academic activities. With notable exceptions, realistically valued stipends for important non-clinical roles will improve engagement of our valued, committed and capable FFS physicians.
- c. The most sustainable model for the necessary expansion of our physician staffing the SHC remains unclear. If SHC is to have any meaningful academic presence, liberalization of at least some of the previously committed GIM ARP FTE would be necessary to support a critical mass of non-clinical time protection. This author suspects this is true not only for GIM but also other DoM Sections and likely for other clinical departments as well. In the absence of such an investment by AH, AHS and the University, it would appear likely that the SHC will establish itself as an almost purely clinical facility.

## RESEARCH

All GFT members produced multiple publications and carried grant funding – noted in the table below. In addition, Section members have extensively contributed to integrative roles including serving on grant panels, conducting grant and manuscript reviews, and serving on a number of Journal Editorial roles.

Metrics (with some missing data points) are as follows:

Peer-Reviewed Manuscripts	66 (plus 8 in press and 2 submitted – probable under-reporting)
Non Peer-Reviewed Manuscripts	4 (under-reported)
Book Chapters	2
Scientific/Technical Reports, Abstracts, Presentations	73



Invited Presentations	79
Funded Research	<b>\$8,999,857</b>

#### Research Chairs held (2):

- N Campbell: CIHR Canadian Chair Hypertension Prevention and Control
- W Ghali: John A Buchanan Chair in General Internal Medicine
- Both of our research Chairs continue to be extremely productive in their work; supporting them remains a widely-endorsed Sectional focus;

#### Sectional Research progress and opportunities:

- Research productivity within some of the growing areas of Sectional strengths: e.g.:
  - **Health services research** (ongoing work of Ghali, Campbell, Fabreau, Tang and others): specific examples include work in the areas of health systems research, health disparities, and public policy as it relates to vascular health and the relationships between government and the food industry
  - **Obstetrical medicine** (a database to capture baseline demographics for one of the largest and most cohesive ObG-Med program – Hawkins, Castillo, Sam, Gibson and Nerenberg): specific examples include the management of vascular risk factors, hypertension, eclampsia and cardiac diseases in pregnancy. Parenthetically, the Obstetrical Medicine group is thrilled by the Department's AHS's and the University's support in recruiting a fifth academic member to this group this year
  - **Physician wellness and workloads** (Lemaire, CIHR grant recipient): the MTU preceptor role project has moved from study completion to data analysis. This is likely to be a transformative project with much national interest
  - **Medical education research** (Ma, Bacchus, Altabbaa, Cook and colleagues): specific examples include assessments of learning and assessments of bedside invasive procedures; simulation-based curriculum; and the role of bedside ultrasound for IM physicians. The latter will be supported by the completion of training and recruitment of two general internists with advanced bedside ultrasound skill (Ryan Lenz, Brendan Kerr)
  - **Cardiovascular clinical research** (Herman, Pollak, Hamilton, Campbell, Zarnke and others): among other themes, a highlight includes Dr. Herman's very innovative work in studying the retina with new imaging technology as a window to assessing vascular function in his studies using OCT-SD to assess the relationship between retinal findings and clinical outcomes among patients at risk of hypertensive urgencies and emergencies.
- Working with and engaging the research resources associated with W21C
- Using recruitment to foster the research profile of the Section (Rahim Kachra, Evan Minty, Gabriel Fabreau, Karen Tang, Birinder Mangat and foreseeably, the Buchanan Chair position in 2014-15, Clinical Scholars).

## EDUCATION

#### Estimated Teaching Hours\*

<b>Outside of clinical settings:</b>	Hours	Comments/Sources/Assumptions
UME, PGME, CME combined	3711	Based only on STAR report for ARP members (thus, markedly underestimates participation of non-ARP members)
<b>Supervision of Trainees of mixed levels in clinical settings:</b>		
UME, PGME combined	~11,000	Crude estimate: Assumes ~20% teaching time in teaching services
Supervision/mentoring	2,056	More easily estimated for ARP members based on reporting system

\*Requires some [conservative] modeling assumptions, given that ~45% of Section works in a private practice model, but contributes significantly to delivery of the clinical education mandate at all levels

\*Marked variability of completeness of STAR reporting would also suggest that for ARP members, these are incomplete and conservative estimates.

### **Undergraduate Medical Education:**

Within the Department of Internal Medicine, GIM provides over 60% (766/1266 weeks) of clerkship teaching weeks. Among measures of discernable hours, GIM provides 46% (172/372 hours) of BST, 51% (93/180 hours) of OSCE examination hours and 19% (14/72 hours) of didactic teaching.

### **The Internal Medicine Core Residency Training Program:**

With the large number of UofC Medical School and Clerkship (170 UME student per year) and Internal Medicine (IM) Residency Programs (~30 incoming residents per year) together with an additional intake of well-trained foreign graduates (2-5 per year) through the Alberta International Medical Graduate Program, we participated in the continuing expansion of the IM Residency Program to the RGH. The leadership of the IM Residency Program currently lies with Jeffrey Schaefer (Program Director) and four Associate PDs, all five being GIM Section members.

THE GIM MTUs serve as a critical setting for the instruction of not just Department of Internal Medicine postgraduate trainees, but also residents from other programs. As noted above, last year the number of R1's has increased substantially and the number of MTU blocks has increased from five to six. In addition, Family Medicine especially, and also Psychiatry and Surgery recently added more MTU time for their trainees. The MTUs have been a setting for innovation: for example, after the successful introduction and evaluation of the senior resident night float model of nocturnal on-call coverage (a subject of a number of Sectional publications and presentations), a junior night float model was piloted successfully and implemented during a recent reporting year. Additionally, the formal study of the role of the preceptor is the focus of successful CIHR and RCPSC grant applications (Lemaire et al). At present, manuscripts are in the writing and submission phases of this project. Finally, the MTUs continue to serve as the setting for evaluation of new technology through the W21C innovation program. Examples of this include the CIHR-funded RCT of an SCM-based seamless discharge tool (project completed, data under analysis), implementation of bedside ultrasound (see below) and an online "quality job jar" project under development.

The Section of GIM has been very involved and active in the increasing focus of medical education delivered through simulation techniques. Members have been involved as leaders, developers, adopters and evaluators of simulation methods in both UME and PGE. Development and delivery of simulation-based cases has particularly notable at the RGH and the FMC sites and now at the SHC, with its new SIM facility. Another application of innovation in the educational setting during this year has been the ongoing launching of a teaching curriculum for and now more widespread use of bedside ultrasound for enhanced safety of procedures (e.g., central line insertion) and for enhancement of, and immediate validation of physical exam findings. Parenthetically, three members of the Section (Ma, Schaefer and Zarnke) have formed, hosted and consolidated a group of like-minded Internal Medicine ultrasound enthusiasts. This group has successfully developed the first Canadian curriculum for Internal Medicine ultrasound (published in 2014) and is formally studying its development and implementation at post-graduate and faculty development levels, with the support of the Department of Medicine, W21C, and the Canadian Society of Internal Medicine.

### **GIM R4/5 Residency and Clinical Scholars Programs:**

In the fiscal 2014-15 year, the Section of GIM applied for and successfully received first, University of Calgary PGME, then Royal College endorsement of a GIM Subspecialty training program. The 2015 formal Royal College Accreditation Review conducted a mere eight months after the program's endorsement, identified "No weaknesses". The University of Calgary GIM residency program has historically been a highly sought-after post-graduate program within Canada, with the number of local and national strong applicants far exceeding our ability to enlist. This new milestone permits the Section to offer a more fulsome two year program that provides greater training opportunities for prospective General Internists to develop more in-depth clinical skills for practice and academic training for clinicians that aspire to have an educational and/or research focus as a major part of their career. The immediate consequences include "carrying" up to six new GIM residents per year – i.e. for a combined (R4 +R5) cohort of up to twelve residents at any given time. Significant challenges related to this are (i) a notable shortfall in the adequacy of support for the Program Director: both in terms of protected time and administrative support; and (ii) a lack of any dedicated space for our GIM residents to use as an office or desk space for downtime study or academic purposes.

In 2014/15, the Section had 6 GIM PGY4 and 5 PGY5 and 4 Clinical Lecturers. These were:

1. Dr. Janeve (Everett) Desy (R4)
2. Dr. David Low (R4)
3. Dr. Dayne Ortvad (R4)
4. Dr. Alissa Shariff (R4)
5. Dr. Jeffrey Shrum (R4)
6. Dr. Meghan Vlasschaert (R4)
7. Dr. Brendan Kerr (R5)
8. Dr. Ryan Lenz (R5)
9. Dr. Alison Walzak (R5)
10. Dr. Birinder (Biri) Mangat (R5)
11. Dr. Andreea Ionescu (R5)
12. Dr. Gabriel Fabreau, Clinical Scholar and MPH at Harvard University, Boston
13. Dr. Rahim Kachra, Clinical Scholar and MPH at Harvard University, Boston
14. Dr. Karen Tang, Clinical Scholar and MSc in CHS
15. Dr. Evan Minty, Clinical Scholar and Masters in Medical Informatics, Stanford University

Dr. Fabreau has completed his two years at Harvard, studying vulnerable and disadvantaged populations and population health; (June 2014). Dr. Minty's Clinical Scholarship involves studying Clinical Informatics, Information and Advanced Technology at Stanford and working with UofC's Community Health Sciences/W21C (expected completion: Early 2015). Dr. Tang has been highly successful in her health services research regarding health disparities and has acquired external funding support from CIHR and AIHS. At present, her expected date of completion of her research fellowship is July 2015. Dr. Rahim Kachra completed a Master's Degree in Technology in Education at Harvard University and Dr. Birinder Mangat is in the midst of a Master's Degree in Clinical Effectiveness at Harvard University.

### **Clinical Assistant (CA) Program**

The UofC Department of Medicine CA program, while serving as a departmental resource, is managed almost exclusively by the Section of GIM. The CA program has a mixed mandate: (i) to provide a skilled physician assistant resource that helps with coverage of service requirements among various clinical sections within DOM but also outside of DOM (e.g., Neurology); This reporting fiscal year, this mandate has taken on an increased importance as recruitment of five additional clinical assistants has aided in the staffing of the Internal Medicine inpatient beds at the South Health Campus; (ii) to provide opportunities for International Medical Graduates to advance their careers into the Canadian health care system (mostly into a residency program, usually through AIMG program); and (iii) depending on the outcome of (ii), to provide well-trained physicians who may be able to serve in underserved areas. Subsequent to this mixed mandate, a high rate of turn-over among the CAs continues to vex steady-state HR planning for this program; however, the philosophy of the CA Program Committee considers that if it reflects successful career advancement of the CAs, it is to be celebrated, but noting that it comes at the cost, that is at times high, of instability of the CA workforce.

An implicit assumption in the way the current CA program functions is that the continued exodus of IMG to residency training streams (second mandate referred to above) is viewed as desirable by those who have a stake in provincial physician workforce planning (e.g., AH, AHS, CPSA and AMA). Feedback to the program from such stakeholders would be welcomed. Last year, we had 3 CAs successfully transitioned to the AIMG Program.

### **LEADERSHIP and ADMINISTRATION**

The Section membership participates extensively in important and influential Leadership and Administrative roles at International, National, Provincial, Zonal, University, Faculty, Departmental and other levels of Health Care organizations. The total extent is difficult to quantitate. A self-reported estimate from the ARP membership cites over 12,000 hours. This would be an incomplete and probably underestimate, given that many individuals report their roles but do not report their time commitment. Notably, this does not include quantification of the non-trivial participation of our non-ARP membership.

A partial list of leadership roles that members have taken on would include positions in the following spheres:

1. International (e.g., Chair Pan-American Health Organization Salt reduction committee, Chair, World Health Organization Quality and Safety TAG for ICD-11, Associate Editor, Open Medicine)

2. National (e.g., Chair and Co-Chair, RCPSC IM Executive Committee, Integrated three national HT societies in single entity (HT Canada), CSIM Chair, Globalization Committee),
3. Provincial (e.g., AH&W Expert Committee on Drug Evaluation and Therapeutics, AHS medical lead on Chronic Disease Management)
4. Regional (Western Canada): Members of the GIM Section, under the leadership of Robert Herman, organize and Chair the annual Rocky Mountain/ACP Internal Medicine Conference, a large and long running annual CPD Internal Medicine conference in Western Canada
5. University (e.g., Scientific director, CIPPH; both co-directors W21C\*; Vice Chair, Health Promotion, Libin CV Institute), Internal Medicine Clerkship Director; CPD Chair, Calgary Therapeutics Course;
6. Zonal (e.g., PLC and FMC medical directors, SHC departmental physician lead; development and evaluation of a discharge summary located on the in-patient electronic medical record; leads on )
7. Departmental (e.g., Vice Chair, Physician Wellness; Vice Chair, Quality Improvement; IM RTP director; Lead on ISA Harmonization).

#### **Anticipated and recent Recruitment for July, 2015:**

<b>Name</b>	<b>Area of Interest</b>	<b>Primary Site</b>
Dr. Evan Minty	Health Informatics	FMC/AHS
Dr. Gabriel Fabreau (2014)	Health Disparities/Health Services Research	FMC/PLC/IPH
Dr. Kara Nerenberg (2014)	Obstetrical Medicine	FMC/IPH/Libin
Dr. Brendan Kerr	Point-of-care bedside ultrasound	RGH
Dr. Ryan Lenz	Point-of-care bedside ultrasound	RGH
Dr. Rahim Kachra	Medical Education	FMC/UME
Dr. Michelle Grinman	Health Disparities/Health Services Research	RGH/IPH
Dr. Birinder Mangat (2015 or 2016)	Cardiovascular Health/Population Health	SHC/CHS
Dr. Julia Tien	Venous Thromboembolic Disease	SHC
Dr. Karen Tang (PT->FT, 2016)	Health Disparities/Health Services Research	FMC/IPH/CHS

**Locum tenens providing significant Clinical Contributions, especially at the SHC,** Dr. Andreea Ionescu, Dr. Jennifer Ngo, Dr. Jasjeet Rai, Dr. Magdalena Sarna, Dr. Matt Lauzon, Dr. Meghan Leitch

#### **Honors and Awards**

##### **RECOGNITION AWARDS:**

- Dr. Douglas Hamilton – University of Calgary Clinical Research Award (significant contributions to clinical research, which placed him within the top 1% of his peers in the faculty)
- Guenter Distinguished Achievement Award for International Health – Dr Norman Campbell
- McLeod Distinguished Achievement Award for Excellence in Teaching – Dr. Irene Ma
- Dr. Terry Groves Award for Clinical Excellence – RGH: Dr. Anna Purdy
- Quality Improvement and Patient Safety: “Medication Reconciliation Project – Dr. Elizabeth MacKay
- Team Builder of the Year Award – Dr. Norm Campbell
- The Benevolent Heart Award – Dr. Aleem Bharwani (Department of Medicine)
- PARA Well-being Award – Dr. Aleem Bharwani
- ACLGIM Leadership Award – Dr. Aleem Bharwani

##### **National & Provincial:**

- Canadian Association for Medical Education Certificate of Merit – Dr. Irene Ma - 2014
- Order of Canada member: Norm Campbell – 2014
- 2014 CAHS Fellowship in the Canadian Academy of Health Sciences: Dr. Norm Campbell (Recognizing an academic staff member, or group of staff members, who through their research and/or other scholarly, creative or professional activities have made an outstanding contribution to the wider community beyond the university.)
- 2014 Canadian Cardiovascular Society Dr. Howard N. Segall Award (award is for disease prevention and health promotion), Award of Merit: Norm Campbell

- 2014 CAFA Distinguished Academic Award: Dr. Norm Campbell. Recognizing and academic staff member, or group of staff members, who through their research and/or other scholarly, creative or professional activities have made an outstanding contribution to the wider community beyond the university.
- 2015 CMA STARR Award - Frederic Newton Gisborne Starr Award: Dr. Norm Campbell (highest award that CMA can bestow upon one of its members for outstanding working in science, humanitarianism, work within the community, or improving medical service in Canada. Dr Campbell's lifelong commitment to promote health through prevention and control of hypertension around the globe has earned him this great honor
- Osler Award- for embodying the mannerisms of Dr William Osler – Dr. Ben Wilson (awarded by UofA IM residents)

#### University:

- 2014 Work Life Balance – Dr. Amber Fripp
- Faculty Teaching Award – Dr. Kelly Zarnke
- Faculty Teaching Award – Dr. Aleem Bharwani

#### Departmental:

- 2014 Silver Finger Award – Dr. Ben Wilson
- 2014 Rookie of the Year – Dr. Jack Cruikshank
- 2014 Repeat Offenders – Dr. Paul LeBlanc
- 2014 GIM Merit Award – Dr. Ghazwan Altabbaa, Dr. Fiona Dunne, Dr. Marcy Mintz

#### DOM Residency Training Program Awards:

- 2013 Star Educator Award RGH PGY1 Specialty residents –
- 2013 Star Educator Award RGH PGY1 Specialty residents –
- MSA Physician recognition Award RGH –
- 2013 PGY 1 Educator Award RGH –

#### DOM Clerkship Awards:

- Clerkship Faculty Award
- The Undergraduate Medical Education award for clinical, adjunct and research faculty, April 2015 – Dr Ghazwan Altabbaa

#### Faculty Development:

- Dr. Anna Purdy: “Master” Clinician, completed Master Clinician Program (Feb 2014)
- Dr. Irene Ma: completed in a PhD in Medical Education at the UofC.
- June 2015 awarded the designation of Specialist in Clinical Hypertension by the American Society of Hypertension. Dr. Birinder Mangat

### **CHALLENGES AND FUTURE DIRECTION**

1. 2014/2015 has been a year of relative HR stability in setting of increased clinical demands for the Section of GIM in Calgary. During the forthcoming year, the Section will need to continue to plan carefully for the expanding GIM clinical needs as well as the impact of the aging HR workforce. The continued expansion of clinical services at all sites is anticipated, given inevitable growth and aging of our population;
2. More specific to #1, within the next few years, the Section will need to meaningfully address the issue of non-teaching services. Because incessant growth has been a pattern at all acute care sites and because movement of patients among sites is difficult for many reasons, models of care for GIM/MTU appropriate patients at each site will likely be necessary;
3. Outpatient GIM service needs continue to grow in the community and the Section's ability to deliver such services are limited by competing growing inpatient demands, limited UCMG clinic capacity and a reluctance on the part of non-UCMG physicians to either accept a UCMG model of clinic support and/or hesitation to start outpatient private offices;
4. Regarding physician remuneration models as tools to foster health systems goals and necessities, the continuing uncertainty regarding decision-making about, and control of the current DOM ARP, and the nature of any potential provincial AARP, has an ongoing negative impact. The planning for clinical changes as outlined above, will

necessarily continue despite continuing uncertainty around the ARP negotiations. However, hopefully this does not impede efforts to train, attract, recruit and retain generalist physicians with strong academic and non-clinical skills and aspirations. The future opportunities for academic prospects is one of the most constant questions expressed by more senior trainees: the existence of some greater clarity would provide important fence posts that those contemplating an academic career can incorporate into career decision-making;

5. The Section's contributions to the Faculty's education mission at all levels will continue with widespread enthusiasm and committed engagement. We aspire to make further research efforts as a result of developments such as a greater alliance with the W21C, the growth of the Maternal Disorders of Pregnancy program and the maturation of the Physician Wellness Initiative
6. The operationalization of the new two year RCPSC GIM Subspecialty Fellowship Program is providing a learning opportunity for all, from the residents themselves to our Sectional members involved in the program, as well as the University's PGME and the Royal College.



## **Section of Geriatric Medicine – Annual Report April 1, 2014 to March 31, 2015**

The Section of Geriatric Medicine has 11 members as of March 31 2015. This includes our new recruit Erika Dempsey who started December 2014. One member has gone on maternity leave starting January 2015.

9 members are full time in the ARP and 3 are part time members. 3 of our members have GFT appointments while the others have Major Clinical appointments with the University of Calgary.

Our total FTE is 9.61 and breaks down into:

- 60% Clinical
- 20% Administration
- 10% Research
- 10% Education.

### **CLINICAL**

The clinical activities of the Section of Geriatric Medicine are operationalized by Specialized Geriatric Services (SGS) who report to the Integrated Seniors and Community Care (ISCC) program. Statistics for this program are kept in a calendar year, not a fiscal year, so the data presented is for 2014.

Clinical activities that are the primary responsibility of the Section of Geriatric Medicine include:

- Consultation Services at all four Acute Care sites.
- Consultative Seniors Health Clinic
- Falls Prevention Clinic.
- Consultative support to the Geriatric Day Hospital
- Consultative support to the Geriatric Assessment and Rehabilitation Program which is an inpatient acute care/rehabilitation unit at RGH.
- Geriatrician support to other programs outside of the SGS program including Alex Seniors Centre, Peter Coyle, Foothill PCN and West Central PCN.

Ambulatory Services:

1. Seniors Health Clinics: There are three clinical sites for Seniors Health Clinics. All clinics have access to a multidisciplinary team and provide comprehensive assessment and consultation.
  - Rockyview Seniors Health Clinic (SHC) and the Bridgeland SHC run approximately 26 half day clinics with a total of 2416 visits in 2014. This includes the Geriatric Residents Longitudinal clinic.
  - Clinics are being run at the South Health Campus 4 half days/week. As this clinic was started in 2014 we do not yet have data for this clinic.
2. Falls Prevention Clinic: This is located at the Bridgeland site. This provides in home assessment of frail older adults with falls. 2 physicians provide support to this team.
3. Teleconsultation: Geriatric Medicine continues their active teleconsultation program that supports six rural communities (Banff, Canmore, Cardston, Didsbury, Drumheller, and Strathmore). Also, the Fall Prevention Program is building linkages with remote communities (Canmore). There appears to be a decrease in the utilization of these clinics which makes for inefficient use of Geriatrician time. We will be monitoring the need for this service
4. Support for PCN teams: Geriatricians provide consultative support to the West Central PCN Geriatrics team, the Alex Seniors clinic, Peter Coyle and the Foothills PCN navigation team.
5. Homecare Geriatric Consultation team: This team was created through the Destination Home grant. SGS provides funding for physician support to this team. Currently there are 2 Care of the Elderly Physicians who work with the multidisciplinary team and provide consultation in patients' homes. There are plans in 2015 to add Geriatrician support to this team.

Hospital Consultation:

The Section offers in-patient consultation services at the four adult hospitals in Calgary.

For this reporting period there were about 1,473 new consultation requests. This number is artificially low as it does not capture consultations done by the Nurse Practitioner who then requests support from a Geriatrician.

#### Other Clinical Activities:

Section members provide case conferencing and clinical support to the following programs:

- Glenmore Day Hospital – case conferencing and assessment at request of complex patients.
- Geriatric Assessment and Rehabilitation Program (GARP) - case conferencing and assessment at request of complex patients
- One Line Triage
- RCTP and Subacute units at Carewest – Glenmore Park. The RGH Geriatric medicine team provides consultation. This is a trial phase.

## RESEARCH

Reporting for this section is for the calendar year for 2014 as this is entered into STAR.

#### i) Publications: In 2014, the Section has produced:

- 14 peer reviewed publications and 6 peer reviewed abstracts.
- 3 non peer reviewed publications
- Emily Kwan will be having a book chapter published (Sept 2015) on Falls Risk Assessment.

#### ii) Major Funding: Sum of Successful grants allocated to Members is 12,490.00

#### iii) Research Focus of Sectional Members:

- Over the 2014-15 academic year the Section of Geriatrics and Calgary-zone Seniors Health have participated in several research and quality improvement (QI) initiatives aimed at improving the care provided to older adults within acute care. This includes:
  - Partnering on an elder-friendly care initiative within the 4 Calgary adult hospitals, using funds from a peer-reviewed Calgary-zone QI grant. Dr. Holroyd-Leduc is the principal investigator on this initiative, and also a Co-PI on a Seniors Health SCN PRIHS grant from AIHS/AHS that is exploring elder-friendly approaches to the surgical environment (EASE).
  - Dr. Holroyd-Leduc is the Principal Knowledge-user on a CIHR KTA operating grant, which is collaboration with researchers from Ontario and several community-based hospitals in Alberta evaluating a knowledge translation intervention focused on mobilization of vulnerable elders within acute care (MOVE AB).
- Members from the Section of Geriatrics and Calgary-zone Seniors Health have been collaborating with Alberta Health and the Seniors Health SCN on the development of a provincial dementia strategy and action plan. Drs. Holroyd-Leduc and Hogan are co-Chairing the Research and Innovation working group. Dr. Fruetel is a member of the Primary Care and Dementia group and the Acute Care group.
- Dr. Hogan is a Co-principle investigator for the Canadian Longitudinal Study of Aging. This year they completed the baseline assessments of the 2960 Calgary participants and started their first follow-up visits.
- Dr. Hogan has a leadership position in the Canadian Consortium on Neurodegeneration in Aging, which launched its research activities in 2014-15.
- Dr. Kwan is engaged in medical education research. She is working on a “Flipped Classroom” Project for Course V with an evaluation component and is working with Dr. McLaughlin.
- Dr. Kwan is working on a systematic review of Pelvic Band for pelvic fracture and pain.

#### iv) Leadership in Research

- Dr. Hogan is the Chair of the C5R Research Committee, and Associate Editor, Current Gerontology and Geriatrics Research and also the Brenda Strafford Chair in Geriatrics, U of C. He is a member of the Steering Committee for the Canadian Initiative on Frailty and Aging. He is also the Editor of the Canadian Journal of Geriatrics

- Dr. Holroyd-Leduc has been appointed the Scientific Director of the Seniors Strategic Clinical Unit.
- Dr. Silvius is a member of the CIHR Knowledge to Action Grant Review Committee

#### Quality Improvement Projects:

1. SGS is participating in AIW work on reducing outpatient wait times in the Seniors Health Clinic. This work has resulted in a 63% improvement in the overall wait list and a 50% improvement in the wait time.
2. An interdisciplinary initiative focusing on implementing Elder Friendly Care practices within Calgary acute care hospitals
3. A collaborative initiative with the Calgary-zone Hospitalist QI group focusing on reducing the use of anti-psychotics and sedatives among older hospitalized patients
4. Appropriate Use of Antipsychotics, project with Seniors SCN.
5. The GARP program is starting a project to reduce the Length of Stay
6. QI project on Driving Assessments on GARP

## EDUCATION

The Section is active in Education across all levels of medical education, but also in Multidisciplinary Education. The Section has recorded a total of 1,651 formal teaching hours at the UME, PGME and CME levels.

Undergraduate (UME): All Section members are expected to teach in Course V (Aging and Neurosciences) but many members teach in other courses such as Medical Skills, Course III, IV, VI, VIII and the Integrative course.

- 3 members are Master Teachers with major commitments to teaching in the UME program. .
- 2 Members chair UME education committees
  - Dr. Burbach is co-chair of Course V UGE (Neurology, Aging and Special Senses)
  - Dr. Pearce is the chair of the Integrative Course.
- Section members supervised 40 Clerkship rotations ranging from 2-4 weeks. This includes electives of out of town students.
- 5 members supervised medical students in Course 440
- Participation in OSCE
- Participation in CaRMs interviews
- Members participate in the faculty advisor program

Postgraduate: All members participate in teaching and supervision of residents on rotation in Geriatric Medicine.

- 33 Residents did a formal clinical rotation in Geriatric Medicine, from Internal Medicine, PMR, Psychiatry, Pathology, and Neurology. Each had a 4 week rotation in Geriatrics. Family medicine residents' rotation is with the Dept. of Family Medicine; however we provided clinical experience to these residents.
- Geriatrics participates in Noon Teaching Rounds and Academic Half day of various PGME programs.
- Dr. Burbach sits on the PMR Residency Program Committee
- Drs. Pearce and Fruetel sit on the Care of the Elderly Residency Program Committee for Family Medicine
- Dr. Fruetel is a member of the RCPSC Internal Medicine Examination Committee and Dr. Holroyd Leduc is a member of the RCPSC Geriatric Medicine Examination Committee.
- Participation in PGY 1-3 OSCE

Subspecialty Program: Our subspecialty training program is strong and was successful in the RCSPC accreditation visit. During this reporting period we have 3 PGY5 and one PGY4 in the subspecialty program. We also provided teaching and supervision to 2 Care of Elderly PGY3

- One of our PGY5 is enrolled in the CIP program.
- The subspecialty program hosted a very successful Resident Research day and was able to sponsor Louise Walters from USC as guest speaker and judge. All our residents had a project to present on this day.

Graduate: 17 Graduate students were supervised by Section members

CME: Dr. Heidi Schmaltz is the Sectional CME lead and has been integral in the planning of the annual geriatric update for rural/urban primary care. This event occurred in October 2014.

- Dr. Schmaltz is the CME lead for the Canadian Geriatrics Society.
- 18 invited presentations or workshops locally, provincially and nationally
- Dr. Fruetel was the co-lead for Choosing Wisely Canada – Geriatrics which was launched April 2014.

## ADMINISTRATION

Members of the Section are active in administration and filling leadership roles locally, provincially and nationally. Highlighted roles include:

Dr Burback:

- Chair of the Canadian Geriatrics Education Committee
- Co-chair of Course V – Neurosciences, Aging and the Senses, UME.
- Care of the Elderly Residency Training Committee (RTC)

Dr. Fruetel:

- Section Head of Geriatric Medicine
- Medical Leader, Integrated Seniors Health
- Medical Director of Specialized Geriatric Services
- Member, Governance Committee, West Central PCN
- Member, Seniors Strategic Clinical Network.
- Geriatric Medicine RTC
- Vice President, Canadian Geriatrics Society
- National Lead for Choosing Wisely Canada/Canadian Geriatrics Society recommendations
- Member, RCPSC Internal Medicine Examination Board

Dr Hogan:

- Brenda Strafford Chair in Geriatric Medicine.
- Director for the Brenda Strafford Foundation Centre on Aging.
- Member, Hotchkiss Brain Institute, Hotchkiss Brain Institute
- Advisory Committee for the Brenda Strafford Foundation Chair in Alzheimer Research, Faculty of Medicine, University of Calgary
- Advisory Committee of the Brenda Strafford Centre for Excellence in Gerontological Nursing, Faculty of Nursing, University of Calgary
- Member, Reducing Falls and Injury from Falls Faculty, Canadian Patient Safety Institute
- Co-Chair, Canadian Coalition for Seniors' Mental Health - Update Guidelines on Delirium, Canadian Coalition for Seniors' Mental Health
- Member, Board of Directors, Alberta Medical Foundation
- W21C committee

Dr. Holroyd Leduc:

- Scientific Director of Seniors SCN
- Alberta Clinical Council
- Chair, KT committee TVN Research (NCE)
- Co-Chair, Elder Friendly Advisory Group
- Leader, Hospitalized Elder Life Program
- Member, RCPSC Internal Medicine Examination Board
- Working Member, AHS Bone and Joint Clinical Network Trauma Working Group

Dr. Kwok:

- Sectional Representative, ARP Management Committee
- Zone and RGH Decision Capacity Committee

- RGH Ethics Committee
- RGH Elder Friendly Site Committee

Dr. Pearce:

- Chair, Integrative Course Committee, UME
- Program Director, Geriatric Medicine Program

Dr. Schmaltz:

- CME Lead for the Section of Geriatric Medicine
- Chair, Canadian Geriatrics Society CME committee

Dr. Silvius:

- Senior Medical Director, Seniors Health, Alberta Health Services
- Co-Chair, Appropriate Use of Antipsychotic Project, Seniors SCN

## AWARDS AND HONORS

5 Section members received a total of 13 Associate Dean's Letters for Teaching Excellence in the UGE curriculum.

2 Section members were named to the Class of 2015 Honor Roll for teaching excellence

Dr. Hogan received the 2014 Top Teacher CME Award, Cumming School of Medicine.

## CHALLENGES AND FUTURE DIRECTION

### Challenges:

- **Operational budget:** We have been very appreciative of the Department of Medicine and AHS support in recruiting geriatricians. However, SGS has not seen any increase in operational dollars to support additional recruitment. While there is clinical need for more geriatricians, SGS will struggle to support more physicians without additional operation support. .
- **Lack of a zone wide senior's health strategy and manpower plan.** Primary Care Networks and Homecare have developed teams to assess and manage frail older adults and this is not being coordinated or planned along with existing resources of Specialized Geriatric Services. This should be coordinated by the Calgary Zone, but also provincially with AHS and AH.
- **Ability to measure outcomes in SGS.** Change in process requires information, such as numbers of patients seen and wait times. Measuring these outcomes require infrastructure support.

### Opportunities:

- Collaboration with Home Care, including their Dementia Care Team and Geriatric Consult Team
- Consultation to RCTP units. In 2015 a trial commenced at RGH to support RCTP units at Glenmore Park.
- We have reached out to other programs that have a high prevalence of frail older adults to explore ways we can assist them. This includes Orthopaedics, Trauma and Vascular surgery. In 2015 we hope to have a plan to provide additional support to these areas.

### Future Directions:

1. **Recruitment to Geriatrics:**
  - a. Additional recruitment also needs to be accompanied by increased operational dollars.
  - b. Need to proceed with a solid manpower plan for the zone that also takes into consideration other programs outside of SGS (Home Care and PCN).
  - c. Further recruitment should focus on the increasing academic productivity.
2. **Increased Academic productivity.** Much of the last 3 years have been struggling to cover clinical services. Our key new recruits are all strong educators. With additional recruitment we should shift our focus on increasing the scholarly activities of the Section.

3. **Seniors Strategic Clinical Network** has great potential for disseminating some of the programs developed in Calgary to the province. 4 section members (Drs. Hogan, Fruetel, Holroyd Leduc and Silvius) are members of the core committee. This will provide opportunities for increasing networking and research opportunities.
4. **GARP redesign:** We are exploring evidence based interventions using the GARP unit, and reaching out to Orthopaedics, Trauma and Vascular surgery



## Section of Hematology and Hematologic Malignancies - Annual Report April 1, 2014 to March 31, 2015

### CLINICAL

1. New Clinics, Initiatives and Innovations
  - Development of an immune deficiencies program involving adult and pediatric Hematology, Transfusion Medicine, General Internal Medicine, Rheumatology, TBCC.
  - A city-wide thrombosis program is being developed. The recruitment of a thrombosis specialist (Doopa Suryanarayan, Sept 2015) will add to existing expertise in the section of Internal Medicine to support clinical areas of need, research, and guideline development. Recruitment of a second thrombosis hematologist is planned for 2017.
2. Key Partnerships
  - Provincial Hematology Tumor Group (TBCC, CCI, Associate Cancer Centres, Hematopathology in Calgary and Edmonton)
  - World Federation of Hemophilia Country Program for China (Man-Chiu Poon)
  - Monthly Hematology Clinics in Medicine Hat
  - BMT Clinics every 2 weeks in Edmonton
  - International Health Program Project, Laos (Chris Brown)
  - Pediatric Hematology: Hematology Training Programs and Hemophilia Programs

### RESEARCH

1. Scholarly Productivity
  - Peer Reviewed Publications/Articles – 45
2. Major Funding (PI only) –Total Approx. \$2,226,500
 

New: \$326,500  
 Sources: Calgary Health Trust/Section of Hematology, Alberta Cancer Foundation

Ongoing: \$1,900,000  
 Sources: Alberta Heritage Foundation, Alberta Cancer Board, Alberta Cancer Foundation, Alberta Cancer Research Institute, Alberta Innovates Health Solutions, Bayer, Calgary Laboratory Services, NCI/NIH, Canadian Institute of Health Research, Canada Foundation for Innovation Canadian Hemophilia Society, Department of Medicine Research Development Fund, Section of Hematology Research and Education Fund, GSK, Genzyme, Hoffman la Roche, NCIC, National Cancer Institute (USA), PDL/Otsuka, Pfizer, Sanofi Aventis Canada Inc., Terry Fox Research Institute, Private Donations.
3. Research Focus of Sectional Members
 

Malignant Hematology:

  - Clinical Trials (novel monoclonal antibodies, lenalidomide, NCIC-CTG cooperative group and industry) for Multiple Myeloma (N Bahlis, P Duggan, V Jiminez-Zepeda), Lymphoma (D Stewart, C Owen) Leukemia/MDS (L Savoie and M Geddes)
  - Translational: Provincial Hematology Tumor Bank (with Alberta Cancer Research Institute Biorepository, D Stewart), Predictive Biomarkers and Molecular Biology of Lymphoma & Myeloma (D Stewart, N Bahlis). Role of Cereblon in myeloma cells and sensitivity to IMiDs (N Bahlis and J Slaby)

Blood and Marrow Transplantation:

  - SCT outcomes for indolent and aggressive lymphomas (D Stewart).

- Blood vs Marrow Stem Cell Source for Unrelated Allogeneic SCT (L Savoie)
- Allergy, Immunology and Infection following Allogeneic SCT (J Storek)
- Autologous SCT for autoimmune disorders (J Storek)
- Haploidentical Stem Cell Transplants (A Daly)
- Novel Conditioning Regimens for Autologous Transplantation (M Shafey)
- Improved outcomes of ATG-conditioned (Albertan) hematopoietic cell transplantation (J Storek)

Hemostasis/Hemophilia: (MC Poon, D Goodyear)

- Clotting activity heterogeneity in severe hemophilia A
- Canadian dose escalation prophylaxis study
- Risk of ischemic heart disease in hemophilia patients and carriers
- Treatment of Glanzmann's thrombasthenia: prospective observational registry
- International immune tolerance for eradication of inhibitors in hemophilia A
- Etiology of decreased bone mass density in hemophilia patients

Thrombosis:

- Thrombophilia screening practices in the community (MC Poon)

Medical Education:

- Undergraduate: teaching methods, curriculum design, EBM (D Jenkins)

Leadership in Research:

- Canada Research Chair in Immunology (J Storek)
- Editorial Boards: Blood (N Bahlis), Oncology (D Stewart), Clinical and Applied Thrombosis and Hemostasis (Poon), International Monitor on Hemophilia (Poon)

## EDUCATION

### Teaching Hours (Approximate)

	<u>Approximate. Number of Hours</u>
Undergraduate	MDCN 350, 440, 540, 320: 208 hrs
Postgraduate	MDSC 731.02 MDSC 678, & Resident Seminars, Journal Club: 54hrs Hematology Educational Rounds: 40 hrs
CME	Local/National/International: 64hrs
Thesis Supervision	1 PhD, 2 MSc

### 1. Awards

- Dr. Geddes - Associate Dean's Letter of Excellence. The University of Calgary Cumming School of Medicine
- Dr. Geddes - Bronze teaching Award. University of Calgary Cumming School of Medicine
- Dr. Geddes - Associate Dean's Letter of Excellence. The University of Calgary Cumming School of Medicine
- Dr. Jenkins - Platinum Teaching Award. The University of Calgary Cumming School of Medicine
- Dr. Poon - Associate Dean's Letter of Excellence. The University of Calgary Cumming School of Medicine
- Dr. Storek - Award for Research Excellence, Department of Oncology

### 2. Educational Leadership

- International: Invited CME (MC Poon), CME International Health Program (C Brown)
- National: Chair, RCPSC Hematology Examination Board (L Savoie) and Member, RCPSC Internal Medicine (L Savoie) and Hematology Exam Boards (K Valentine)

- Local: (including provincial) Director Hematology Residency Program (M Geddes), Director Blood Course (L Savoie/ D Goodyear), Director Lymphoma Fellowship Program (P Duggan), Director BMT Fellowship Program (M Shafey).

## ADMINISTRATION

1. Leadership of Committees
  - Local (including provincial) - 12
  - National - 4
  - International - 1
2. Strategic Planning
  - Recruitment of new Hematology staff members (2014 J Grossman, A Lee, 2015 D Suryanarayan, J Tay)
  - Plans for staffing of SHC ongoing
  - New Cancer Centre User Groups meeting for planning of Hematology facilities
3. Fundraising for reporting period: Source and dollar value (approximate)
  - Corporate/Patient Donations \$40,731
  - Industry Donations \$6,635
  - Used for Research and Education Purposes

## CHALLENGES AND FUTURE DIRECTION

### Challenges

1. Development of a comprehensive New Cancer Centre and the role of Hematology in this new centre
  - Alberta Health Services ongoing restructuring in face of limited resources: lack of bed capacity, functional planning for Hematology at the SHC, EMR, Patient Flow, Clinic and Office capacity.
  - Operation of high acuity tertiary Hematology Services at 2 hospitals is non-sustainable. Need to consolidate to one site to ensure appropriate frequency of staff call, optimize patient care and flow, ensure equal access to novel therapies on clinical research trials and facilitate education programs.
  - These issues were to be addressed, at least to a large part, by the new Calgary cancer centre project. While this is currently on hold, we are expecting a plan to be announced later in the fall
2. New ARP and Recruitment: Limited available funded positions to attract new academic clinicians, difficulty in finding office and clinic space, secretarial support.
  - The section has had success in recruiting new physicians to both FFS and ARP positions.
3. Program development for benign Hematology: Inadequate clinic space and allied health staffing for Rare Blood and Bleeding Disorders Program. Need to create Thrombosis Program (CPGs, Research).
4. Research: Support for Translational Research (protected time, database infrastructure, tumor bank). Limited Clinical Research infrastructure in Calgary hospitals.
5. Increased teaching responsibilities for increasing numbers of medical students and residents.

### Future Directions - Goals for the coming year include:

1. Functional planning for the NCC was completed early in 2015, but the project is currently on hold. When a final plan is announced, we will be able to develop a master plan for Hematology in Calgary, and the steps needed to implement this:
  - Consolidate high acuity tertiary Hematology Services from 2 sites (PLC and FMC) to one site (FMC).
  - Coverage plan for SHC, PLC, RGH before and after closure of PLC inpatient Hematology
  - Recruitment planning to meet manpower requirements programmatically and geographically:
    - a. Benign Hematology/Rare Blood Bleeding Disorders Program, Thrombosis program
    - b. SHC, PLC site
    - c. Retirement replacements.
2. Work with Calgary Zone and Cancer Care, AHS, to coordinate cancer treatments
3. Expanding Adult Rare Blood and Bleeding Disorders Clinic to include hemoglobinopathies, and further develop the Benign Hematology Program.
4. Increase research productivity, including competitive peer-reviewed grants for translational research, establishing

- a Hematology Tumor Bank, and establishing clinical trials for benign hematology studies at FMC.
- 5. Foster mentorship program for diverse needs of young Section members and fellows.
- 6. Explore use of sabbatical for GFT and non-GFT members

## Section of Infectious Diseases – Annual Report

### April 1, 2014 to March 31, 2015

The Adult Infectious Diseases (ID) Section has 26 members - 16 AARP members (15 FTEs), 6 Fee for Service members (2 FTEs) and 4 Fee for Service members with dual training in Infectious Diseases and Medical Microbiology (1.0 FTE in ID). Most Section members (22) have a primary appointment in the Department of Medicine (DOM) while 4 members have a primary appointments in Pathology and Laboratory Medicine (microbiology) and a cross appointment to the Department of Medicine.

### CLINICAL

Infectious Diseases Section provides inpatient care at all adult hospitals in Calgary and ambulatory patient care in a variety of specialized settings as described below. The Section spends 56% of our clinical service time working with inpatients and 44% with ambulatory patients. Almost all inpatient consults are completed within 24 hours of when they are requested. The Section encourages physicians to work at different acute care sites because the patient population at each site is different. The Section ran more than 1,900 outpatient clinics (1,800 in prior year) and oversaw the outpatient treatment of almost 46,500 ambulatory patients.

Clinic	Access	Innovations	Case Load (previous year in parentheses)
<b>Home Parental Therapy (HPTP)</b>	-Multiple groups working to ensure the new HPTP pumps are available before current pumps are retired -Schedule changes to ensure access over the Christmas and New Year long weekends	- A detailed strategy to allow patients to transfer from inpatient care at any site to the HPTP clinic of their choice (i.e., closer to home)	1,222 clinics 18,945 (17,074) physician visits 5,146 (6,937) new patient visits 11.4% (6.7%) increase
<b>Southern Alberta (HIV) Clinic (SAC)</b>	-Telephone interviews to determine barriers to care experienced by no show patients -112 telehealth visits	-PCV 13 Vaccination study started -Creation of a formal referral system to the Anal Pap clinic	325 (291) clinics 4,912 (4,652) patient visits 194 (216) new patients 1,680 (1,576) active SAC patients
<b>Sexually Transmitted Infection (STI) Clinic</b>	-Expanded anal pap clinic -Outreach collaboration with community programs -STI testing in jail -Loss of Nexopia.com connection with teens at risk	-Expedited partner therapy roll-out -Fast flow stream for specific visits -Express testing for low-risk patients	153 (130) MD general clinics 302 (302) nursing clinics 21 (11) anal pap clinics 20,889 (22,291) patient visits 6,694 (7,158) new patients
<b>Cystic Fibrosis Clinic (CF Clinic)</b>	-Patients are seen by a team including 2 physicians and a Nurse practitioner, physio-therapist and psychologist	-New electronic record for clinic	95 (75) clinics 756 (848) clinic visits 177 (170) total patients 52 hospitalizations, 551 days
<b>Transplant Clinics</b>	Consults done in the Hematology clinic as urgent (same day) consult		45 (48) consults
<b>General ID Clinics</b>	Two ID staff work with ID Trainees to create more patient slots per clinic	Improved scheduling for the ID Trainees working in the clinic.	74 (75) clinics 551 (443) patients seen 261 (206) new patients
<b>Tropical Diseases Clinic</b>	-Added Tuesday clinics to existing Friday afternoon clinics	-QI trails re <i>Strongyloides stercoralis</i> identification and Malaria treatment	43 (33) clinics 159 (127) patients; 97 (80) new
<b>Hepatitis C Treatment (CUPS and SAC)</b>	-Working with all parties to arrange for drug coverage when new HCV therapy is available	-Collecting data showing effective therapy can be provided in a disadvantaged population	69 (75) pt screened (nurse) 100 (88) new patients 310 (350) visits



**Other Programs which the Infectious Diseases Section is a major player includes:**

**1. Infection Prevention and Control (IPC).** Highlights of this program include:

- Continued participation in province wide Hand Hygiene survey
- Continued focus on controlling *C. difficile* infections by working with Alberta laboratories to standardize the testing for *C. difficile*, expansion of the surveillance system to include the community acquired cases, quarterly reports, standardized patient management algorithms
- Review of VRE and CDI case loads
- Documenting antiseptic resistance in southern Alberta using a multiplex PCR
- Review and development of a sterile technique for fat harvesting
- Engagement in local and provincial planning related to Ebola Virus Disease
- Continued participation in the Canadian Nosocomial Surveillance System
- Conducting original research with W21C related to human factor analysis of donning doffing and triage
- Presenting abstracts at national and international meetings
- Publishing several IPC papers in peer reviewed journals

**2. Calgary Zone Clinical Informatics**

The current Medical Director for the CHR Clinical Informatics team is an ID Section member. This work is done in a separate Alberta Health Services contract and is not directly related to the ID Section.

**3. Antimicrobial Utilization and Stewardship (AUS)**

- Construction of Sunrise Clinical Manager (SCM) order sets for acute malaria, *Clostridium difficile* infection (CDI) management, *Staphylococcus aureus* bacteremia.
- Development of educational initiatives including newsletters, antimicrobial reference cards, oral presentations by many members, development of educational modules, infectious diseases gems, development and introduction of an advanced antimicrobial stewardship fellowship program for infectious diseases physicians, supervision of many antimicrobial preceptorships and studentships.
- Developed an iPhone application for antimicrobial stewardship and infectious diseases management as collaborative project by AUS members and Critical Care and Infectious Diseases physicians,
- Production of antimicrobial utilization surveillance reports (Adult sites 2003-2014, ACH 2011-2014, Calgary NICUs 2012-2014, available at <http://krs.libguides.com/druginfo/infectd>).
- Research and quality improvement projects including an audit of tuberculosis testing, description of utilization of outpatient antimicrobial use in Alberta, antimicrobial utilization measurement issues, description and characterization of dose omission of antimicrobial drugs in inpatients, evaluations of the use of order sets listed in the first bullet point (above).
- Provided representation and leadership on the Provincial Antimicrobial Stewardship Committee and related provincial antimicrobial stewardship initiatives.
- Development of an antimicrobial stewardship service to routinely evaluate empiric anti-infective drug therapy on selected services at the Foothills Medical Centre in May 2015.

## RESEARCH

The Section is active in research from bench to bedside. Section members spent 352 hours reviewing journal articles, 110 hours working as journal editors and 113 hours reviewing grant applications (Total 575 hours)

Reported Section research activities include (date of information Calendar year):

- 37 Papers published in peer-reviewed journals (non-peer reviewed 2)
- 22 Abstracts published in peer-reviewed journals (non-peer reviewed 3)
- 1 book chapter published

Presentation of papers or were invited speakers at a variety of scientific and health care associated meetings:

- 19 local, 12 provincial/national and 4 international scientific meetings.
- Several members are involved in the organization of local, national and international scientific and healthcare associated meetings.

## Major Funding

In the 2014 calendar year, Section members held over \$3.2 million in research grants from agencies ranging from NIH, CIHR and PHAC to local sources. Dr. Parkins, the Training Program research mentor, has been very successful in working with trainees to identify projects. Section members have international recognition as leaders in HIV domestic violence research (Dr. Gill), CF microbiome research (Drs. Rabin and Parkins) and *C. difficile* treatment research (Dr. T. Louie).

## Research focus of members:

- **Dr. A Chu** Osteomyelitis, STIs, anal pap testing
- **Dr. D. Church** Medical microbiology, new technology development, HIV
- **Dr. J. Conly** MRSA biology/epidemiology, infection control, medical innovation
- **Dr. J. Gill** HIV/AIDS, economic analysis
- **Dr. D. Gregson** Medical microbiology, new technology development
- **Dr. J. Janvier** HIV in Aboriginal communities
- **Dr. A. Johnson** Transplant-related infections
- **Dr. J. Kim** MRSA, IPC
- **Dr. O. Larios** IPC, new diagnostic microbiology technology, HCV and HIV co-infection
- **Dr. M. Louie** Medical microbiology, *E. coli* O157, environmental antibiotic resistance
- **Dr. T. Louie** *C. difficile*, MRSA decolonization, infection control
- **Dr. G. Macphail** HCV, marginalized patient population
- **Dr. M. Mah** Social marketing, adult learning
- **Dr. B. Meatherall** Tropical and travel medicine
- **Dr. B. Missaghi** IPC, Human Microbiome, Tropical Medicine
- **Dr. M. Parkins** Cystic Fibrosis, biofilm infections
- **Dr. A. Pattullo** Clinical informatics, clinical decision support
- **Dr. D. Pillai** Malaria, *C. difficile*, sepsis
- **Dr. H. Rabin** Cystic fibrosis, major collaboration project with Department of Microbiology
- **Dr. R. Read** Sexually transmitted infection, antibiotic resistance in agriculture
- **Dr. S. Vaughan** Tropical and Travel Medicine: Medical Education

## EDUCATION

The Section is committed to providing education to all levels of learners in the Faculty of Medicine (undergraduate studies, residency training programs at the PGY1-3 and also PGY4-5 levels). The Section gives lectures/information sessions as part of Continuing Medical Education for Family Physicians and physician training programs within the DOM and beyond the DOM. The Section has weekly education and research rounds from September to June (29 formal ID Seminars and 62 ½ hour case presentations). Section members are involved in teaching and supervision of students in other Faculties in the University of Calgary at the Undergraduate, Masters and PhD levels of education.

The Section spent 180 days (1440 hours) supervising Nurse Practitioner Students (360 teaching hours i.e., 25% of the time spent with these students) and lectured for 8 hours in the course.

## Teaching Activities:

- a. **ID Resident Teaching Program.** The training program is fully accredited by the Royal College of Physicians and Surgeons of Canada (reviewed February 2015). All members of the Section are actively involved in the ID training program. The adult infectious diseases training program continues to revise the education content of the academic half day teaching sessions to ensure an outstanding program. All trainees participate in a 4 day orientation week in July.

Section members are actively involved in formal student evaluations (i.e., OSCIE 7 members, GIM Royal College reviews (2 members), selection of candidates for PGY slots in General Internal Medicine (2) and Infectious Diseases (8). Section members have been judges at trainee research poster competitions locally and internationally (2).

<b>Type of Education</b>	<b>Number of hours for Section</b>
<b>Undergraduate (Faculty of Medicine)</b>	40 formal lectures (lecture time only) & 72 hours of teaching in small group sessions for medical students + Clinical teaching (assume 8 hour days) <ol style="list-style-type: none"> <li>i. MDCN 504/514.17 (bedside clerkship teaching) 850 days or 6800 hours</li> <li>ii. 1700 clinical teaching hours (0.25% of service hours)</li> </ol> 122 hours supervising student projects (9 projects)
<b>Postgraduate (Faculty of Medicine)</b>	76 hours of formal teaching (lecture time only) Clinical teaching (assume 8 hour days) <ol style="list-style-type: none"> <li>1. GIM/Family Practice Residents               <ol style="list-style-type: none"> <li>i. 932 days or 7456 hours service</li> <li>ii. 1864 teaching hours (0.25% of service hours)</li> </ol> </li> <li>2. ID Residents               <ol style="list-style-type: none"> <li>i. 393 days or 3144 hours service</li> <li>ii. 786 teaching hours (0.25% of service hours)</li> </ol> </li> </ol> 175 hours supervising resident projects (13)
<b>Undergraduate (not-Faculty of Medicine)</b>	5 hours of formal lectures 55 hours mentoring pre-medical students (9 students) 318 hours supervising student projects (10 projects)
<b>Graduate</b>	3 hours of formal teaching 128 hrs supervising Master (8) and PhD candidates (4)
<b>CME not related to U of C</b>	26 hours (local physician and healthcare provider CME)

#### **Educational Leadership (350 hours)**

- a. Infectious Disease Training program underwent a Royal College recertification evaluation and was granted full accreditation status.
- b. Cumming School of Medicine (Undergraduate teaching) and non-Infectious Diseases Residency Training  
 Dr. Ron Read is an active member of the Undergraduate Medical Education Committee of UME. Dr. Bonnie Meatherall (Course 1), Dr. Michael Parkins (Course 3), Dr. Ron Read, Dr Stephen Vaughan (Global Health) and Dr. Julie Carson (Medical Microbiology) (Course 8) are the Infectious Diseases leads for these undergraduate courses.  
 Dr. Read has also been involved in the creation of a Sexually Transmitted Infection module for Family Medicine Residents.
- c. University of Calgary non Faculty of Medicine  
 Dr. Ron Read is an active member of the University of Calgary, Department of the Faculty of Arts.
- d. Three Section members became Master Clinicians (Dr. Andrew Johnson, Dr. Michael Parkins, Dr. Ron Read)

#### **New Initiatives and Innovations:**

- a. Development of the Spectrum Calgary iPhone App to promote antimicrobial stewardship (>1600 downloads). This app which outlines diagnosis and treatment of infectious diseases is promoted when teaching the medical students and residents.
- b. Increased supervision of more research projects involving trainees.
- c. Development and roll-out of a multi-disciplinary approach to the treatment and isolation protocols required in potential Ebola patients.

- d. Institution of combined Infectious Diseases and the University of Calgary Microbiology, Immunology and Infectious Diseases Seminars where bench research is presented for half of the lecture and clinical implications for the other half of the lecture.

## ADMINISTRATION

Members of the ID Section are involved in the medical administration of a large number of programs. Among people with primary DOM appointments, administration work accounts for 21.7% of the FTEs (3.3 FTEs). Section members participate in over 85 committees (local, regional, national and international). Locally, Section members are the medical directors for 3 programs with a large Public Health impact a) the Southern Alberta Clinic (HIV clinic), b) the Sexually Transmitted Infections Clinic, and c) Infection, Prevention and Control (IPC) program. Five section members are medical IPC site officers at the adult acute care sites. In addition, Section members are the medical directors for a) the Home Parenteral Treatment Program, b) the Adult Cystic Fibrosis Clinic, c) Tropical Diseases, and d) Antimicrobial Stewardship.

### **Dr. John Conly**

- Co-Director, Calvin, Phoebe and Joan Snyder Institute for Chronic Diseases (Snyder Institute), and Chair of Snyder Institute Finance Committee
- Chair, Infectious Diseases Research Group, University of Calgary and Health Region
- Director, Centre for Antimicrobial Resistance, University of Calgary and Health Region
- Member, Board of Directors, Canadian Foundation for Infectious Diseases
- Medical Site Officer Infection Preventions and Control FMC
- Co Chair of the Antimicrobial Stewardship Committee
- Member, Technical Consultative Group, GIPC Network, WHO – Geneva, Switzerland.
- Member of Cochrane Collaboration

### **Dr. John Gill**

- Medical Director, Southern Alberta HIV Clinic (SAC)
- Director, University of Calgary Retrovirology Laboratory

### **Dr. Donna Holton**

- Section Chief
- Medical Director, Home Parenteral Therapy Program (HPTP)

### **Dr. Andrew Johnson**

- Program Director for the Adult Infectious Diseases Residency Training Program

### **Dr. Joseph Kim**

- RGH Medical Site officer, Infection Prevention and Control Program

### **Dr. Bayan Missaghi**

- PLC Medical Site officer, Infection Prevention and Control Program

### **Dr. Oscar Larios**

- SHC Medical Site officer, Infection Prevention and Control Program

### **Dr. Tom Louie**

- Infection Prevention and Control Program (IPC), Antimicrobial Stewardship

### **Dr. Andy Pattullo**

- Medical Director, Advance Technology Clinical Informatics

### **Dr. Ron Read**

- Medical Director, Calgary Sexually Transmitted Infection Clinic

### **Dr. Harvey Rabin**

- Medical Director, Adult Cystic Fibrosis Clinic

Section members with secondary DOM appointments are also involved in administration.

### **Dr. Dan Gregson/Dr. Deirdre Church**

- Section Chief, Medical Microbiology, Calgary Laboratory Services

### **Dr. Marie Louie (dual trained)**

- Provincial Laboratory, Alberta Health Services

## Awards and Recognition

Awarded by	Award Name	Recipient
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Department of Medicine	Professionalism award	John Conly
Department of Medicine	Distinguished Service Award	Steve Vaughan
General Internal Medicine Residents	Golden Bull Teaching Award	Steve Vaughan
General Internal Medicine Residents	Rookie of the Year Teaching award	Steve Vaughan
Undergraduate Medical Education	Distinguished Teacher Award	Bonnie Meatherall
Undergraduate Medical Education	Associate Dean's Letter of Excellence	Donna Holton
		Bonnie Meatherall
		Steve Vaughan
Undergraduate Medical Education	Honour Roll	Joseph Kim
		Steve Vaughan
Undergraduate Medical Education	Bronze Star	Donna Holton
		Michael Parkins
University of Calgary	Research Mentor Award (BSc)	Michael Parkins
RGH Basic Core Year Residents	Star educator	Joseph Kim
		Manual Mah
		Andrew Pattullo

## CHALLENGES AND FUTURE DIRECTION

The Infectious Diseases (ID) Section has experienced an increasing clinical workload because new organisms (MERS-CoV) continue to be identified and microbes continue to develop new and complex antimicrobial resistance patterns (MRSA, ESBL, AMPc). Creating a seamless care plan for potential Ebola patients demanded hundreds of hours of unanticipated time for Section members in Infection Prevention and Control and Tropical Diseases. The population of Calgary continues to a) age, b) have limited access to primary care, and c) have increasing patient acuity scores that result in increased numbers of patients being more susceptible to acquiring infections.

The ID Section provides 24/7 coverage for all adult acute care sites with the largest site having two clinical ID services. The Section cares for patients in more than 1,900 half-day outpatient clinics (HPTP, SAC, STI, CF clinics, General ID, Tropical Diseases). The focus of these outpatient clinics is to prevent hospital admissions by providing timely ambulatory care. The number of patients being referred for care at HPTP continues to increase in both numbers and complexity. Weekend coverage of HPTP is challenging as 4 clinics are compressed to two clinics without any change in number of patients seen. Access to some antimicrobial agents in the outpatient setting can be challenging as some drugs have very restricted access. Calgary is a Geo-Sentinel Surveillance Site in an international tropical diseases surveillance program. The high risk anal pap clinic has expanded to meet an increasing need within the HIV Program. The ID Section works with IPC and Public Health to try to prevent disease transmission in both outpatient and inpatient settings.

Since 2012 the ID Section has at least two staff physicians working in all the specialized outpatient clinics (see Clinical Section) allowing for shared coverage of the patients. The Section is able to manage the workload and allow members to have a good life balance. The Section has a high percentage of attending patients who are baby boomers and succession planning is therefore necessary. The Section will need to hire several physicians over the next 2-10 years and there will be a need to hire GFT physicians to maintain a strong academic presence.

The Section remains committed to having one of the best if not the best ID training program in the country. We have recruited high quality applicants each year for many years. In July 2014, 5 full time ID trainees were registered in the training program plus an additional 2 ID trainees completed their training after maternity leave absences.

The Section continues to develop algorithms that allow nursing staff (Nurse Practitioners (2) and nurses) in specialized areas to independently see patients with physician backup (HPTP, CF, HIV and STI clinics). The Section remains committed to using telehealth conferencing to maximize potential connections with rural and urban physicians. We now



use teleconferencing on alternate visits for patients with stable HIV and STI who live outside of Calgary. We continue to use teleconferencing to share information with a variety of care providers when an ID Seminar has a high general interest. The Section will continue to create innovative programs to deliver ID specialty care in a variety of settings. These new service delivery models will have outcome analysis performed to ensure that the programs evolve as needs change.

## **Section of Respiratory Medicine – Annual Report April 1, 2014 to March 31, 2015**

The Section of Respiratory Medicine is delighted to report on its accomplishments for the period April 1, 2014 to March 31, 2015. It has been another productive year for the Section which, as of December 31, 2014 comprised of 26 Academic Alternative Relationship Plan (AARP) members, 7 Fee for Service (FFS) members, and 6 Associate members (all FFS) who hold cross appointments in the Section. Of the AARP Members, 7 hold Geographic Full Time (GFT) appointments, while the remaining 19 AARP members, and all of the FFS members, hold major clinical appointments.

The Section provides continuous consultative service and inpatient ward service at four acute care hospitals while maintaining a busy outpatient clinical service across the zone. Members of the Section also report all pulmonary function and sleep diagnostic tests at the four hospital sites, and provide TB services for the zone through the Sunridge TB Clinic. The Calgary COPD and Asthma Program (CCAP), which forms part of the Section, provides patient care and education in a number of primary care settings. A number of programs in the Section, including the *Alberta Thoracic Oncology Program* (ATOP), *Lung Transplant*, *Neuromuscular* and *Interstitial Lung Disease* all provide tele-health services to the outlying regions in the province, in addition to their inpatient and outpatient responsibilities. The Section continues to have an excellent record of academic productivity, and provides important administrative functions within the Department of Medicine and within the Faculty.

### **Recruitment**

For the period April 1, 2014 to March 31, 2015 the Section recruited 5 new Section members; Dr. Chris Hergott joined us from the University of Saskatoon, while Dr. Elaine Dumoulin relocated to Calgary from the Université de Sherbrooke. Both Dr. Hergott, based at Foothills Medical Centre (FMC) and Dumoulin, based at South Health Campus (SHC), are valued members of the Interventional Pulmonary Medicine (IPM) program, and their arrivals have reaffirmed the university of Calgary IPM program as the premier interventional program in the country. Dr. Kerri Johansson returned to Calgary in January 2015, having completed her Advanced Fellowship training in Interstitial Lung Disease (ILD) at the University of California, San Francisco and Masters of Public Health (MPH) degree in Environmental Health Sciences at the University of California, Berkeley. Dr. Johansson is based out of the SHC, where her clinical and research interests align with the SHC ILD Clinic, and also has significant academic interests and collaborations with members of the O'Brien Institute of Public Health and the Snyder Institute for Chronic Diseases. Drs. Jason Weatherald and Dan Miller were recruited at the completion of their clinical Fellowship training; Dr. Weatherald is based at the PLC site, and has a clinical and research interest in pulmonary hypertension, while Dr. Miller is based at the SHC, and has a strong interest in medical education, including the use of simulation training. Dr. Weatherald is planning on pursuing additional postgraduate training in the area of pulmonary hypertension under the mentorship of Dr. Marc Humbert in Paris, France, starting in 2016. Dr. Miller recently completed the *Teaching Scholars in Medicine Program* (TSIMP) and is now pursuing his Masters in Medical Education through the University of Calgary. Dr. Rhea Varughese is currently pursuing additional training in lung transplantation at the University of Toronto, and will join the Section on a permanent basis at the completion of her training in 2016. The Section of Respiratory Medicine continues to actively seek recruitment among appropriately trained individuals to fill faculty positions in the areas of: Clinician Scientist in Airways Disease, Mycobacterial Disease, Sleep Medicine, Neuromuscular Disease and Lung Transplantation.

### **Alberta Health Services**

As of January 1, 2015, SHC had a full quorum of Respirologists on staff, and opened a dedicated respirology inpatient unit in early January to provide comprehensive 24/7 inpatient respiratory services for 8-10 patients. This is in addition to consultative services to the other in-patient units, the emergency department, as well as the ongoing commitment to the outpatient clinics and pulmonary function testing services at that site.

The period April 1, 2014 to March 31, 2015 saw further changes within AHS, with the appointment of a new Health Minister (Stephen Mandel) under the former PC provincial government, and culminated in the election of an NDP government on May 5, 2015. The honorable Sarah Hoffman has been appointed as the new Health Minister, and there is

keen anticipation to see in which direction she and Premier Rachel Notley steer AHS. On the ground, we continue to face ongoing operational and logistical challenges, including operating at unsustainable levels of overcapacity, with limited clinic space and logistical support to maximize outpatient services – particularly at the Peter Lougheed Centre (PLC) and Rockyview General Hospital (RGH) sites. Consequently, we continue to see waitlists of patients referred to see a specialist respirologist in the zone. These waitlists have however been substantially reduced by the efforts of Dr. Ward Flemons and his team of analysts at AHS, who have reinvigorated Pulmonary Central Access and Triage (PCAT); Dr. Flemons has done this by engaging with both Section members and primary care physicians to formulate a series of business rules governing the referral of patients to PCAT in the Calgary zone. These rules are now in place, and have already proven to be effective at reducing wait times within the zone.

A number of Section members have been actively involved in the Strategic Clinical Networks (SCN) that have been established by AHS. The Respiratory Health SCN was established in early 2014, and comprises of an oversight core committee and 3 working groups, namely the COPD working group, the asthma working group and the sleep-related breathing disorder group. Dr. Richard Leigh serves as co-chair of the COPD group, Dr. Warren Davidson serves as co-chair of the asthma group and Dr. Sachin Pendharkar serves as co-chair of the sleep group; other Section members who have made, and continue to make substantial contributions to the RHSCN at both the core committee and working group level include Drs. Mody, Walker, Lohmann, Field, Roman, Hirani, Flemons, Fraser, Hanly and Loewen. Drs. Tremblay, MacEachern and Chee are all involved in the Cancer SCN, as it pertains to lung cancer screening and management in Alberta.

## **CLINICAL**

Members of the Section are among the national leaders in Sleep Medicine. Under the direction of Dr. Pat Hanly, and with the assistance of Drs. Ward Flemons, Kris Fraser, Sachin Pendharkar, Willis Tsai and Andrea Loewen, The Sleep Centre has developed a unique and successful working relationship in the assessment and management of Sleep Disordered Breathing within the Calgary Zone. This has improved patient access to diagnosis and treatment both for uncomplicated obstructive sleep apnea and more severe sleep disordered breathing, and has reduced waiting lists. This is the first time that this Public Private Partnership with home care companies has been employed in Canada.

The Interventional Pulmonary Medicine program is one of only two such services in the country. Dr. Alain Tremblay is the leader of this program and, along with Drs. MacEachern, Chee, Hergott and Dumoulin, is using a variety of innovative tools and techniques including endobronchial ultrasound, permanent and removable stents, and indwelling pleural catheters. Helped by private donations, this program has been able to purchase the equipment necessary to perform this highly technical and ground-breaking service. The Program is also recognized for its outstanding Advanced Fellowship training and Dr. Eva-Lea Beaudoin completed her training in IPM in June 2014, while Dr. Marc Fortin started his 1-year Fellowship in July 2014. Dr. Beaudoin is now based out of Vancouver, while Dr. Fortin plans to return to the Université Laval after the completion of his training.

The Calgary Asthma and COPD Program is nationally recognized for providing a cohesive service that links together family physicians' offices, hospitals, and emergency departments. Dr. Brandie Walker is the Medical Director of this team of dedicated health care providers that includes physicians, respiratory therapists and nurse clinicians. The program relies heavily on the use of innovative tools such as induced sputum cell counts to manage patients with complex airways disease, and through the links with the Airways Inflammation Research Group, is able to offer patients access to novel monoclonal Anti body therapies that are not available in routine clinical practice.

The Interstitial Lung Disease program runs out of the SHC, and is the only such program in the Prairie Provinces. It is overseen by Drs. Charlene Fell and Kerri Johannson, and operates in close collaboration with Dr. Sharon LeClerc (Rheumatology) to provide cutting-edge therapies to patients with complex ILD, with or without associated connective tissue diseases.

Drs. Mody and Jarand continue to provide a unique Bronchiectasis program to serve patients with non-cystic fibrosis bronchiectasis. These patients invariably have complex medical disorders, and their optimal management is facilitated through this clinic.

Dr. Dina Fisher is the Medical Director for Tuberculosis Services in the Calgary zone, and together with Drs. Cowie, Jarand and Field, they provide medical consultation at the Sunridge TB clinic. The burden of both *Mycobacterial tuberculosis* (including drug-resistant disease) as well as non-tuberculous mycobacterial diseases are increasing rapidly due to immigration and incoming refugees from developing countries, and there is a critical need to recruit additional physicians to TB services in the near term to meet this growing clinical demand.

The Lung Transplant and Pulmonary Hypertension programs run out of PLC, and Drs. Helmersen, Hirani and Thakrar provide an outstanding comprehensive service (including 24/7 call-coverage) for these complex medical patients. An increasing number of clinical trials are being performed in both programs, and they are rapidly establishing reputations as clinical centres of excellence in their respective fields across the country.

Finally, Dr. Karen Rimmer – ably assisted by Dr. Andrea Loewen – runs the Neuromuscular and Chronic Ventilation program, which includes an outreach component providing medical services to patients in their homes by allied healthcare professionals with specialist care backup. This type of program, providing complex care via a variety of specialties (neuromuscular, sleep, ventilation) exemplifies the benefits of the AARP funding model, and are likely not sustainable in a more traditional FFS funding model.

### **University of Calgary**

The University and the Cumming School of Medicine continue to face challenges relating to funding cut-backs and the need to accommodate scientists and clinician-scientists coming off the now terminated Alberta Heritage Foundation Medical Research programs. The need to fund these faculty members as a priority has impacted on the ability to recruit in the basic science departments, and this has resulted in downstream effects on the Section in terms of a relative paucity of new younger scientists who might ideally interact and facilitate translational research projects with Section members. Another downstream consequence of this policy is the – presumably unintended – aging of University faculty with relatively few faculty members being under the age of 40. The challenge will be to continue to renew the faculty with young investigators, scientists and teachers.

The University remains committed to the “Eyes High” goal. The Eyes-High initiative sets the goal of the University of Calgary to be among the top 5 universities in Canada by 2016.

### **EDUCATION**

The Calgary Adult Respiriology Training Program, under the leadership of Program Director, Dr. John Chan, underwent RCPSC accreditation on February 23, 2015. Not surprisingly, the program was awarded full accreditation, and the next regular survey will be in 2021. The Training Program remains very popular among trainees across the country and, as has been the case in recent years, 2014 saw us receive many more applications than we have positions available. Given the number of interested and well-qualified candidates, it was decided – *a priori* – to offer 4 Fellowship positions in Adult Respiriology for the period 2015-2017. This is the first time that the Section has had as many as 6 sub-specialty trainees in the program concurrently. We attribute this popularity in the Program to the breadth of the training experience in Calgary, including the opportunity to have limited but dedicated training in Interventional Pulmonary Medicine, which is relatively unique across the country.

In addition to the post-graduate training program, the majority of Section members are heavily involved in teaching in the undergraduate medical school Course 3 (Respirology & Cardiology) at the University of Calgary. This teaching consists of formal class lectures, small group sessions, and bedside clinical teaching. Course 3 continues to be expertly coordinated and led by Dr. Naushad Hirani, along with Dr. Sarah Weeks in Cardiology. Several GFT members are also involved in graduate student training, and in advanced, area-specific workshop development and teaching.

#### Awards and Promotions:

While it is impossible to mention all of the awards received by members of the Section, it is worth highlighting a few. Dr. Chris Mody received the Dr. John Dawson Award for Clinical Excellence (FMC) while Dr. Doug Helmersen received the Howard McEwen Award for Clinical Excellence (PLC); both these awards were presented at the Department of Medicine banquet dinner in December 2014. Additionally, Dr. Lee Oviatt, one of the Section's former trainees who is now in community practice in Lethbridge, received the award for community teaching at the same function. More recently, Dr. Kris Fraser has been awarded the Jones Award for Outstanding Contributions to Undergraduate Medical Education in the Cumming School of Medicine.

For the period under review, Dr. Warren Davidson was promoted to Associate Professor and Dr. Charlene Fell was promoted to Clinical Associate Professor.

We have two endowed professorships within the Section, the GSK-CIHR Professorship in Inflammatory Lung Disease (Dr. Leigh) and the Jessie Bowden Lloyd Professorship in Immunology (Dr. Mody).

#### **RESEARCH**

The period April 1, 2014 to March 31, 2015 saw continued strength in the areas of academic activity and research within the Section of Respiratory Medicine. While it is not possible to mention each report, it is worth highlighting some of these publications, which demonstrate the breadth of academic productivity in the Section.

Dr. Leigh and his research group, as part of the *AllerGen NCE* network, published a number of reports regarding novel therapies in asthma, including a report in the May 2014 issue of the *New England Journal of Medicine* on the efficacy of the novel anti-TSLP antibody in treating allergic asthma.

Dr. Mody's laboratory published a number of reports in 2014-2015, including one on visualizing iNKT cells published in the prestigious *Proceedings of the National Academy of Sciences of the United States of America*.

Dr. Sachin Pendharkar published on the use of patient flow simulation to improve access at a multidisciplinary sleep centre.

Dr. Hanly, along with colleagues from the Hotchkiss Brain Institute, published on the potential role of cyclooxygenases in regulating blood pressure and cerebrovascular responses during sleep apnea in the *Journal of the American Heart Association*. Dr. Hanly, together with Dr. Loewen, also published on pharyngeal muscle control in obstructive apnea in the journal *Sleep*.

The IPM group published on endobronchial ultrasound and the learning curve for interventional pulmonary fellows in the journal *Respirology*. The late Dr. David Stather was the first author on that paper, with Dr. Tremblay the senior author; Drs. Chee, MacEachern, Dumoulin and Hergott were all co-authors on that publication. Drs. Tremblay and MacEachern, as part of the Pan-Canadian Early Detection of Lung Cancer Study team, were also co-authors on a study looking at the resource utilization and costs during initial lung cancer screening with computed tomography in Canada, published in the *Journal of Thoracic Oncology*.

Dr. Johansson reported on acute exacerbations of idiopathic pulmonary fibrosis being associated with air pollution exposure in the *European Respiratory Journal*, and also on the diagnosis of idiopathic pulmonary fibrosis with high-resolution CT. in the *Lancet - Respiratory Medicine*.

Drs. Field and Jarand reported on right middle lobe syndrome in the journal *Chest*, and Dr. Field continues to play an active role in the American College of Chest Physicians (ACCP) Expert Cough Panel, which has published a number of recommendations in this area.

#### Events:



The Canadian Respiratory Conference was hosted in Calgary for the first time in April 2014, with a record number of registered delegates attending. Members of the Section, as well as of the Cumming School of Medicine, actively contributed to the success of this conference.

A retirement dinner was held in honor of Dr. Bob Cowie in December 2014, at which it was announced that the Section has established the *Bob Cowie Respiratory Medicine Innovation Fund* dedicated to supporting innovation and excellence in Respiratory Medicine at the University of Calgary. The fund is intended to support new initiatives, including education programs, clinical research, recruitment and trainee support within the Section.

A successful Retreat was held at Ghost River in March 2015, which included the Fellows Research Day, a group dinner, and a day to discuss *Referral Pathways to Respiratory Medicine in the Calgary Zone*. The distinguished guest at the Retreat was Dr. Wisia Wedzicha, Professor of Respiratory Medicine, National Heart and Lung Institute, Imperial College London.

### **CHALLENGES AND FUTURE DIRECTION**

The Section continues to pursue an ambitious agenda of providing world class clinical expertise and care, based on innovation and clinical and translational research, along with outstanding medical education to all levels of learners. Recruitment is necessary to sustain this level of academic mandate, and opportunities for advanced fellowship training, possibly by reawakening the Clinical Scholar program, need to remain as priorities. We also need to increase the number of University Geographic Full Time members, with an immediate need for a clinician-scientist in the area of airways disease research.

Provision of outpatient services continues to be a pressing problem. Clinic space at three sites (UCMG, RGH and PLC) is insufficient. More outpatient offices are needed and, at the PLC, the handling, stewardship and storage of patient charts continues to be problematic. We remain optimistic that the revamped PCAT system being led by Dr. Flemons will yield a streamlined, coordinated system for patient referral and booking across the zone.

The Section of Respiratory Medicine continues to provide a collegial and respectful working environment, with terrific collaborations between our Section and Thoracic Surgery, Chest Radiology and Lung Pathology. Collectively, we look forward to the future with enthusiasm, and anticipate that we will be able to continue to provide exemplary service and care, and meet the academic mandate of the University.

## **Section of Rheumatology – Annual Report April 1, 2014 to March 31, 2015**

**In 1975, Dr. Douglas Kinsella established an academic rheumatic diseases unit at the Calgary General Hospital. Forty years later, the Section of Rheumatology has flourished under his initial leadership and today we are the oldest section within the Department of Medicine.**

This past year the Section of Rheumatology continued to build upon the strategic plan and the five year business plan with the goal to provide education and research opportunities to ensure that health care professionals have the necessary skills and information to provide the best possible patient and health system outcomes.

To support this goal, the Section of Rheumatology has continued to work on the development of its longitudinal database. The vision for this is the establishment of a program which we have named “Rheum4U.” With the longitudinal database at its core, the goal of Rheum4U is to integrate research and quality improvement in order to facilitate continuous improvement in patient care. A unique feature of our program is our collaboration with the Section of Pediatric Rheumatology which will allow us to be able to follow patients from childhood into adulthood. We have set up a governance structure with established terms of reference. We have initiated a pilot project as the first step in implementing a process for clinical data collection. Since our fund raising launch in April of 2014, we have successfully raised funds to support the development of this project. This October, we will be hosting an update session for our industry partners. During this session, we will highlight the developments in the past year and seek their ongoing support.

### **CLINICAL**

#### Physician Manpower/Service Sites

The Section of Rheumatology provides 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.

Our catchment area includes the southern half of Alberta to Red Deer, a population of over 1.6 million, and extends into southeastern British Columbia and southwestern Saskatchewan. The Section of Rheumatology currently delivers services through a multisite model. Our main sites include the Rheumatology Outpatient Clinics at the Richmond Road Diagnostic Treatment Centre (RRDTC) and the South Health Campus (SHC). In addition, we have 3 community-based private office practices.

The Section recognizes that treatment of MSK diseases in the First Nations population continues to be an under-served area. To address this, Drs. Cheryl Barnabe and Dianne Mosher run outreach clinics in Morley and Siksika. Outreach clinics are offered at the Siksika Nation, Stoney Health Centres, Elbow River Healing Lodge and Stand Off. The Section also provides outreach clinics at the Calgary Urban Projects and the Southern Alberta Eye Centre.

In collaboration with the Primary Care Networks, we have an MSK Clinic at the Crowfoot Clinic and offer tele-rheumatology services to 4 PCNs in Calgary (Mosaic, Calgary Foothills, Calgary West Central, and South Calgary) as well as to the Highland, Bow Valley and Calgary Rural PCNs. Telemedicine is offered in Pincher Creek where an MSK clinic has been established. The Section also participates in the Foothills PCN Lunch and Learn sessions where family physicians are provided an opportunity to seek advice for the management of their patients with musculoskeletal conditions in an informal setting with a member of the Section. This program has been very well received by the family physicians who have participated and the Section continues to receive increasing requests from practices wishing for L&L sessions. We have also established an MSK clinic through the MOSAIC PCN in NE Calgary where Dr. Steven Edworthy is providing rheumatology consultation services.

The Section also provides consultative services to all the hospitals in the Calgary zone on a 24 hour basis along with urgent telephone consultations from family physicians.

The Section of Rheumatology has 20 clinically active members, led by Dr. Dianne Mosher as Section Chief. Members are divided into three categories: 8 GFTs, 8 full time clinical members and 4 part-time clinical members. In addition, we have a part-time nurse practitioner (NP) who provides clinical service at the RRDTC clinics two days a week.

Dr. Frank Jirik joined the Section in a part time clinical capacity. Dr. Jirik is a trained rheumatologist but is also a well-known basic scientist/researcher. The addition of such a preeminent researcher into the membership will be valuable to our younger members. Drs. Claire Barber and Glen Hazlewood were promoted to academic positions within the University of Calgary in 2015. As well, they will both be defending their PhD theses this year.

The RRDTTC site acts as the hub of our Section's clinical activities where 15 of our physicians provide over 35 half day clinics per week with the support of our interdisciplinary Allied Health team. In 2014, the total number of patient visits was 13,285. The Biologics Clinic at RRDTTC, where patients with severe inflammatory arthritis are managed and treated with biological agents by our specialized physician-nurse teams, continue to see a total of 850 patient visits in 2014.

At the SHC site, two full time rheumatologists provided 8.5 clinics per week with the support of 2.0 FTE nursing staff. A stable Rheumatoid Arthritis Nurse Run Clinic established in 2013, continues to allow for increased patient capacity. In addition, the SHC site also started a Biologics Clinic and in 2014, 147 patient visits were completed.

Our community-based physicians continue to be active members of the Section. They provide educational opportunities in their offices for residents as well providing care in the Young Adult Rheumatic Disease Clinic and the Spondyloarthropathy Clinic. This year, Dr. Garry Morris was awarded the Tom Enta Award for Clinical Excellence in recognition of his significant contributions within the Department of Medicine in the Calgary community setting.

#### Section Programs / Specialty Clinics

The Section's Central Triage Program acts as the point of entry for all referrals to the Rheumatology service. Once received, referrals are assessed and triaged by an experienced nurse clinician. This process has resulted in coordinated care across our catchment area and is a model that has been used for the management of referrals by other sections within the Department of Medicine.

In 2014, we received approximately 5,450 new patient referrals to our Central Triage Program, this equates to around 450 per month. Central Triage is managed by our nurse clinician with two part time nursing staff and two unit clerks assisting.

Dr. Deborah Marshall currently holds an AIHS (Alberta-Innovates Health Solutions) PRIUS (Partnership for Research and Innovation in the Health System) grant to evaluate and improve upon our current central triage. In addition we will be working with our colleagues in Edmonton and using the expertise of the e-referral team to create common pathways and criteria for referral.

Our goal of shorter wait times across all referral categories has led to the formation of several sub-specialty clinics within our service model. These include the Early Inflammatory Arthritis Clinic, the Ankylosing Spondylitis Clinic, the Nurse Practitioner Clinic, the Urgent Assessment Clinic, the Biologics Clinic, a Young Adults with Rheumatic Disease Clinic (YARD), a Vasculitis Clinic and a Systemic Lupus Erythematosus clinic.

The Nurse Practitioner Clinic, led by Dr. Jim Rankin, recorded another successful year. In this specialized clinic, the NP's major role is as a care provider, coordinator and evaluator of the care plan of individuals, families and/or communities within the rheumatology area of practice.

In partnership with our Pediatric Rheumatology colleagues at the Alberta Children's Hospital, the Section runs a joint YARD (Young Adults with Rheumatic Diseases) Clinic with the purpose of transitioning the care of adolescents and young adults to the adult health care system. This clinic continues to be a model to other medical disciplines that promotes continuity of care by the systematic transfer of care to an adult system.

#### **EDUCATIONAL**

The undergraduate medical teaching program comprising of the Musculoskeletal and Skin course was once again led in the fall of 2014 by Dr. Gary Morris. Dr. Morris coordinated and scheduled both the site based and community based Section members to teach the course content and small group sessions over the six week period.

Dr. Chris Penney continues in his role coordinating the Section's CME and the Clinical Clerks Program. The clinical clerks continue to experience over 30 hours per week in the varied rheumatology clinics. Dr. Penney also continued to offer his weekly teaching session that is focused on the GALS screening examination. These are open to all trainees and

Allied Health staff and are aimed at improving the examination of the musculoskeletal system in patients. He was recognized for his outstanding teaching with the Associate Dean's Letter of Excellence for Teaching in 2014. Our bi-annual CME event for family physicians is focused on case-based learning on the topics of MSK examination, gout, complex osteoarthritis and treatment of common non-articular rheumatic syndromes. Our next CME event is scheduled for May of 2015.

The Section of Rheumatology continues to develop a strong Post-graduate Medical Education Program. The Program underwent a successful accreditation review by the Royal College of Physicians and Surgeons of Canada in February of 2015. In addition, we were successful in the 2014 CaRMS match and will have three new residents as of July 1st, 2015. This will bring our total number of Rheumatology residents to six, the most the Section has ever had. The Program continues to receive ever increasing interest from residents who want to apply to Rheumatology providing our Section with a bright future.

We will host our third annual Rheumatology Residents' Weekend in May of 2015. Up to 16 PGY1 and PGY2 Internal Medicine residents will have the opportunity to network with rheumatologists and participate in MSK examination small groups. This program continues to be popular amongst residents who are considering Rheumatology for their subspecialty training.

Section wide activities include weekly Academic Rounds for all staff and trainees. Dr. Gary Morris continues to do an exemplary job of organizing rounds and has done so since 2007. Attesting the high quality of rounds, most of our Sectional members, as well as nurses and Allied Health professionals, attend rounds on a weekly basis.

The Section acknowledges the importance of training of our Allied Health professionals in MSK conditions. In addition to supporting Allied Health Rounds coordinated by Theresa Lupton, our Central Triage nurse clinician, we provide support for our Allied Health members to attend courses and workshops. In 2014, two of our Allied Health professionals completed and received the ACPAC (Advanced Clinician Practitioner in Arthritis Care) designation. In addition, we supported members to attend the ACE (Arthritis Continuing Education) workshop in Vancouver and the annual Canadian Rheumatology Association meeting in Quebec City.

## **RESEARCH**

The McCaig Institute is the home of our researchers in the Section of Rheumatology. Within the Institute, we are building a strong presence of clinical research. This includes expertise in clinical outcomes research, health economics and clinical trials.

We are fortunate to have two research chair positions in the Cumming School of Medicine at the University of Calgary.

Dr. Deborah Marshall, PhD was awarded the Arthur J. E. Child Chair in September 2012 and continues to provide leadership in our Section to develop translational research programs with an emphasis on health outcomes and economics research in rheumatology; and supports student and trainees to build the rheumatology program in Alberta.

In 2014/15, her research team and trainees were awarded 6 provincial and national Tri-council grants totaling close to \$3.5 million. Key projects that were initiated include: a) research to develop an evidence-based approach to optimize centralized intake to improve arthritis care for Albertans through early access and comprehensive multidisciplinary assessment funded through an Alberta Innovates Health Solutions Partnership grant for Research and Innovation in the Health System; and b) research to improve decision making about appropriateness for total knee arthroplasty in patients with knee osteoarthritis funded through a CIHR operating grant.

Dr. Marshall and her team have published over 30 scientific articles and presented their work at numerous local, national and international conferences and events over the past year, showcasing their contributions to the areas of health outcomes, rheumatology, bone and joint health related research. Of particular note were two publications on good research practices for dynamic simulation modeling applications in health care delivery, research that was the product of an international task force of the International Society for PharmacoEconomics and Outcomes Research chaired by Dr. Marshall to inform research methods in this area.

Dr. Marshall is also working to establish a critical piece of infrastructure in conjunction with the Section of Rheumatology as part of the 2013-18 Business and Research Plan. “The Rheumatology Central Data Repository for Best Practices”, will collect clinical and administrative data longitudinally and will enable implementation of best clinical practices based on evidence. In collaboration with the Institute of Health Economics and several members of the Section we also published a report on “Rheumatoid Arthritis in a Policy Perspective - A Registry for Research and Better Treatment of Albertans”.

In November 2014, Dr. Marshall was honoured to accept the invitation as the Scientific Committee co-chair and member of the Board of Directors for the Arthritis Alliance of Canada and was recognized as a Senior Scientist of Arthritis Research Canada.

Dr. Ann Clarke, in her second year as the Arthritis Society Chair in Rheumatology Research continues to bring her expertise and efforts to the research needed to improve the lives of those living with systemic lupus. Central to her research activities is the ongoing development of the Southern Alberta Lupus Cohort (STARLET) which is focused on monitoring and enhancing the health outcomes of lupus patients and identifying and modifying potential risk factors associated with a poor prognosis. Over this past year, the cohort has served as a platform to initiate two large studies on the health care costs and lost productivity of patients with lupus (supported by CIORA and SLICC). The Systemic Lupus International Collaborating Clinics (SLICC) project involves the group of 37 lupologists representing 11 countries and their inception cohort of 2000 patients. The CIORA project will focus on 6 Canadian lupus research centres. In addition to the costing data, this study will contextualize these costs by exploring the experiences and perceptions of patients living with lupus using an integrated knowledge translation approach involving patient support groups, policy and decision makers, and other researchers. These projects compliment Dr. Clarke’s ongoing work with numerous national and international collaborators in the areas of cancer risk as well as cardiovascular and neuropsychiatric outcomes in lupus funded by NIH and CIHR.

Dr. Clarke has also had the opportunity to work with and mentor five internal medicine and rheumatology trainees. Their research projects have focused on a variety of topics including autoantibody profiles, risk of malignancy, and socioeconomic impact of lupus. Presentations and manuscripts have been accepted to several international meetings and medical journals.

Dr. Clarke’s other research focus is on the etiology, natural history, prevalence, and management of food allergy. Dr. Clarke continues to be involved in the national registries of children with peanut, sesame, and seafood allergy, and is completing the first genome-wide association study (GWAS) and whole genome study on peanut allergy. Dr. Clarke is the Program Co-Leader of one of three Legacy projects within the Allergy Genes and Environment Network of Centres of Excellence (AllerGen NCE) – the Canadian Food Allergy Strategic Team. She is leading a national longitudinal study on the prevalence of food allergy, focusing on Canadians most vulnerable populations, and co-leading the development of a national strategy for food allergy.

Dr. Marvin Fritzler continues to be a world renowned leader in autoimmunity research and was recently appointed the Interim Director of the McCaig Institute for Bone and Joint Health. In 2014, he was named Master of the American College of Rheumatology, to add to his already illustrious list of international recognitions.

The Section has a number of young researchers whose ever impressive portfolio of grants and awards continues to grow. Dr. Cheryl Barnabe, Dr. Glen Hazlewood and Dr. Claire Barber provide the Section with an extremely bright future in MSK research. Some recent notable awards won by young researchers are listed below:

- Best Abstract, Canadian Rheumatology Association 2015 Annual Meeting (C Barber)
- Vanier Canada Graduate Scholarships Award, Canadian Institute for Health Research (C Barber)
- New Investigator Award from the Canadian Institute for Health Research (C Barnabe)
- Five Year Foundation Grant, ‘Arthritis Care for Indigenous Populations,’ Canadian Institute for Health Research (C Barnabe)
- Young Investigator Award, Canadian Rheumatology Association, Canada (C Barnabe)
- Canadian Rheumatology Association (Canadian Initiative for Outcomes in Rheumatology Care)/The Arthritis Society Clinician Investigator Award, Canadian Rheumatology Association/The Arthritis Society, Canada (C Barnabe)
- Canadian Medical Association Early Career Award, Canada (C Barnabe)
- Best Clinical Research by a Young Faculty, Canadian Rheumatology Association and Arthritis Research Foundation (G Hazlewood)

- Best Abstract for Clinical or Epidemiology Research by a Trainee, Canadian Rheumatology Association (CRA) (G Hazlewood)
- Claire Bombardier Award, Institute of Health, Policy, Management and Evaluation, University of Toronto (G Hazlewood)

## **CHALLENGES AND FUTURE DIRECTIONS**

Within the next few years, six of our rheumatologists will be retiring. These six rheumatologists currently carry very heavy clinical loads and it is incumbent upon us to recruit major clinical members to replace these retirements. One of the major issues for our Section is capacity and the long term implications of caring for patients with chronic diseases. Rheumatology patients are our patients for life. It is important for us to look at alternative models of care in order to deal with the ever growing list of patients waiting for our services. Dr. Sharon Le Clercq out of the South Health Campus has established a Nurse Run Stable Rheumatoid Arthritis Clinic. This has been very successful and has increased her capacity to see more patients. The Arthritis Working Group of the Alberta Bone and Joint Network is adapting this model in their strategic plan. A version of this pilot project will be adapted in Edmonton as well as in other rural communities. Another capacity challenge for the Section is servicing the needs of Northeast Calgary. To this end, we are working with Dr. Elizabeth MacKay to develop a presence at the PLC as well as with Dr. Ian Scott regarding rheumatology service in the NE community.

As we go forward, the Section faces two significant challenges: the challenge of retiring physicians and the challenge of recruiting new physicians a result of ARP restrictions. However, as we strive to develop alternative models of care and the Rheum4U program, we hope we will be in a better position to face these obstacles head on and we trust that the Department of Medicine and the Cumming School of Medicine will provide us with the support and guidance required to meet these goals.



**Department of Medicine - Demographics April 1, 2014 to March 31, 2015**

Primary Division	Total	Male		Female		Gender Not Specified	AGE Average	
		Count	%	Count	%		Male	Female
Dermatology	24	16	67%	8	33%		56.4	42.75
Endocrinology	26	13	54%	13	46%		41.5	55.9
Gastroenterology	66	42	64%	24	36%		48.89	40.14
General Internal Med.	68	41	60%	27	40%		49.5	47.6
Geriatric Medicine	11	4	36%	7	64%		54	44.28
Haematology + Oncology	29	16	55%	13	45%		40	54.6
Infectious Diseases	21	17	81%	4	19%		51.5	42.8
Nephrology	28	20	71%	8	29%		50.6	47.75
Respirology	43	29	67%	15	35%		43.21	49.69
Rheumatology	23	11	48%	11	48%		52.6	47.5
<b>Total</b>	<b>339</b>	<b>209</b>	<b>62%</b>	<b>130</b>	<b>38%</b>	<b>N/A</b>	<b>48.82</b>	<b>47</b>

**NOTE:**

ARP &amp; FFS Members

### Department of Medicine Workforce Statistics – April 1, 2013 to March 31, 2014

Primary Division	Total ARP+ FFS	ARP	Secondary Division	FFS	ARP FTE	ARP Recruit	ARP Resignee	FFS Recruit	FFS Resignee
Dermatology	24	5	0	19	5.00	0	0	1	0
Endocrinology & Metabolism	26	20	4	6	16.90	2	0	1	0
Gastroenterology	66	31	4	35	27.70	0	2	6	0
General Internal Medicine	68	37	20	31	30.30	2	0	0	1
Geriatric Medicine	11	11	1	0	8.86	1	0	0	0
Haematology & Oncology	29	21	10 (Oncology)	8	16.10	2	0	1	0
Infectious Diseases	21	16	13	5	14.60	0	1	0	0
Nephrology	28	21	8	7	17.00	1	1	0	0
Respirology	43	29	8	14	24.40	3	1	3	0
Rheumatology	23	20	1	3	16.05	2	2	1	0
<b>Total</b>	<b>339</b>	<b>211</b>	<b>59</b>	<b>128</b>	<b>176.91</b>	<b>13</b>	<b>7</b>	<b>13</b>	<b>1</b>

**NOTES:** Some hematology members are primary to Oncology – BMT with supplementary to Hematology  
 No Locums included in count

### Department of Medicine University Affiliation – April 1, 2014 to March 31, 2015

	Dermatology	Endocrinology & Metabolism	Gastroenterology	General Internal Medicine	Geriatric Medicine	Hematology	Infectious Diseases	Nephrology	Respirology	Rheumatology	Total
Assistant Professor	1	1	7	3	0	1	1	6	2	1	23
Associate Professor	0	1	7	4	2	2	5	6	5	1	33
Clinical Assistant Professor	4	9	21	34	7	12	7	7	22	6	129
Clinical Associate Professor	1	3	6	12	1	5	3	4	4	5	44
Clinical Lecturer	0	3	5	10	2	1		1	1	1	24
Clinical Professor		1	1	3	2	2			2	2	13
Clinical Scholar	0	1	3	3	0	1	0	0	1	2	11
Professor		5	13	6	1	5	6	4	5	6	51
Professor (Tenured)		1	1		1			2	1	1	7
Adjunct Assistant Prof		1				1					2
Adjunct Associate Prof			2								2
Adjunct Lecturer											0
Adjunct Prof						1				1	2
Research Assistant Prof											0
Research Prof									1		1
<b>Total</b>	<b>6</b>	<b>26</b>	<b>66</b>	<b>75</b>	<b>16</b>	<b>31</b>	<b>22</b>	<b>30</b>	<b>44</b>	<b>26</b>	<b>342</b>

### Department of Medicine - Recruitment - April 1, 2014 to March 31, 2015

Primary Section	Last Name	First Name	Start Date	FFS	ARP Member	University Appointment
Gastroenterology	Borman	Meredith	1 Jan 2015	1		Clinical Assistant Professor
Endocrinology	Butalia	Sonia	1 Jan 2015		1	Clinical Assistant Professor
Gastroenterology	Congly	Stephen	1 Jan 2015	1		Clinical Assistant Professor
Geriatrics	Dempsey	Erika	1 Dec 2014		1	Clinical Associate Professor
Respiratory Medicine	Dumoulin	Elaine	6 Oct 2014	1		Clinical Assistant Professor
General Internal Med.	Fabreau	Gabe	1 Oct 2014		1	Assistant Professor
Hematology	Grossman	Jennifer	12 May 2014	1		Clinical Assistant Professor
Rheumatology	Hazlewood	Glen	1 Dec 2014		1	Clinical Assistant Professor – GFT
Endocrinology	Helmle	Karmon	1 Nov 2014		1	Clinical Lecturer
Respiratory Medicine	Hergott	Chris	1 Sep 2014		1	Associate Professor
Hematology	Jiminez Zepeda	Victor	1 Jun 2014		1	Clinical Assistant Professor
Rheumatology	Jirik	Frank	1 Jan 2015	1		Professor – GFT
Respiratory Medicine	Johannson	Kerri	15 Jan 2015		1	Clinical Assistant Professor
Gastroenterology	Kumar	Puja	1 Aug 2014	1		Clinical Lecturer
Hematology	Lee	Adrienne	1 Jan 2015		1	Clinical Assistant Professor
Respiratory Medicine	Ma	Lingling	16 Oct 2014		1	Clinical Assistant Professor
Rheumatology	MacMullan	Paul	21 Jul 2014		1	Clinical Assistant Professor
Gastroenterology	Mathivanan	Meena	1 Jul 2014	1		Clinical Assistant Professor
Respiratory Medicine	Miller	Daniel	1 Jan 2015	1		Clinical Assistant Professor
General Internal Med.	Nerenberg	Kara	1 Aug 2014		1	Assistant Professor – GFT
Dermatology	Prajapati	Vimal	1 Sep 2014	1		Clinical Assistant Professor
Gastroenterology	Stewart	Michael	1 Aug 2014	1		Clinical Assistant Professor
Gastroenterology	Stinton	Laura	1 Jun 2014	1		Clinical Assistant Professor
Nephrology	Tonelli	Marcello	1 Jul 2014		1	Professor – GFT
Endocrinology	Venos	Eric	1 Jul 2014	1		Clinical Lecturer
Respiratory Medicine	Weatherald	Jason	1 Oct 2014	1		Clinical Assistant Professor

<b>TOTAL</b>				<b>13</b>	<b>13</b>	
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**Department of Medicine - Departures - April 1, 2014 to March 31, 2015**

<b>LAST</b>	<b>FIRST</b>	<b>SECTION</b>	<b>FTE</b>	<b>DATE OF DEPARTURE</b>	<b>SITE</b>	<b>ARP</b>	<b>UNIVERSITY AFFILIATION</b>
<b>Andrews</b>	Chris	GI	1	28 Feb 15	FMC	ARP	Clinical Associate Professor
<b>Love</b>	Jonathan	GI	0.5	1 Apr 14		ARP	Clinical Associate Professor
<b>Mah</b>	Manuel	ID	1	31 Dec 14	RGH	ARP	Clinical Associate Professor
<b>Cowie</b>	Robert	Respirology	1	31 Dec 14		ARP	Professor
<b>Taub</b>	Ken	Nephrology	0.4	31 Dec 14	FMC	ARP	Clinical Associate Professor
<b>Jibb</b>	Norma	Rheum	1	1 Apr 14	FMC	ARP	Clinical Assistant Professor
<b>Ryan</b>	Paul	Rheum	1	1 Jun 14	FMC	ARP	Clinical Associate Professor
<b>TOTAL</b>			5.9				

## Physician Awards – April 1, 2014 to March 31, 2015

Dr. Adam Bass	Silver Tongue Award – DOM
Dr. Aleem Bharwani	Benevolent Heart Award – DOM
Dr. Aleem Bharwani	Teaching Award (Clerkship)
Dr. Alex Leung	Teaching Award (Clerkship)
Dr. Amber Fripp	Work Life Balance Award – DOM
Dr. Anna Purdy	Dr. Terry Groves Award for Clinical Excellence – DOM
Dr. Ben Wilson	Silver Finger Award – DOM
Dr. Bonnie Meatherall, Dr. Dylan Pillai, Dr. Vanessa Meier- Stephenson, Dr. Deana Sabuda, Dr. Donna Holton	Quality Improvement/Assurance Funding Competition - DOM
Dr. Brenda Hemmelgarn	Research Preceptor – DOM
Dr. Chris Mody	Dr. John Dawson Award for Clinical Excellence – DOM
Dr. Daryl Wile	Teaching Award (Clerkship)
Dr. Dave Campbell	Resident Research Award -DOM
Dr. Doug Helmerson	Dr. Howard McEwen Award for Clinical Excellence - DOM
Dr. Douglas Hamilton	Clinical Research Award – UofC
Dr. Elizabeth MacKay, Dr. Chandra Thomas, Nancy Hoeght, Dr. Echo Enns	Quality Improvement & Patient Safety Award – DOM
Dr. Gary Morris	Dr. Tom Enta Award for Clinical Excellence – DOM
Dr. Jack Cruikshank	Rookie of the Year – DOM
Dr. Jayna Holroyd-Leduc, Dr. Hanson, Dr. Nathalie Jette, Dr. Tamara Pringsheim, Dr. Scott Patten, Dr. Zahra Goodarzi	Department of Medicine Research Funding Competition - DOM
Dr. Jeffrey Shaw	IMRP Resident Leadership and Citizenship Award – DOM
Dr. John Conly	Professionalism Award – DOM
Dr. Kate Skolnik	Best Presentation, Resident Research Day - DOM
Dr. Kelly Zarnke	Teaching Award (Clerkship)
Dr. Kerri Johannson, Dr. Charlene Fell, Dr. Gilaad Kaplan, Dr. Harold Collard, Dr. Michael Jerrett	Department of Medicine Research Funding Competition – DOM
Dr. Kerri Novak, Dr. Yvette Leung, Dr. Deepti Jacob, Dr. Stephanie Wilson, Dr. Eddy Lang, Dr. Summit Sawhney, Dr. Aman Wadhwani	Quality Improvement/Assurance Funding Competition - DOM
Dr. Lesley Street, Dr. Bonnie Meatherall, Dr. Stephen Vaughan, Dr. Marta Davidson	Quality Improvement/Assurance Funding Competition – DOM
Dr. Marietta Iacucci, Dr. Andrew Daly, Dr. Ahsan Chaudhry, Dr. Peter Duggan, Dr. Sean Gui, Dr. Miriam Fort-Gasia	Department of Medicine Research Funding Competition - DOM
Dr. Michael Chiu	Teaching Award (Clerkship)
Dr. Mike Kalisiak	Prix D'excellence, Region 1 – RCPSC
Dr. Mona Shafey	Hematology Residency Program Teaching Award – DOM
Dr. Norman Campbell	Distinguished Academic Award – CAFA
Dr. Norman Campbell	Order of Canada
Dr. Norman Campbell	Team Builder of the Year – DOM



Dr. Norman Campbell

Dr. Omar Khan

Dr. Paul Beck

Dr. Paul Leblanc

Dr. Rahul Mehta, Dr. Rose Geransar, Dr. Aleem Bharwani, Dr.  
C. Maria Bacchus, Dr. Aravind Ganesh, Dr. Darrell Cotton

Dr. Sana Ghaznavi

Dr. Steven Vaughan

Dr. Tom Louie

Dr. Tyrone Harrison

Frederic Newton Gisborne Starr Award - CMA

Teaching Award (Clerkship)

Alumnus of Distinction – UofC

Repeat Offender Award – DOM

Department of Medicine Research Funding Competition –  
DOM

Resident Learning Education Award – DOM

Golden Bull Award – DOM

Dr. John Conly Innovation Award - DOM

Resident Professionalism Award – DOM

## List of Promotions April 1, 2014 – March 31, 2015

### From Clinical Lecturer to Clinical Assistant Professor:

Natasha Sabur	Respiratory Medicine
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### From Clinical Assistant to Clinical Associate Professor:

Dina Fisher	Respiratory Medicine
Michelle Geddes	Hematology
Paul MacEachern	Respiratory Medicine
Laurie Parsons	Dermatology

### From Clinical Associate to Clinical Professor:

Kirk Barber	Dermatology
Kristin Fraser	Respiratory Medicine

### From Assistant Professor to Associate Professor

Doreen Rabi	Endocrinology
Michael Parkins	Infectious Diseases
Steven Heitman	Gastroenterology

### From Associate Professor to Full Professor

Alain Tremblay	Respiratory Medicine
Pietro Ravani	Nephrology
Richard Haber	Dermatology

## Medical Access to Service - Annual Report

### April 1, 2014– March 31, 2015

Medical Access to Service (MAS) has been steadily moving forward throughout the last year. Considerable effort have been used to monitor and improve wait times, as well as evaluate and adapt processes to align with the Path to Care mandate to help manage their business processes.

Progress over the past year:

1. GI CAT team primarily this year looking at the processes:
  - The GI CAT continues to experience significant increases in referral volumes, receiving up to 1800 referrals/month
  - Wait list tracking and reporting to GI management monthly
  - Wait list reduction strategies
  - Development of tracking and monitoring records for FIT + referrals
  - Development of tracking and monitoring records for urgent priority cases within GI CAT
  - Assisted in the ongoing development in the Calgary Foothills and South Calgary Primary Care Networks initiative for GERD/ Dyspepsia and IBS pathway
  - Extensive work with the Primary Care Secretariat to address routine referrals, creating pathways, a phone advice system, and an evaluation process for the initiatives.
2. Hepatology CAT team primarily this year looking at the processes:
  - Wait list tracking and reporting to GI/Hepatology management monthly
  - Wait list reduction strategies
3. Pulmonary Central Access and Triage completed extensive work to reduce wait times
  - Improved data capture and ongoing review
  - The creation of a Tableau format for the PCAT data
  - Work underway to have wait times uploaded in near-real time for ongoing review
  - Business rules developed regarding cancellation and re-booking of clinic
4. Rheumatology Central Access and Triage
  - Continues to manage a large volume of referrals each month
  - Ongoing work to manage multiple patient streams with a limited number of new referral spots
  - Standardized messaging and processes for how Rheumatology offices communicate with referring physicians
5. General Internal Medicine Central Access and Triage
  - Increased complexity and diversity of referrals
  - Ongoing challenges with managing the number of referrals and meet targeted wait times
6. Hematology CAT
  - Revised processes implemented to manage increased referral volumes

### Standards for Central Access and Triage

Department of Medicine teams are all in different stages of adhering to these standards:

1. Communication
  - Participating clinic will provide faxed confirmation to referring physician that referral has been received within two working days (48 hours).
  - Participating clinic will provide faxed letter of appointment details to referring physician within seven working days.
  - Central fax number and central phone number will be available for physician referrals.
  - Specialist will be available to triage staff for any questions/concerns (may be on a triage rotation or may be on call specialist depending on area).
  - Clinics agree to the use of the standard referral form and have the ability to accept any type of referral (letter, EMR) as long as the required information is included.
  - Both the patient and referring physician will be given information about the booked appointment by the CAT team.

- Web based Central Access and Triage manual (<http://departmentofmedicine.com/mas/>) is the most current information (eliminate paper manual), updated with wait times every six months.
- Triage is encouraged to be done by the triage clinician, with assistance from the triage specialist whenever possible utilizing the triage guideline (created within each CAT team by their physicians and physician lead).
- Triage teams are encouraged to have relief staff trained.

2. Triage Guidelines

- Participating areas will provide clear guidelines for referral requirements, additional tests required for the initial appointment should be requested by the individual specialist's staff.
- Participating areas provide estimated times for patient to be seen.
- Participating areas have a policy for declining referrals
- Participating areas will review and update (if required) their CAT team in the Medical Access to Service brochure.

3. Accountability

- Participating clinics will have a system (database) in place to track referrals (when received, where it was triaged to, etc.).
- For successful booking of patients – require initial appointment slots two - six months in advance to prevent backlogs.
- Clinic has a policy for MD clinic cancellations; joining CAT teams will develop policy.
- Referrals awaiting further information should be less than 10% of all referrals.

# Telehealth Report

## April 1, 2014 to March 31, 2015

SECTIONS	CLINICIANS	UTILIZATION
Dermatology	Dr. Richard Haber       Dr. Laurie Parsons	Telehealth to High Level, AB the 1 <sup>st</sup> Thursday of each month. Telehealth to Siksika, AB, the 3 <sup>rd</sup> Thursday of each month.  The following number of patients were assessed: High Level, AB– 28 Siksika, AB – 14  Note: Dr. Haber was on sabbatical from Jan 2014-June 2014 and there were no telehealth clinics during the sabbatical and telehealth clinics resumed Sept 2014.  Telehealth assessments: 114 Telehealth to the following sites: Bow Island, AB Brooks, AB Canmore, AB Cranbrook, BC Drumheller, AB Elnora, AB Ferne, BC High River, AB Lethbridge, AB Stetler, AB South Health Centre Clinic Sunridge Wound Clinic  Majority wound care 8-10 regular dermatology patients
Endocrinology	Dr. Alun Edwards   Dr. Norman Wong	Telehealth used occasionally for meetings.  Telehealth used monthly, primarily for thyroid patients. 6-10 patients seen per clinic.
Gastroenterology	Joan Heatherington NP  Dr. Kerri Novak	Telehealth clinic to Medicine Hat and Lethbridge on a regular basis  Telehealth clinic to Medicine Hat and Lethbridge on a regular basis  GI also uses Telehealth for: CAT-based teleconsultation Specialist link with the zone PCNs

Geriatrics	Dr. David Hogan  Dr. Heidi Schamltz  Dr. James Silvius	Telehealth for Falls Prevention. One Friday/month 2 patients per clinic  No Telehealth while on maternity leave  Telehealth clinic to Claresholm, Didsbury and Strathmore, Half day per month 2-3 patients per clinic
Hematology	Dr. Andrew Daly Dr. Michelle Geddes Dr. Lynn Savoie Dr. Jan Storek  Dr. Jennifer Grossman  Dr. Carolyn Owen	All do Telehealth clinics with pre- bone marrow transplant patients in Edmonton. 6 patients seen per month.  Telehealth clinics for patients with immunodeficiency 4-6 patients per month seen  Telehealth clinics for patients with lymphoma 4-6 patients per month seen
Infectious Diseases	Dr. John Gill Dr. Donna Holton Dr. Jack Janvier Dr. Bonnie Meatherall Dr. Vicky Parkins Dr. Stephen Vaughan	SAC (HIV clinic): 41 telehealth patient visits
Respiratory Medicine	Dr. Alex Chee  Dr. Charlene Fell  Dr. Dina Fisher  Dr. Doug Helmersen	Occasional follow up of respiratory patients  1. Patient Consults 2. Formally scheduled telephone follow-up to respirologists outside of Calgary (review all clinical data and then phones the referring MD for a formal discussion and then note dictated 3. Scheduled telephone follow-up appointments. Most visits for interstitial lung disease patients. Phone calls scheduled for 15 minutes and clinic follow up scheduled for 30 minutes.  Divisional pulmonary rounds via telehealth  1. Weekly Telehealth conference with lung transplant group in Edmonton



		1 hour/session 2. Telehealth rounds with Lung Transplant Group to improve knowledge and patient care in areas such as complicated HLA matching/Ab issues 3. Direct provision of pre and post lung transplant critical care 4. Divisional pulmonary rounds via Telehealth
	Dr. Chris Hergott	Telehealth used for out of town patient follow-ups.
	Dr. Naushad Hirani	Communicates with surgeons in Toronto or Ottawa when he refers patients with chronic thromboembolic pulmonary hypertension for PEA surgery. Dr. Hirani is present with the patient when they are meeting with the surgeon for the first time remotely.
	Dr. Kerri Johannson	Multidisciplinary discussion for the diagnosis of interstitial lung disease. Telehealth with chest radiologists and lung pathologists typically from FMC.
	Dr. Andrea Loewen	1. Follow-up of neuromuscular patients from outside of Calgary . Telehealth with ABGs, PFTs and nurse assessment at home site. 4 times per month  2. Telehealth for multidisciplinary rounds and conferencing (ie sleep boards broadcast from FMC to SHC, respiratory clinical xray and clinical academic rounds broadcast from FMC to PLC. 6 times per month
	Dr. Tara Lohman	Consulted with patients in rural Alberta and BC who were unable to come to Calgary. Meetings and talks with allied health in Alberta
	Dr. Paul MacEachern	Patient follow-ups.
	Dr. Karen Rimmer	Follow-up of clinic patients from out of town, mainly neuromuscular patients Consults for neuromuscular patients admitted to out of town hospitals.

	<p>Nadine Strilchuk NP</p> <p>Dr. Alain Tremblay</p> <p>Dr. Mitesh Thakrar</p> <p>Dr. Rhea Varughese</p>	<p>Intermittent use for Alberta Thoracic oncology patients</p> <p>Telehealth used for out of town patient follow-ups.</p> <ol style="list-style-type: none"> <li>1. Weekly Telehealth conference with lung transplant group in Edmonton regarding all patients in Alberta</li> <li>2. Telehealth rounds with Lung Transplant Group to improve knowledge and patient care in areas such as complicated HLA matching/Ab issues.</li> <li>3. Direct provision of pre and post lung transplant critical care</li> <li>4. Divisional Pulmonary Rounds via telehealth</li> </ol> <ol style="list-style-type: none"> <li>1. Weekly Telehealth conference with lung transplant group in Edmonton regarding all patients in Alberta</li> <li>2. Telehealth rounds with Lung Transplant Group to improve knowledge and patient care in areas such as complicated HLA matching/Ab issues.</li> <li>3. Telehealth clinic visits for pre and post lung transplant patients that live outside of Calgary.</li> <li>4. Divisional Pulmonary Rounds via telehealth</li> </ol>
Rheumatology	<p>Dr. Liam Martin</p> <p>Dr. Sharon LeClerc</p>	<p>Rheumatology Assessment Clinic to Pincher Creek, AB.</p> <p>Approximately 10 clinics between the 2 clinicians assessing 6-10 patients per clinic</p>
<p><b><u>Additional Information:</u></b>          In the absence of a DOM Clinical Facilitator, this information is based on names and numbers kindly supplied by Section heads of their respective Sections.</p>		

## Physician Wellness and Vitality – Annual Report April 1, 2014 to March 31, 2015

### BACKGROUND

The portfolio of Vice Chair, Physician Wellness and Vitality was created by Dr. John Conly within the Department of Medicine (DOM) in 2004 in order to identify and improve work-life balance issues for members of the Department and to promote physician wellness, in a scholarly fashion. The following document summarizes the activities during April 2014 to March 2015. Our research home is nestled within the W21C Research and Innovation Centre.

### RESEARCH

- 1) **MTU preceptor study:** In this CIHR funded study we explored the role of the attending physician preceptor. We have analyzed almost 100 hours of observational data, and 73 stakeholder interviews. Results have been presented at AMEE (Association of Medical Education of Europe) International Conference and the British Medical Association Conference on Physician Health.
  - a. We are starting to write papers to report on this incredibly rich data set.
  - b. The DOM sponsored a symposium in Calgary where we invited academics from across the country to hear the results and plan on how they can inform next steps on many levels:
    - Royal College Physicians and Surgeons of Canada (CanMEDS 2015, Competency by Design, Entrustable Professional Activities, Training in GIM)
    - Sections of GIM (How to make the MTU preceptor role sustainable, physician wellness aspects)
    - Departments of Medicine (How to optimize patient care and medical education)
    - AHS (How to optimize multidisciplinary care, team work, health system inefficiencies, patient flow)
- 2) **Stakeholders' perceptions of the MTU preceptor role:** In a secondary analysis of the MTU preceptor data set, Dr. Erin Miller (PGY2 Internal Medicine) joins our research team to compare 7 stakeholder groups' perceptions of this important role (patients/families, senior nurses, bedside nurses, residents, medical students, allied health care professionals, and preceptors themselves), to identify the overlaps and the differences. This is important in order to develop a comprehensive view of the role that includes all stakeholders' views, especially given at times competing or even conflicting role elements (e.g. teaching time Vs discharging patients Vs assessing ICU or ER patients for transfer).
- 3) **Public perceptions around physician wellness:** In this AHS funded study we explore public awareness around the topic of physician wellness and whether or not patients perceive a link between physician wellness and patient care. This study emerged from a Med 440 project with a U of C medical student, Darby Ewashina, now a resident in psychiatry.
- 4) **Anticipatory stress around job availability for new graduates:** We are collaborating with Dr. Sean Grondin, and chief resident Dr. Janet Edwards in developing a study to assess how much anticipatory stress is created around job availability, what resources are available to program directors and trainees, and what we can do better.

We strive to share our work at appropriate academic conferences. In September of 2014, we presented several abstracts/workshops at the BMA/AMA/CMA International Conference on Physician Health:

*"When Physicians' Practices Change: How to Effect Career Transitions While Considering the Individual's Responsibilities, Capabilities and Skills, and the Collective Healthcare Delivery Obligations"*

*"The Experience of Professional Role Transition for Newly Licensed Independently Practicing Physicians"*

*"The Senior Physician Initiative (SPI)" and "Effecting Wellness Strategies: The Best of Intentions"*

In August of 2014, we presented two abstracts at the Association for Medical Education in Europe conference:

*“Exploring the Dimensions of the Medical Teaching Unit Physician Preceptor Role”*

*“From Exploratory Research to the CanMEDS Framework: Reconciling the Medical Teaching Unit Preceptor Role”*

The MTU Preceptor Study results were also presented to the RCPSC Sub-Specialty Committee in General Internal Medicine. Kristen Desjarlais-deKlerk and Alicia Polachek, physician wellness research team members, presented an abstract at the Campus Alberta Student Conference on Health (CASCH) *“The Preceptor’s Safety Dilemma: The Tension between Teaching and Patient Care”*.

## **KNOWLEDGE TRANSLATION, EDUCATION AND INFORMATION EXCHANGE**

The Well Doc? Initiative is used as a vehicle to educate and translate knowledge around physician wellness. We target the entire range of the medical career, including medical students, residents, new faculty, staff physicians across many specialties, and allied health care professionals.

- 1) **Presentations:** From April 2014 to March 2015, we logged 21 presentations. Some were presentations of the research at academic conferences but many were in response to perceived needs or requests. For example, we targeted UC medical students and residents, offering a workshop on dealing with stress, including a hands-on experience learning a breathing technique using real-time biofeedback devices. We also spoke to oncologists, oncology nurses, neonatologists, geriatricians, and intensivists. We saw a shift with interest from added specialties, where for example, Dr. Lemaire was invited to give the keynote address to 1000 attendees at the national conference for General and Colorectal surgeons in Vancouver in September.
- 2) **New programs:** In conjunction with the U of C PGME office, we are piloting a program where we offer one-on-one stress management training for residents who are undergoing remedial training, recognizing their added need for these skills.
- 3) **Partnerships:** We enjoyed a number of collaborations. For example, we have an ongoing partnership with AHS South Zone Director, Dr. Vanessa MacLean. With the “Docs in Mind program” we offered stress strategy workshops in Lethbridge, Medicine Hat, Taber and Pincher Creek. This year, we focused on Resilience. We continue to work with the UC Office of Faculty Development, offering orientations to wellness once or twice a year to our new faculty members. We are working with the UME office (Dr. Patrick Lee) and the PGME office (Drs. Maureen Topps, Pamela Chu).

## **ADMINISTRATION/W21C WELLNESS TEAM/PARTNERSHIPS**

We continue to advocate for and to represent physician wellness and vitality through many different avenues. As vice chair within the Department of Medicine, Dr. Jane Lemaire endeavors to advocate for physician wellness at the Medical Services Executive Meetings. Wellness continues as a portfolio within the W21C Research and Innovation Centre where Dr. Jean Wallace, professor of Sociology and Dr. Jane Lemaire are Co-Leads. They are supported by the incredible W21C team that includes Jill de Grood, a long standing academic team member who is now the W21C Director, Jaya Dixit, Alicia Polachek, and Kristen Desjarlais-de Klerk. The Wellness team continues to seek collaborations and partnerships. Dr. Lemaire is the Chair of the AMA Physician and Family Support Group Advisory Committee and a member of the AHS Physician Wellness Committee. She is also a member of the International Alliance for Physician Health and served as a CanMEDS 2015 ePanelist for the Professional-Physician Health Expert Working Group.

## **FINAL COMMENTS**

Physician Wellness is part of our daily dialogue for many. We share an enhanced awareness that it is important for us on a personal level, and that it is part of our professionalism to ensure that we are well. This enhanced literacy is now being followed by, asks for concrete tools and strategies to be pro-active in our approach. We must practice risk reduction in the realm of mental health as we do for physical health. In doing so, we reduce the stigma of mental illness and exert a powerful public health influence by supporting wellness of all sorts as an important health goal. We can discuss and learn how to thrive within the wonderfully rewarding yet challenging career path we have all chosen.

We could not do any of this work without the support of many. The DOM has continued to support us in this role, recognizing its importance. As far as we know, there is no other DOM in the nation that has a Vice-Chair role dedicated to this topic. The W21C continues to offer us a research home, including support from research assistants with expert skill

(even in between the grants when funds dry up). The Section of GIM supports this work, recognizing it as important scholarly contributions. AHS has provided support through providing the skills of the AHS Heart Math trainers, who have helped us to develop physician tailored versions of Heart Math as teaching tools. We need to make a special mention of Krista Warners and Debbie Gray from AHS who have been invaluable advocates and colleagues. Most importantly, all the physicians and health care providers who participate in our research studies make this all possible.

### Patient Flow - DOM Inpatient Data April 1, 2014 to March 31, 2015

The following tables and graphs present a brief summary of inpatient data for the Department of Medicine (DOM). This information was taken from the Health Record and was grouped according to the patient's Most Responsible Physician. For cross-appointed physicians, their discharged inpatients were counted to one Section instead of splitting into two Sections. Since physicians' medical service code affects sectional inpatient counts, sectional inpatient counts might be varied due to the changes of physicians' medical service.

There were 11230 inpatients discharged by DOM physicians during fiscal year of 2014-15. The total inpatient discharge of 2014-15 increased around 6.6% compared to the number shown in year of 2013-14.

<b>Inpatient Discharge Summary</b>		
<b>Division</b>	<b>2013-14</b>	<b>2014-15</b>
Dermatology	-	-
Endocrinology	45	36
Gastroenterology	991	970
Geriatric Medicine	-	-
General Internal Medicine	6319	7060
Hematology	851	850
Infectious Diseases*	39	46
Nephrology	1004	940
Respirology	1281	1328
Rheumatology	-	-
<b>Total</b>	<b>10530</b>	<b>11230</b>
<b>Yearly Changes (+/-)</b>	<b>5.7%</b>	<b>6.6%</b>

Department of Medicine physicians also provided more than 15524 consults for the inpatients discharged during fiscal year 2014-15. Compared to previous fiscal year 2013-14, the total consults of 2014-15 decreased around 5.3%

<b>Inpatient Consults Provided by DOM</b>		
<b>Division</b>	<b>2013-14</b>	<b>2014-15</b>
Dermatology	170	155
Endocrinology	580	513
Gastroenterology	3745	3548
Geriatric Medicine	932	865
General Internal Medicine	3965	3725
Hematology	744	647
Infectious Diseases	2910	2781
Nephrology	870	852
Respirology	2005	2079
Rheumatology	476	359
<b>Total</b>	<b>16397</b>	<b>15524</b>



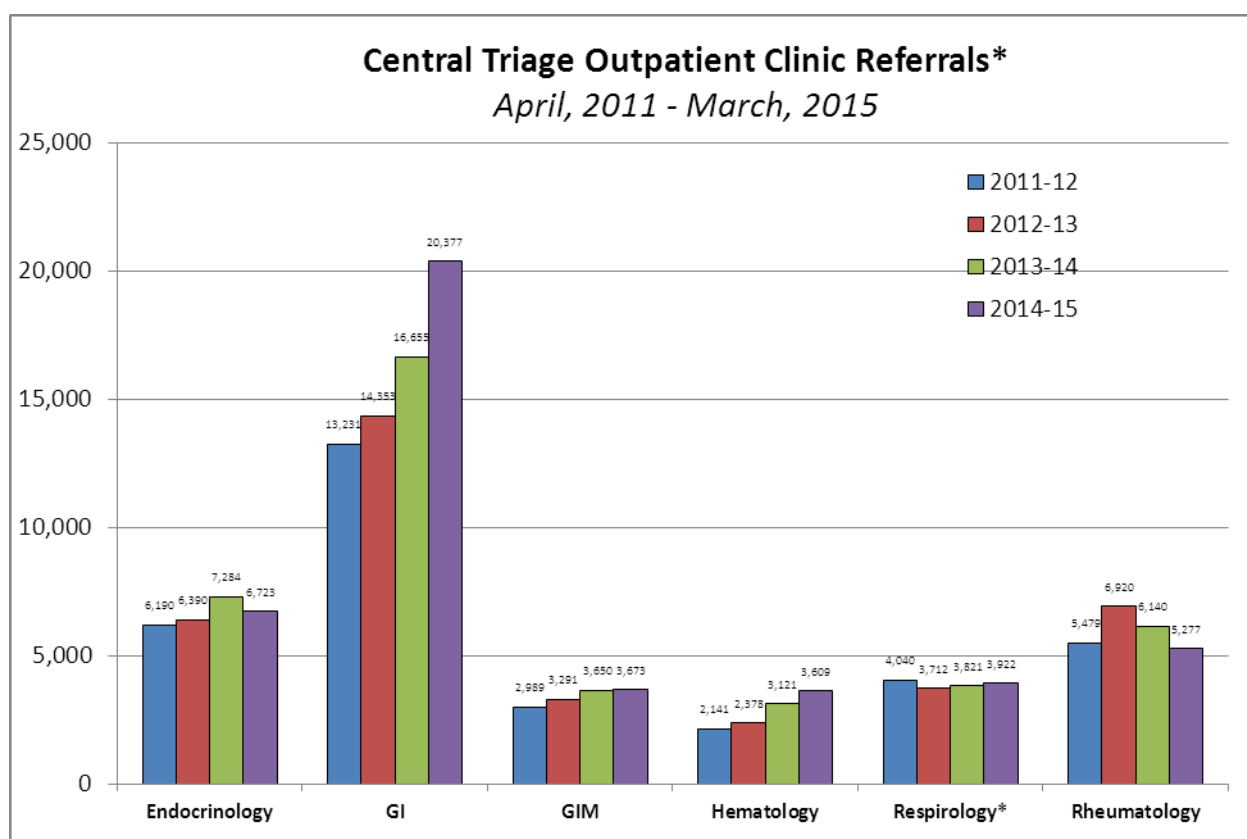
The calculation of average Acute Length of Stay of patients discharged by DOM physicians were based on the following five sections as shown in the table. Compared to the previous fiscal year 2013-14, the average Acute Length of Stay of DOM almost unchanged in fiscal year of 2014-15.

<b>Average Acute Length of Stay (Days)</b>		
<b>Division</b>	<b>2013-14</b>	<b>2014-15</b>
Dermatology	-	-
Endocrinology	-	-
Gastroenterology	5.3	4.9
Geriatric Medicine	-	-
General Internal Medicine	8	8.1
Hematology	17.8	18.4
Infectious Diseases*	-	-
Nephrology	12.4	12
Respirology	8.5	8.7
Rheumatology	-	-
<b>Average</b>	<b>10.4</b>	<b>10.4</b>

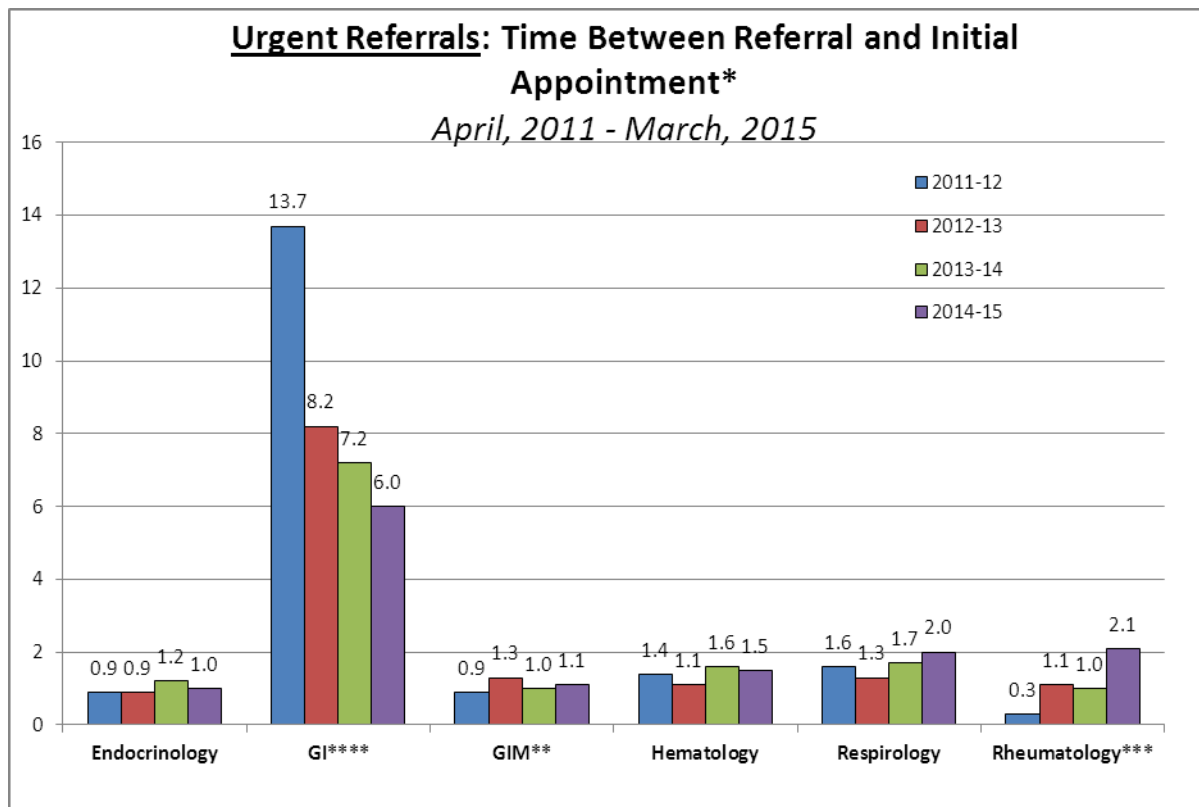
### Patient Flow - DOM Outpatient Data April 1, 2014 to March 31, 2015

Information on DOM outpatient clinic referrals was provided by Central Access & Triage and GI Central Triage. It should be noted that information was not available for all Sections or for physicians who do not participate in the Central Triage process. Respiratory Medicine data is only included from Dec. 2010 onward (when all sites participated in Central Triage). Gastroenterology (GI) data does not include screening colonoscopies performed at the Colon Cancer Screening Centre.

For outpatient clinic referrals during fiscal year 2014-15, compared to the numbers shown in the previous fiscal year 2013-14, the total referrals of Endocrinology decreased 8%, the total referrals of GI increased 22%, the total referrals of GIM increased 1%, the total referrals of Hematology increased 16%, the total referrals of Respiratory medicine increased 3%, and the total referrals of Rheumatology decreased 14%.



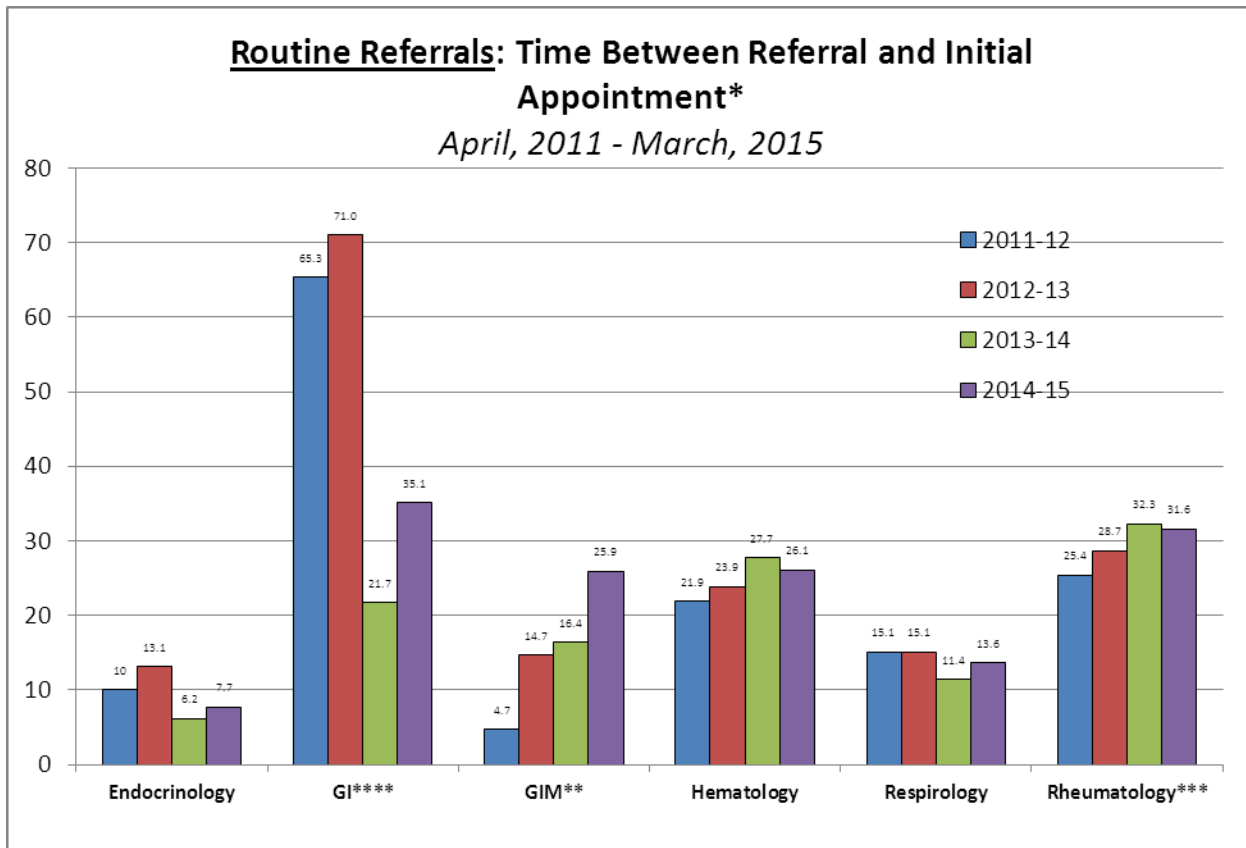
For urgent referrals in 2014-15, the median wait time of GI decreased 17%, the median wait time of Endocrinology decreased 17%, the median wait time of Hematology decreased 6% compared to what was reported in 2013-14. However, the median wait time of GIM increased 10%, the median wait time of Respiratory medicine increased 18%, and the median wait time of Rheumatology increased 110%, compared to the numbers shown in the previous year 2013-14.



\* The median wait time is presented, except for GI where only the average wait time was available. Due to outliers, the average wait time will typically be longer than the median wait time.

\*\* IBD and DTP cases are not included in GI wait times.

For routine referrals in 2014-15, the median wait time of Hematology and Rheumatology dropped 6% and 2% separately compared to the numbers shown in the previous year 2013-14. The median wait time of GI increased 62%, the median wait time of GIM increased 58% compared to the previous results in year 2013-14. Similarly, the median wait time of Endocrinology and Respiratory Medicine also increased 24% and 19% separately compared to the numbers of year 2013-14.



\* The median wait time is presented, except for GI where only the average wait time was available. Due to outliers, the average wait time will typically be longer than the median wait time. GI also reports wait times separately for moderate and routine referrals.

\*\* IBD and DTP cases are not included in GI wait times.

\*\*\* Rheumatology routine referral wait times include Mod-Routine referrals.

### Peer Reviewed Journal Articles Published in 2014- 15

Name	Title	Authorship	Publish Year	Type
Ahmed, Sofia	Predictors of successful completion of diagnostic home sleep testing in patients with chronic kidney disease.	Lee J, Turin TC, Nicholl DD, Ahmed SB, Loewen AH, Hemmelgarn BR, Azad AK, Hanly PJ.	2014	Journal Article
	Sex influences the effect of body mass index on the vascular response to angiotensin II in humans.	Zalucky AA, Nicholl DD, Mann MC, Hemmelgarn BR, Turin TC, Macrae JM, Sola DY, Ahmed SB.	2014	Journal Article
	25-Hydroxyvitamin D status, arterial stiffness and the renin-angiotensin system in healthy humans.	Abdi-Ali A, Nicholl DD, Hemmelgarn BR, MacRae JM, Sola DY, Ahmed SB.	2014	Journal Article
	Arteriovenous fistula survival and needling technique: long-term results from a randomized buttonhole trial.	Macrae JM, Ahmed SB, Hemmelgarn BR; Alberta Kidney Disease Network.	2014	Journal Article
	Association between First Nations ethnicity and progression to kidney failure by presence and severity of albuminuria.	Samuel SM, Palacios-Derflingher L, Tonelli M, Manns B, Crowshoe L, Ahmed SB, Jun M, Saad N, Hemmelgarn BR; Alberta Kidney Disease Network.	2014	Journal Article
	Kidney function, albuminuria and life expectancy.	Turin TC, Ahmed SB, Tonelli M, Manns B, Ravani P, James M, Quinn RR, Jun M, Gansevoort R, Hemmelgarn B.	2014	Journal Article
	Likelihood of coronary angiography among First Nations patients with acute myocardial infarction.	Bresee LC, Knudtson ML, Zhang J, Crowshoe LL, Ahmed SB, Tonelli M, Ghali WA, Quan H, Manns B, Fabreau G, Hemmelgarn BR; Alberta Kidney Disease Network (AKDN) and the Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH).	2014	Journal Article
	Evaluation of continuous positive airway pressure therapy on renin-angiotensin system activity in obstructive sleep apnea.	Nicholl DD, Hanly PJ, Poulin MJ, Handley GB, Hemmelgarn BR, Sola DY, Ahmed SB.	2014	Journal Article
	Testosterone is associated with the cardiovascular autonomic response to a stressor in healthy men.	Ramesh S, Wilton SB, Holroyd-Leduc JM, Turin TC, Sola DY, Ahmed SB.	2014	Journal Article
	Sleep apnea and the kidney: is sleep apnea a risk factor for chronic kidney disease?	Hanly PJ, Ahmed SB.	2014	Journal Article
	Serum uric acid level, blood pressure, and vascular angiotensin II responsiveness in healthy men and women.	Samimi A, Ramesh S, Turin TC, MacRae JM, Sarna MA, Reimer RA, Hemmelgarn BR, Sola DY, Ahmed SB.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Cyclooxygenases 1 and 2 differentially regulate blood pressure and cerebrovascular responses to acute and chronic intermittent hypoxia: Implications for sleep apnea.	Beaudin AE, Pun M, Yang C, Nicholl DDM, Steinback CD, Wynne-Edwards KE, Hanly PJ, Ahmed SB*, Poulin MJ*.	2014	Journal Article
	The VITAH trial VITamin D supplementation and cardiac Autonomic tone in Hemodialysis: a blinded, randomized controlled trial.	Mann MC, Exner DV, Hemmelgarn BR, Hanley DA, Turin TC, MacRae JM, Ahmed SB.	2014	Journal Article
	Vitamin D supplementation is associated with improved modulation of cardiac autonomic tone in healthy humans.	Mann MC, Exner DV, Hemmelgarn BR, Turin TC, Sola DY, Ellis L, Ahmed SB.	2014	Journal Article
	Buttonhole cannulation technique as the cannulation method of choice.	Macrae JM, Ahmed SB, Hemmelgarn BR.	2014	Journal Article
	IgA nephropathy with early kidney dysfunction is associated with increased arterial stiffness and renin angiotensin system activity.	Abdi-Ali A, Mann MC, Hemmelgarn BR, MacRae JM, Turin TC, Benediktsson H, Sola DY, Ahmed SB.	2014	Journal Article
<b>Andrews,Christop</b>				
	Gastroesophageal reflux symptoms not responding to proton pump inhibitor: GERD, NERD, NARD, esophageal hypersensitivity or dyspepsia?	Bashashati M, Hejazi RA, Andrews CN, Storr MA.	2014	Journal Article
	Cannabis use provides symptom relief in patients with inflammatory bowel disease but is associated with worse disease prognosis in patients with Crohn's disease.	Storr M, Devlin S, Kaplan GG, Panaccione R, Andrews CN.	2014	Journal Article
	Real-time gastric motility monitoring using transcutaneous intraluminal impedance measurements (TIIM).	Poscente MD, Wang G, Filip D, Ninova P, Vadid-Pecht O, Andrews CN, Mintchev MP	2014	Journal Article
	Transcutaneous intraluminal impedance measurement for minimally invasive monitoring of gastric motility: validation in acute canine models.	Poscente MD1, Wang G1, Filip D2, Ninova P3, Muench G4, Yadid-Pecht O2, Mintchev MP5, Andrews CN6.	2014	Journal Article
	Toward modulation of the endocannabinoid system for treatment of gastrointestinal disease: FAAHster but not "higher".	Nasser Y, Bashashati M, Andrews CN.	2014	Journal Article
<b>Bahlis,Nizar</b>				
	Results of a prospective phase II trial evaluating interim positron emission tomography-guided high dose therapy for poor prognosis diffuse large B-cell lymphoma.	Stewart DA, Kloiber R, Owen C, Bahlis NJ, Duggan P, Mansoor A, Bence-Bruckler I.	2014	Journal Article



Name	Title	Authorship	Publish Year	Type
	The Tao of myeloma	Boise LH, Kaufman JL, Bahlis NJ, Lonial S, Lee KP	2014	Journal Article
	Lenalidomide and dexamethasone in transplant-ineligible patients with myeloma.	Benboubker L, Dimopoulos MA, Dispenzieri A, Catalano J, Belch AR, Cavo M, Pinto A, Weisel K, Ludwig H, Bahlis N, Banos A, Tiab M, Delforge M, Cavenagh J, Geraldine C, Lee JJ, Chen C, Oriol A, de la Rubia J, Qiu L, White DJ, Binder D, Anderson K, Fermand JP, Moreau P, Attal M, Knight R, Chen G, Van Oostendorp J, Jacques C, Ervin-Haynes A, Avet-Loiseau H, Hulin C, Facon T; FIRST Trial Team.	2014	Journal Article
	Reovirus as a successful ex vivo purging modality for multiple myeloma.	Thirukkumaran CM, Shi ZQ, Luider J, Kopciuk K, Bahlis N, Neri P, Pho M, Stewart D, Mansoor A, Morris DG.	2014	Journal Article
	Pomalidomide alone or in combination with low-dose dexamethasone in relapsed and refractory multiple myeloma: a randomized phase 2 study.	Richardson PG, Siegel DS, Vij R, Hofmeister CC, Baz R, Jagannath S, Chen C, Lonial S, Jakubowiak A, Bahlis N, Song K, Belch A, Raje N, Shustik C, Lentzsch S, Lacy M, Mikhael J, Matous J, Vesole D, Chen M, Zaki MH, Jacques C, Yu Z, Anderson KC.	2014	Journal Article
Barber,Claire	Invasive Fungal Disease in Systemic Lupus Erythematosus: A Systemic Review of Disease Characteristics, Risk Factors and Prognosis.	Wang LR, Barber CE, Johnson AS, Barnabe C.	2014	Journal Article
Barnabe,Cheryl	Biologic Therapy Response and Drug Survival for Females Compared to Males with Rheumatoid Arthritis	Lee J, Mason R, Martin L, Barnabe C,	2014	Journal Article
	Canadian Estimates of Health Care Utilization Costs for Rheumatoid Arthritis Patients With and Without Therapy with Biologic Agents.	Ohinmaa A, Thanh N, Barnabe C, Martin L, Russell A, Barr SG, Maksymowych W.	2014	Journal Article
	Discordant Indigenous and Provider Frames Explain Challenges in Improving Access to Arthritis Care.	Thurston WE, Coupal S, Jones CA, Crowshoe L, Marshall D, Homik J, Barnabe C.	2014	Journal Article
	Predictors of Time to Diagnosis in Early Rheumatoid Arthritis	Barnabe C, Xiong J, Pope JE, Boire G, Hitchon C, Haraoui B, Thorne JC, Keystone EC, Bykerk V.	2014	Journal Article
	Age modifications of diabetes-related hospitalizations among First Nations Patients	Campbell DJT, Lacny SL, Weaver RG, Manns BJ, Tonelli M, Barnabe C, Hemmelgarn BR.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	The Impact of Different Remission Definitions on Identification of Predictors of Both Point and Sustained Remission in Rheumatoid Arthritis	Barnabe C, Homik J, Barr SG, Martin L, Maksymowych WP	2014	Journal Article
	Systemic Autoimmune Rheumatic Disease Prevalence in Canada: Updated Analyses Across Seven Provinces	Broten L, Avina-Zubieta JA, Lacaille D, Joseph L, Hanly JG, Lix L, O'Donnell S, Barnabe C, Fortin PR, Hudson M, Jean S, Peschken C, Edworthy SM, Svenson L, Pineau CA, Clarke AE, Smith M, Belisle P, Bradley EM, Bergeron L, Bernatsky S,	2014	Journal Article
	Imbalance of Prevalence and Specialty Care for Osteoarthritis for First Nations People in Canada.	Barnabe C, Hemmelgarn B, Jones CA, Peschken CA, Voaklander D, Joseph L, Bernatsky S, Esdaile JM, Marshall DA.	2014	Journal Article
	Best Practices for Cardiovascular Disease Prevention in Rheumatoid Arthritis: A Systematic Review of Guideline Recommendations and Quality Indicators.	Barber CE, Smith A, Esdaile JM, Barnabe C, Martin LO, Faris P, Hazlewood G, Noormohamed R, Alvarez N, Mancini GB, Lacaille D, Keeling S, Avina-Zubieta JA, Marshall D.	2014	Journal Article
	Invasive Fungal Disease in Systemic Lupus Erythematosus: A Systematic Review of Disease Characteristics, Risk Factors and Prognosis.	Wang LR, Barber CE, Johnson AS, Barnabe C.	2014	Journal Article
	Effect of remission definition on Cost Savings Estimates for Rheumatoid Arthritis Patients Treated with Biologics Therapies	Barnabe C, Thanh N, Ohinmaa A, Homik J, Barr SG, Martin L, Maksymowych WP	2014	Journal Article
Barr,Susan	Clinical and serological features of patients referred through a rheumatology triage system because of positive antinuclear antibodies	Fitch-Rogalsky C, Steber W, Mahler M, Lupton T, Martin L, Barr SG, Mosher DP, Wick J, Fritzler MJ.	2014	Journal Article
	Canadian estimates of healthcare utilization costs for rheumatoid arthritis patients with and without biologic therapies.	Ohinmaa AE, Thanh NX, Barnabe C, Martin L, Russell AS, Barr SG, Maksymowych WP.	2014	Journal Article
	Lymphoma risk in systemic lupus: effects of disease activity versus treatment.	Bernatsky S, Ramsey-Goldman R, Joseph L, Boivin JF, Costenbader KH, Urowitz MB, Gladman DD, Fortin PR, Nived O, Petri MA, Jacobsen S, Manzi S, Ginzler EM, Isenberg D, Rahman A, Gordon C, Ruiz-Irastorza G, Yelin E, Bae SC, Wallace DJ, Peschken CA, Dooley MA, Edworthy SM, Aranow C, Kamen DL, Romero-Diaz J, Askanase A, Witte T, Barr SG, Criswell LA, Sturfelt GK, Blanco I, Feldman CH, Dreyer L, Patel NM, St Pierre Y, Clarke AE.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	The effect of different remission definitions on identification of predictors of both point and sustained remission in rheumatoid arthritis treated with anti-TNF therapy.	Barnabe C, Nguyen TX, Ohinmaa A, Homik J, Barr SG, Martin L, Maksymowych WP.	2014	Journal Article
	Effect of remission definition on healthcare cost savings estimates for rheumatoid arthritis patients treated with biologic therapies.	Barnabe C, Nguyen TX, Ohinmaa A, Homik J, Barr SG, Martin L, Maksymowych WP.	2014	Journal Article
Bass,Adam	Canadian Society of Nephrology 2014 Clinical Practice Guideline for Timing the Initiation of Chronic Dialysis	Gihad E. Nesrallah, Reem A. Mustafa, William F. Clark, Adam Bass, Lianne Barnieh, Brenda R Hemmelgarn, Scott Klarenbach, Robert R Quinn, Swapnil Hiremath, Pietro Ravani, Manish M. Sood, Louise M. Moist	2014	Journal Article
Beck,Paul	Inflammatory bowel disease cause-specific mortality: a primer for clinicians.	Kassam Z, Belga S, Roifman I, Hirota S, Jijon H, Kaplan GG, Ghosh S, Beck PL.	2014	Journal Article
	Giardia duodenalis cathepsin B proteases degrade intestinal epithelial interleukin-8 and attenuate interleukin-8-induced neutrophil chemotaxis.	Cotton JA, Bhargava A, Ferraz JG, Yates RM, Beck PL, Buret AG.	2014	Journal Article
	Proceedings from the 5th Annual University of Calgary Leaders in Medicine Research Symposium.	Thornton CS, Keough MB, Roberts JI, Yipp B, Hollenberg M, Bau JT, Peplowski MA, Beck PL.	2014	Journal Article
	Clostridium difficile infection worsens the prognosis of ulcerative colitis.	Negrón ME, Barkema HW, Rioux K, De Buck J, Checkley S, Proulx MC, Frolkis A, Beck PL, Dieleman LA, Panaccione R, Ghosh S, Kaplan GG.	2014	Journal Article
	A prescription that addresses the decline of basic science education in medical school.	Miller D, Thornton CS, Keough MB, Roberts JI, Yipp B, Hollenberg M, Bau JT, Peplowski MA, Beck PL.	2014	Journal Article
	Opposing Effects of Smoking in Ulcerative Colitis and Crohn's Disease may be Explained by Differential Effects on Dendritic Cells.	Ueno A, Jijon H, Traves S, Chan R, Ford K, Beck PL, Iacucci M, Fort Gasia M, Barkema HW, Panaccione R, Kaplan GG, Proud D, Ghosh S.	2014	Journal Article
	Mitochondrial NLRP3 protein induces reactive oxygen species to promote Smad protein signaling and fibrosis independent from the inflammasome.	Bracey NA, Gershkovich B, Chun J, Vilaysane A, Meijndert HC, Wright JR Jr, Fedak PW, Beck PL, Muruve DA, Duff HJ.	2014	Journal Article
	Invasive amoebiasis: a review of Entamoeba infections highlighted with case reports.	Skappak C, Akierman S, Belga S, Novak K, Chadee K, Urbanski SJ, Church D, Beck PL.	2014	Journal Article
Belletrutti,Paul	Lymphomatoid granulomatosis associated with azathioprine therapy in Crohn disease.	Connors W, Griffiths C, Patel J, Belletrutti PJ	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Bharwani,Aleem	"Medical applications: a database and characterization of apps in Apple iOS and Android platforms."	Seabrook, Heather J., Julie N. Stromer, Cole Shevkenek, Aleem Bharwani, Jill de Grood, and William A. Ghali.	2014	Journal Article
	"Improving prevention, early recognition and management of acute kidney injury after major surgery: results of a planning meeting with multidisciplinary stakeholders."	Matthew T James, Elijah Dixon, Derek J Roberts, Rebecca Barry, Carlee Balint, Aleem Bharwani, William Don Buie, Tomas Godinez, Brenda R Hemmelgarn, John B Kortbeek, Braden J Manns, Andria Marin, Nairne Scott-Douglas, Henry Tom Stelfox and Neesh Pannu	2014	Journal Article
Burak,Kelly	Validation of the five-variable Model for End-stage Liver Disease (5vMELD) for prediction of mortality on the liver transplant waiting list.	Myers RP, Tandon P, Ney M, Meeberg G, Faris P, Shaheen AA, Aspinall AI, Burak KW.	2014	Journal Article
	Protease inhibitor-based triple therapy is highly effective for hepatitis C recurrence after liver transplant: a multicenter experience.	Faisal N, Yoshida EM, Bilodeau M, Wong P, Ma M, Burak KW, Al-Judaibi B, Renner EL, Lilly LB	2014	Journal Article
	The incidence of hepatocellular carcinoma is reduced in patients with chronic hepatitis B on long-term nucleos(t)ide analogue therapy.	Coffin CS, Rezaeeaval M, Pang JX, Alcantara L, Klein P, Burak KW, Myers RP	2014	Journal Article
Castillo,Eliana	Update on Pertussis Vaccination in Pregnancy	Castillo E, Bacic O, Desai S	2014	Journal Article
	Postpartum Infections: A review for the non-OBGYN	Dalton E,Castillo E	2014	Journal Article
Chee,Alex	An argument for using additional bedside tools, such as bedside ultrasound, for volume status assessment in hospitalized medical patients: a needs assessment survey.	D Low, M Vlasschaert, K Novak, A Chee, IWY Ma	2014	Journal Article
	Interventional Pulmonology: an update for internal medicine physicians	Eve-Lea Beaudoin, Alex Chee, David Stather	2014	Journal Article
Clarke,Ann	What can we learn about the relationship between systemic lupus erythematosus and hematologic malignancies from linking disease registries?	Ramsey-Goldman R, Bernatsky S, Clarke AE.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Electrocardiographic findings in Systemic Lupus Erythematosus: data from an international inception cohort.	Bourre-Tessier J, Urowitz M, Clarke AE, Bernatsky S, Krantz MJ, Huynh T, Joseph L, Belisle P, Bae SC, Hanly JG, Wallace DJ, Gordon C, Isenberg D, Rahman A, Gladman DD, Fortin PR, Merrill JT, Romero-Diaz J, Sanchez-Guerrero J, Fessler B, Alarcon GS, Steinsson K, Bruce IN, Ginzler E, Dooley MA, Nived O, Sturfelt G, Kalunian K, Ramos-Casals M, Petri M, Zoma A, SLICC investigators, Pineau CA.	2014	Journal Article
	The French-Canadian validation of a disease specific patient reported outcome measure for lupus.	Bourre-Tessier J, Clarke AE, Kosinsky M, Mikolaitis R, Bernatsky S, Block J, Meenakshi J.	2014	Journal Article
	Impact of early disease factors on metabolic syndrome in systemic SLE: Data from an International Inception Cohort.	Parker B, Urowitz M, Gladman DD, Lunt M, Donn R, Bae S-C, Sanchez-Guerrero J, Romero-Diaz J, Gordon C, Wallace DJ, Clarke AE, Bernatsky S, Ginzler EM, Isenberg DA, Rahman A, Merrill JT, Alarcon GS, Fessler BJ, Fortin PR, Hanly JG, Petri M, Steinsson K, Dooley MA, Manzi S, Khamashta MA, Ramsey-Goldman R, Zoma AA, Sturfelt GK, Nived O, Aranow C, Mackay M, Ramos-Casals M, van Vollenhoven RF, Kalunian KC, Ruiz-Irastorza G, Lim SS, Kamen DL, Peschken CA, Inanc M, Bruce IN.	2014	Journal Article
	Yoga in Systemic Lupus Erythematosus: Qualitative results of a pragmatic pilot trial.	Mill C, Neville C, Pineau CA, Clarke AE, Da Costa D, Nashi EP, Neville A, Shihao Lao W, Singer W, Lazer H, Lee J, Bernatsky S. (Student as first author)	2014	Journal Article
	Neurodevelopmental disorders in children born to mothers with SLE.	Vinet E, Pineau C, Clarke AE, Fombonne, Platt R, Bernatsky S.	2014	Journal Article
	What can we learn about the relationship between systemic lupus erythematosus and hematologic malignancies from linking disease registries?	Ramsey-Goldman R, Bernatsky S, Clarke AE.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Cancer risk factors in SLE: Multivariate regression analysis in 16,409 patients.	Bernatsky S, Ramsey-Goldman R, Boivin JF, Petri JL, Zoma A, Manzi S, Urowitz MB, Gladman D, Fortin PR, Ginzler E, Yelin E, Bae SC, Wallace DJ, Edworthy S, Jacobsen S, Gordon C, Dooley MA, Peschken CA, Hanly JG, Alarcon GS, Nived O, Ruiz-Irastorza G, Isenberg D, Rahman A, Witte T, Aranow C, Kamen DL, Steinsson K, Askanase A, Barr S, Criswell LA, Sturfelt G, Patel NM, Senecal JL, Summer M, Pope JE, Ensworth S, El-Gabalawy H, McCarthy T, Dreyer L, Labrecque J, St. Pierre Y, Sibley J, Clarke AE.	2014	Journal Article
	C-Care: Comparing two years of anaphylaxis in children treated at the Montreal Children's Hospital.	DeSchryver S, Hochstadter E, Clarke AE, LaVieille S, Alizadehfard R, Dery A, Mill C, Eisman H, Ben-Soshan M.	2014	Journal Article
	Rate, triggers, severity and management of anaphylaxis in adults treated in a Canadian Emergency department.	Asai Y, Yanishevsky Y, Clarke AE, LaVieille S, Delaney JS, Alizadehfard R, Joseph L, Morris J, Ben-Soshan M.	2014	Journal Article
	Systemic lupus erythematosus and malignancies: a review article.	Tessier Cloutier B, Gordon C, Ramsay-Goldman R, Clarke AE, Bernatsky S. (Student as 1st author)	2014	Journal Article
	Treat-to-target in systemic lupus erythematosus: recommendations from an international task force.	van Vollenhoven R, Mosca M, Bertsias G, Isenberg D, Kuhn A, Lerstrom K, Aringer M, Bootsma H, Boumpas D, Bruce I, Cervera R, Clarke AE, Costedoat-Chalumeau N, Cziráj L, Derksen R, Dörner T, Gordon C, Graninger W, Houssiau F, Jacobsen S, Jayne D, Jedryka-Goral A, Inanc M, Levitsky A, Levy R, Mariette X, Morand E, Navarra S, Neumann I, Rahman A, Rovenský J, Smolen J, Vasconcelos C, Voskuyl A, Voss A, Zakharova E, Zoma A, Schneider M.	2014	Journal Article
	Brief Report: Hospitalizations in a clinical systemic lupus erythematosus cohort, 1999-2011	Chan K, Dekis A, Clarke AE, Pineau CA, Vinet E, Nashi E, Bernatsky S.	2014	Journal Article
	SARD prevalence in Canada: Updated analyses across seven provinces.	Broten L, Avina-Zubieta J, Lacaille D, Joseph L, Hanly JG, Lix L, O'Donnell S, Barnabe CC, Fortin PR, Hudson M, Jean S, Peschken CA, Edworthy SM, Svenson L, Pineau CA, Clarke AE, Smith M, Belisle P, Badley EM, Bergeron L, Bernatsky S. (Student as first author)	2014	Journal Article



Name	Title	Authorship	Publish Year	Type
	Yoga in Systemic Lupus Erythematosus: Qualitative results of a pragmatic pilot trial.	Mill C, Neville C, Pineau CA, Clarke AE, Da Costa D, Nashi EP, Neville A, Shihao Lao W, Singer W, Lazer H, Lee J, Bernatsky S. (Student as first author)	2014	Journal Article
	Likelihood of being prescribed an epinephrine autoinjector in allergic Canadians with lower educational levels.	Soller L, Cherkaoui S, Ben –Shoshan M, Harrington D, Knoll M, Fragapane J, Joseph L, St. Pierre Y, La Vieille S, Wilson K, Elliott S, Clarke AE.	2014	Journal Article
	Exploring perceptions and experiences of food allergy among new Canadians from Asia.	Lu SK, Elliott S, Clarke AE.	2014	Journal Article
	Exploring low-income families' financial barriers to food allergy management and treatment.	Minaker L, Elliott SJ, Clarke AE.	2014	Journal Article
	Low income, high risk: the overlapping stigmas of food allergy and poverty.	Minaker L, Elliott S, Clarke AE.	2014	Journal Article
	25-Hydroxyvitamin D and cardiovascular disease in patients with systemic lupus erythematosus: data from a large international inception cohort.	Lertratanakul A, Wu P, Dyer A, Urowitz M, Gladman D, Fortin P, Ibañez D, Bae SC, Gordon C, Clarke AE, Bernatsky S, Hanly J, Isenberg D, Rahman A, Merrill J, Wallace D, Ginzler E, Khamashta M, Bruce I, Nived O, Sturfelt G, Steinsson K, Manzi S, Dooley MA, Kalunian K, Petri M, Aranow C, Font J, von Vollenhoven R, Stoll T, Ramsey-Goldman R.	2014	Journal Article
	ACR criteria at inception and accrual over 5 years in the SLICC inception cohort.	Urowitz M, Gladman D, Ibanez D, Sánchez-Guerrero J, Romero Diaz J, Gordon C, Bae SC, Clarke AE, Bernatsky S, Fortin P, Hanly J, Isenberg D, Rahman A, Wallace D, Ginzler E, Petri M, Bruce I, Merrill J, Nived O, Sturfelt G, Dooley MA, Alarcon G, Fessler B, Steinsson K, Ramsey-Goldman R, Zoma A, Khamashta M, Manzi S, van Vollenhoven R, Ramos-Casals M, Aranow C, Stoll T.	2014	Journal Article
	Exploring low-income families' financial barriers to food allergy management and treatment.	Minaker L, Elliott SJ, Clarke AE (Student as 1st author)	2014	Journal Article
	Development and Validation of the Lupus Impact Tracker: a Patient-Completed Tool for Clinical Practice to Assess and Monitor the Impact of SLE.	Jolly M, Garris C, Mikolaitis R, Jhingran P, Dennis G, Wallace D, Clarke AE, Dooley MA, Parke A, Strand V, Alarcon G, Kosinski M.	2014	Journal Article
	Development of Myasthenia Gravis in SLE.	Kigawa N, Pineau C, Clarke AE, Nashi E, Vinet E, Veilleux M, Bernatsky S.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Prevalence and predictors of food allergy in Canada: a focus on under-represented populations.	Soller L, Ben-Shoshan M, Harrington DW, Knoll M, Fragapane J, Joseph L, St. Pierre Y, La Vieille S, Wilson K, Elliott SJ, Clarke AE. (Student as first author)	2014	Journal Article
	Adjusting for non-response bias corrects overestimates of food allergy prevalence.	Soller L, Ben-Shoshan M, Harrington DW, Knoll M, Fragapane J, Joseph L, St. Pierre Y, La Vieille S, Wilson K, Elliott SJ, Clarke AE.	2014	Journal Article
Coderre, Sylvain	Filling in the gaps of clerkship with a comprehensive clinical skills curriculum.	Veale P, Carson J, Coderre S, Woloschuk W, Wrigth B, McLaughlin K.	2014	Journal Article
	Finding the middle path in tracking former patients for the purpose of learning.	McLaughlin K, Coderre S.	2014	Journal Article
	Validation of the NASA-TLX as a tool to evaluate the learning curve for endoscopy training.	Mohamed R, Raman M, Anderson J, McLaughlin K, Rostom A, Coderre S	2014	Journal Article
Coffin, Carla	Virological characteristics of occult hepatitis B virus in a North American cohort of human immunodeficiency virus type 1-positive patients on dual active anti-HBV/HIV therapy.	Coffin CS, Mulrooney-Cousins PM, van der Meer F, Nisikawa S, Michalak TI, van Marle G, Gill MJ	2014	Journal Article
	Liver Stiffness by Transient Elastography Predicts Liver-related Complications and Mortality in Patients with Chronic Liver Disease	Pang J, Zimmer S, Nou S, Crotty P, Tracey J, Pradhan F, Shaheen A-A, Coffin CS, Heitman S, Kaplan GG, Swain MG, Myers RP.	2014	Journal Article
	The incidence of Hepatitis B-related Hepatocellular Carcinoma is reduced in patients treated with long-term nucleos(t)ide analog therapy	Coffin CS, Rezaeeaval M, Pang XJ, Alcantara L, Klein P, Burak KW, Myers RP	2014	Journal Article
	Outcomes and management of viral hepatitis and human immunodeficiency virus co-infection in liver transplantation	Congly SE, Doucette KE, Coffin CS	2014	Journal Article
	Editorial: Anti-viral therapy for prevention of perinatal HBV transmission--extending therapy beyond birth and the risk of post-partum flare	Coffin CS, Lee SS	2014	Journal Article
	Management of hepatitis C virus and human immunodeficiency virus coinfection	O'Neil CR, Coffin CS	2014	Journal Article
Conly, John	Does variation among provincial drug formulary antimicrobial listings in Canada influence prescribing rates?	Glass-Kaasta S K., Finley R, Hutchinson J, Patrick D M., Weiss K, Conly J	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Community-associated methicillin-resistant <i>Staphylococcus aureus</i> necrotizing pneumonia without evidence of antecedent viral upper respiratory infection	Toro C M, Janvier J, Zhang K, Fonseca K, Gregson D, Church D, Laupland K, Rabin H, Elsayed S, Conly J	2014	Journal Article
	Longitudinal surveillance of outpatient quinolone antimicrobial use in Canada	Glass-Kaastra SK, Finley R, Hutchinson J, Patrick DM, Weiss K, Conly J.	2014	Journal Article
	Variation in outpatient oral antimicrobial use patterns among Canadian provinces, 2000 to 2010.	Glass-Kaastra SK, Finley R, Hutchinson J, Patrick DM, Weiss K, Conly J.	2014	Journal Article
	Expert Consensus on a Canadian Internal Medicine Ultrasound Curriculum	Arishenkoff S, Blouw M, Car S, Conly J, Gebhardt C, Gibson N, Lenz R, Ma W. Y. M, Reimche L, Schaefer J, Sochocki M, Zarnke K	2014	Journal Article
	An assessment of the efficacy of searching in biomedical databases beyond MEDLINE in identifying studies for a systematic review on ward closures as an infection control intervention to control outbreaks	Kwon Y, Powelson S E, Wong H, Ghali W A and Conly J M	2014	Journal Article
	Antibiotic Susceptibility and Molecular epidemiology of Panton-Valentine Leukocidin-positive methicillin-resistant <i>Staphylococcus aureus</i> : An International Study	Macedo-Vinas M, Conly J, Francois P, Aschbacher R, Blanc D S, Coombs G, Daikos G, Dhawan B, Empel J, Etienne J, Figueiredo A M S, Golding G & CNISP, Han L, Kim H B, Kock R, Larsen A, Layer F, Lo J, Maeda T, Mulvey M, Pantosi A, Saga T, Schrenzel J, Simor A, Skov R, Van Rijen M, Wang H, Zakaria Z, Harbarth S	2014	Journal Article
	Longitudinal surveillance of outpatient tetracycline, sulfonamide-trimethoprim and "other" antimicrobial use in Canada 1995-2010	Glass-Kaastra SK, Finley R, Hutchinson J, Patrick D M, Weiss K, Conly J	2014	Journal Article
	Provincial and temporal variation in macrolide and lincosamide antimicrobial use by outpatients in Canada, 1995 to 2010	Glass-Kaastra SK, Finley R, Hutchinson J, Patrick DM, Weiss K, Conly J	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Healthcare-associated influenza in Canadian hospitals from 2006 to 2012.	Taylor G, Mitchell R, McGeer A, Frenette C, Suh KN, Wong A, Katz K, Wilkinson K, Amihod B, Gravel D; Canadian Nosocomial Infection Surveillance Program, Boyd D, Bridger N, Bryce E, Conly J, Dascal A, de Heer J, Embil J, Embree J, Evans G, Forgie S, Frenette C, Haldane D, German G, Golding G, Gravel D, Hembroff D, Henderson E, John M, Johnston L, Katz K, Kibsey P, Kuhn M, Langley J, Lemieux C, Le Saux N, Loeb M, Richardson S, McGeer A, Mertz D, Miller M, Mitchell R, Moore D, Mouchili A, Mulvey M, Pelletier S, Pelude L, Quach C, Roth V, Simor A, Smith S, Suh K, Taylor G, Thomas E, Turgeon N, Vearncombe M, Vayalumkal J, Weiss K, Wong A.	2014	Journal Article
	"Ridding Ourselves of Excess Antibiotic Baggage - De-Escalating Antibiotic Therapy"	Ellison J, Southern D, Holton D, Henderson E, Wallace J, Faris P, Ghali A W, Conly J	2014	Journal Article
	Proteomic analysis of a NAP1 Clostridium difficile clinical isolate resistant to metronidazole.	Chong PM, Lynch T, McCorrister S, Kibsey P, Miller M, Gravel D, Westmacott GR, Mulvey MR; Canadian Nosocomial Infection Surveillance Program (CNISP), Boyd D, Bridger N, Bryce E, Conly J, Dascal A, de Heer J, Embil J, Embree J, Evans G, Forgie S, Frenette C, Haldane D, German G, Golding G, Gravel D, Hembroff D, Henderson E, John M, Johnston L, Katz K, Kibsey P, Kuhn M, Langley J, Lemieux C, Le Saux N, Loeb M, Richardson S, McGeer A, Mertz D, Miller M, Mitchell R, Moore D, Mouchili A, Mulvey M, Pelletier S, Pelude L, Quach C, Roth V, Simor A, Smith S, Suh K, Taylor G, Thomas E, Turgeon N, Vearncombe M, Vayalumkal J, Weiss K, Wong A.	2014	Journal Article
	Pilot testing of an out-of-country medical care questionnaire with screening and cost analysis of preemptive isolation for carbapenem-resistant Enterobacteriaceae in a large Canadian health region.	Rajapakse N, Vayalumkal J, Lam-Li D, Pearce C, Rees G, Kamhuka L, Peirano G, Pidhorney C, Ledgerwood D, Alfieri N, Hope K, Gregson D, Pitout J, Louie T, Conly J.	2014	Journal Article
	Neutrophil Crawling in Capillaries; A Novel Immune Response to Staphylococcus aureus	Harding MG, Zhang K, Conly J and Kubes P	2014	Journal Article

<b>Name</b>	<b>Title</b>	<b>Authorship</b>	<b>Publish Year</b>	<b>Type</b>
Cook,Donald	Hospital ward design and prevention of hospital-acquired infections: A prospective clinical trial.	Ellison J, Southern D, Holton D, Henderson E, Wallace J, Faris P, Ghali WA, Conly J	2014	Journal Article
	Longitudinal surveillance of outpatient B-lactam antimicrobial use in Canada 1995-2010	Glass-Kaasta S K, Finley R, Hutchinson J, Patrick DM, Weiss K, Conly J	2014	Journal Article
	Liberal versus Restrictive Blood Transfusion Strategy: 3-year Survival and Cause of Death Results from the FOCUS Randomised Controlled Trial	Jeffrey L Carson, Frederick Sieber, Donald Richard Cook, Donald R Hoover, Helaine Noveck, Bernard R Chaitman, Lee Fleisher, Lauren Beaupre, William Macaulay, George G Rhoads, Barbara Paris, Aleksandra Zagorin, David W Sanders, Khwaja J Zakriya, Jay Magaziner	2014	Journal Article
Corenblum,Berna	Discontinuation of dopamine agonists after treatment of prolactinoma.	Bernard Corenblum	2014	Journal Article
Cowie,Robert	Variable agreement among experts regarding Mycobacterium avium complex lung disease.	Marras TK, Prevots DR, Jamieson FB, Winthrop KL, Pulmonary MAC Outcomes Group.	2014	Journal Article
	Exacerbation-like respiratory symptoms in individuals without chronic obstructive pulmonary disease: results from a population-based study	Tan W-C, Bourbeau J Hernandez P, Chapman KR, Cowie R, Fitzgerald JM, Marciniuk D, Maltais F, Buist AS, O'Donnell DE, Sin DD, Aaron S.	2014	Journal Article
	Quality assurance of spirometry in a population-based study - predictors of good outcome in spirometry testing. COPD 2014;11:143-51	Tan W-C, Bourbeau J, O'Donnell DE, Aaron S, Maltais F, Marciniuk D, Hernandez P, Cowie R, Chapman KR, Buist AS, Sin DD, Fitzgerald JM.	2014	Journal Article
Daly,Andrew	High serum level of antithymocyte globulin immediately before graft infusion is associated with a low likelihood of chronic, but not acute, graft-versus-host disease.	Chawla S, Dharmani-Khan P, Liu Y, Prokopishyn N, Amlish Munir M, Griffiths C, Khan FM, Stewart DA, Russell JA, Daly A, Storek J	2014	Journal Article
	Immune Cell Subset Counts Associated with Graft-versus-Host Disease.	Podgorny PJ, Liu Y, Dharmani-Khan P, Pratt LM, Jamani K, Luider J, Auer-Grzesiak I, Mansoor A, Williamson TS, Ugarte-Torres A, Hoegh-Petersen M, Stewart DA, Daly A, Khan FM, Russell JA, Storek J	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Donovan, Lois	Fludarabine metabolite level on day zero does not affect outcomes of hematopoietic cell transplantation in patients with normal renal function.	Griffiths CD, Ng ES, Kangarloo SB, Williamson TS, Chaudhry MA, Booker R, Duggan P, Yue P, Savoie L, Brown C, Cox-Kennett N, Russell JA, Daly A, Storek J	2014	Journal Article
	Diagnostic thresholds for gestational diabetes and their impact on pregnancy outcomes: a systematic review	L. Hartling <sup>1,*</sup> , D. M. Dryden <sup>1</sup> , A. Guthrie <sup>1</sup> , M. Muisel <sup>1</sup> , B. Vandermeer <sup>1</sup> , L. Donovan	2014	Journal Article
	Insulin pump use in pregnancy is associated with lower HbA1c without increasing the rate of severe hypoglycaemia or diabetic ketoacidosis in women with type 1	Melissa M. Kallas-Koeman & Jason M. Kong & Jennifer A. Klinke & Sonia Butalia & Abhay K. Lodha & Ken I. Lim & Qiuli M. Duan & Lois E. Donovan	2014	Journal Article
Duggan, Peter	Fludarabine metabolite level on day zero does not affect outcomes of hematopoietic cell transplantation in patients with normal renal function.	Griffiths CD, Ng ES, Kangarloo SB, Williamson TS, Chaudhry MA, Booker R, Duggan P, Yue P, Savoie L, Brown C, Cox-Kennett N, Russell JA, Daly A, Storek J.	2014	Journal Article
	Results of a prospective phase II trial evaluating interim positron emission tomography-guided high dose therapy for poor prognosis diffuse large B-cell lymphoma.	Stewart DA, Kloiber R, Owen C, Bahlis NJ, Duggan P, Mansoor A, Bence-Bruckler I.	2014	Journal Article
Edwards, Alun	Prospective Assessment of Hypoglycemia Symptoms in Children and Adults with Type 1 Diabetes.	Amin, A, Lau L, Crawford S, Edwards A, Pacaud D.	2014	Journal Article
	Effect of Vitamin D Supplementation on Improving Glucose Homeostasis and Preventing Diabetes: A Systematic Review and Meta-Analysis.	Seida JC, Mitri J, Colmers I, Majumdar SR, Davidson MB, Edwards AL, Hanley DA, Pittas AG, Tjosvold L, Johnson JA.	2014	Journal Article
	Association between participation in a brief diabetes education program and glycaemic control in adults with newly diagnosed diabetes	James MT, Weaver RG, Hemmelgarn B, Rabi DM, Sargious PM, Edwards AL, Manns B, Tonelli M.	2014	Journal Article
	Seeing the forests and the trees – Innovative approaches to exploring heterogeneity in systematic reviews of complex interventions to enhance health system decision making: A protocol.	54. Ivers N, Tricco AC, Trikalinos TA, Dahabreh IJ, Danko KJ, Moher D, Straus SE, Lavis J, Yu CH, Shojania K, Manns B, Tonelli M, Ramsay T, Edwards A, Sargious P, Paprica P, Hillmer M and Grimshaw JM.	2014	Journal Article



Name	Title	Authorship	Publish Year	Type
Eksteen,J. Albertus	Characterization of Animal Models for Primary Sclerosing Cholangitis (PSC).	Fickert P, Pollheimer MJ, Beuers U, Lackner C, Hirschfield G, Housset C, Keitel V, Schramm C, Hanss-Ulrich M, Karlsen T, Melum E, Kaser A, Eksteen B, Strassabosco M, Manns M, Trauner M	2014	Journal Article
	Vascular cell adhesion molecule 1 expression by biliary epithelium promotes persistence of inflammation by inhibiting effector T-cell apoptosis.	Afford SC, Humphreys EH, Reid DT, Russell CL, Banz VM, Oo Y, Vo T, Jenne C, Adams DH, Eksteen B.	2014	Journal Article
	Osteopontin neutralisation abrogates the liver progenitor cell response and fibrogenesis in mice.	Coombes JD, Swiderska-Syn M, Dollé L, Reid D, Eksteen B, Claridge L, Briones-Orta MA, Shetty S, Oo YH, Riva A, Chokshi S, Papa S, Mi Z, Kuo PC, Williams R, Canbay A, Adams DH, Diehl AM, van Grunsven LA, Choi SS, Syn WK.	2014	Journal Article
	VCAM-1 expression by biliary epithelium promotes persistence of inflammation by inhibiting effector T cell apoptosis.	Afford SC, Humphreys EH, Reid DT, Russell CL, Banz VM, Oo Y, Vo T, Jenne C, Adams DH, Eksteen B.	2014	Journal Article
	ANCA: a promising biomarker in primary sclerosing cholangitis (PSC).	Stinton LM, Bentow C, Mahler M, Norman GL, Eksteen B, Mason AL, Kaplan GG, Lindkvist B, Hirschfield GM, Milkiewicz P, Cheung A, Janssen HL, Fritzier MJ.	2014	Journal Article
	Colorectal cancer surveillance in patients with inflammatory bowel disease and primary sclerosing cholangitis: an economic evaluation.	Negrón ME, Kaplan GG, Barkema HW, Eksteen B, Clement F, Manns BJ, Coward S, Panaccione R, Ghosh S, Heitman SJ.	2014	Journal Article
	Serrated adenoma prevalence in inflammatory bowel disease surveillance colonoscopy, and characteristics revealed by chromoendoscopy and virtual chromoendoscopy.	Iacucci M, Hassan C, Fort Gasia M, Urbanski S, Gui X, Eustace G, Kaplan G, Eksteen B, Panaccione R.	2014	Journal Article
Fabreau,Gabriel	Sex, Socioeconomic Status, Access to Care and Outcomes for Acute Coronary Syndromes in the Context of Universal Healthcare Coverage	Gabriel E. Fabreau MD, MPH Alexander A. Leung MD, MPH Danielle A. Southern MSc Merrill L. Knudtson MD J. Michael McWilliams, MD, PhD  John Z. Ayanian MD, MPP	2014	Journal Article
Fell,Charlene	Reconciling healthcare professional and patient perspectives in the development of disease activity and response criteria in connective tissue disease-related interstitial lung diseases.	Saketkoo LA, Mittoo S, Frankel S, LeSage D, Sarver C, Phillips K, Strand V, Matteson EL; OMERACT Connective Tissue Disease–Interstitial Lung Diseases Working Group;	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Pulmonary Manifestations of Systemic Lupus Erythematosus	Shikha Mittoo, Charlene D Fell	2014	Journal Article
	Connective tissue disease related interstitial lung diseases and idiopathic pulmonary fibrosis: provisional core sets of domains and instruments for use in clinical trials.	Saketkoo LA, Mittoo S, Huscher D, Khanna D, Dellaripa PF, Distler O, Flaherty KR, Frankel S, Oddis CV, Denton CP, Fischer A, Kowal-Bielecka OM, LeSage D, Merkel PA, Phillips K, Pittrow D, Swigris J, Antoniou K, Baughman RP, Castelino FV, Christmann RB, Christopher-Stine L, Collard HR, Cottin V, Danoff S, Highland KB, Hummers L, Shah AA, Kim DS, Lynch DA, Miller FW, Proudman SM, Richeldi L, Ryu JH, Sandorfi N, Sarver C, Wells AU, Strand V, Matteson EL, Brown KK, Seibold JR; CTD-ILD Special Interest Group.	2014	Journal Article
	Efficacy and safety of nintedanib in idiopathic pulmonary fibrosis.	Richeldi L, du Bois RM, Raghu G, Azuma A, Brown KK, Costabel U, Cottin V, Flaherty KR, Hansell DM, Inoue Y, [.....], Wenzel M, Westerman J, Lasky J, Demedts M, Casteels M, Loddenkemper R, Michaelis J, Roman J, Tino G, Luisetti M.	2014	Journal Article
	Smoking related idiopathic interstitial pneumonia:	Flaherty, Kevin R; Fell, Charlene; Aubry, Marie-Christine; Brown, Kevin; Colby, Thomas; Costabel, Ulrich; Franks, Teri J; Gross, Barry H; Hansell, David M; Kazerooni, Ella; Kim, Dong Soon; King, Talmadge E Jr; Kitachi, Masanori; Lynch, David; Myers, Jeff; Nagai, Sonoko; Nicholson, Andrew G; Poletti, Venerino; Raghu, Ganesh; Selman, Moises; Toews, Galen; Travis, William; Wells, Athol U; Vassallo, Robert; Martinez, Fernando J.	2014	Journal Article
Ferraz, Jose	Giardia duodenalis cathepsin B proteases degrade intestinal epithelial interleukin-8 and attenuate interleukin-8-induced neutrophil chemotaxis	Cotton J, Bhargava A, Ferraz JGP, Yates R, Beck PL, Buret A.	2014	Journal Article
	Impaired Hydrogen Sulfide Synthesis and IL-10 Signaling Underlies Hyperhomocysteinemia-	Flannigan KL, Agbor T, Blackler RW, Kim JJ, Khan W, Verdu E, Ferraz JGP, Wallace JL	2014	Journal Article
	Proresolution effects of hydrogen sulfide during colitis are mediated through hypoxia-inducible factor-1 $\alpha$	Flannigan KL, Agbor TA, Motta JP, Ferraz JG, Wang R, Buret AG, Wallace JL	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Field, Stephen	Opinions differ bt expertise in Mycobacterium avium complex disease	Marras TK, Prevots DR, Jamieson FB, Winthrop KL, pulmonary MAC outcomes group: Aksamit TR, Cantazaro A, Cowie RL, Czaja CA, Daley CL, Fennelly KP, Field SK, Fisher D, Gordin F, Griffith DE, Huitt GA, Iseman MD, Jarand J, Kasperbauer SH, Lauzardo M, Ruoss SJ, Stout J, von Reyn CF, Wilson JW	2014	Journal Article
	Prospective randomized placebo-controlled trial of simvastatin for the prevention of COPD exacerbations (STATCOPE)	Criner G, Connett J, Aaorn S, et al.	2014	Journal Article
	Overview of the management of cough: CHEST guideline and expert panel report.	Irwin RS, French CT, Lewis SZ, Chest expert cough panel.	2014	Journal Article
	Methodologies for the development of the management of cough: CHEST guideline and expert panel report.	Lewis SZ, Diekemper RL, French CT and CHEST expert cough panel.	2014	Journal Article
	Anatomy and neurophysiology of cough: CHEST guideline and expert panel report.	Canning BJ, Chang AB, Bolser DC, and CHEST guideline and expert panel report	2014	Journal Article
Fisher, Dina	An unusual case of appendicitis	Constantia C, Vayalumkal J, Fisher D	2014	Journal Article
	A 10-Year Population Based Study of 'Opt-Out' HIV Testing of Tuberculosis Patients in Alberta, Canada: National Implications	Long R, Niruban S, Heffernan C, Cooper R, Fisher D, Ahmed R, Egedahl M, Fur R	2014	Journal Article
	Overview of the Management of Cough: Chest Guideline and Expert panel Report	Irwin RS, French CT, Lewis, SZ, Diekemper RL, Gold PM, on behalf of the CHEST Expert Cough Panel	2014	Journal Article
	Opinions differ by expertise in Mycobacterium avium complex disease	Marras TK, Prevots DR, Jamieson FB, Winthrop KL; Pulmonary MAC outcomes Group.	2014	Journal Article
Flemons, Ward	The seamless transfer of care: A pilot study accessing the usability of an electronic transfer of care communications tool.	Santana , J Holroyd-Leduc, WW Flemons, M O'Beirne, D White, N Clayden, AJ Forster, WA Ghali	2014	Journal Article
	Identifying Emergency-Sensitive Conditions for the Calculation of an Emergency Care Inhospital Standardized Mortality Ratio	Berthelot S, Lang ES, Quan H, Stelfox HT, for the Panel on Emergency-Sensitive Conditions (PESC)*	2014	Journal Article
Fraser, Kristin	Can we avoid the guilt of shame in medical education?."	Kristin Fraser and Kevin McLaughlin	2014	Journal Article
	Sleep disturbances among medical students: A global perspective.	Azad MC, Fraser K, Rumana N, Abdullah AF, Shahana N, Hanly PJ, Turin TC.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Fritzler, Marvin	The emotional and cognitive impact of unexpected simulated patient death: a randomized controlled trial	Kristin Fraser, MD, James Huffman, MD, Irene Ma, MD, Matthew Sobczak, BSc, Joanne McIlwrick, MD, Bruce Wright, MD, and Kevin McLaughlin, PhD.	2014	Journal Article
	Redefining dermatomyositis: a description of new diagnostic criteria that differentiate pure dermatomyositis from overlap myositis with dermatomyositis features.	Troyanov Y, Targoff IN, Payette MP, Raynauld JP, Chartier S, Goulet JR, Bourré-Tessier J, Rich E, Grodzicky T, Fritzler MJ, Joyal F, Koenig M, Sénécal JL.	2014	Journal Article
	MuLGI1 autoantibodies associated with cerebellar degeneration.	Steriade C, Day G, Keith J, Fritzler MJ, Murray B.	2014	Journal Article
	Idiopathic inflammatory myopathies and the anti-synthetase syndrome: A comprehensive review.	Mahler M, Miller FW, Fritzler MJ.	2014	Journal Article
	Prevalence and Clinical Profiles of 'Autoantibody-Negative' Systemic Sclerosis Subjects.	Hudson M, Satoh M, Chan J, Tatibouet S, Mehra S, Baron M, Fritzler M. Fritzler.	2014	Journal Article
	International recommendations for the assessment of autoantibodies to cellular antigens referred to as anti-nuclear antibodies.	Agmon-Levin N, Damoiseaux J, Kallenberg C, Sack U, Witte T, Herold M, Bossuyt X, Musset L, Cervera R, Plaza-Lopez A, Dias C, José Sousa M, Radice A, Eriksson C, Hultgren O, Viander M, Khamashta M, Regenass S, Coelho Andrade LE, Wiik A, Tincani A, Rönnelid J, Bloch DB, Fritzler MJ, Chan EK, Garcia-De La Torre I, Konstantinov KN, Lahita R, Wilson M, Vainio O, Fabien N, Sinico RA, Meroni P, Shoenfeld Y.	2014	Journal Article
	Clinical and Serological Features of Patients Referred Through a Rheumatology Triage System Because of Positive Antinuclear Antibodies	Fitch-Rogalsky C, Steber W, Mahler M, Lupton T, Martin L, Barr S, Mosher D, Wick J, Fritzler MJ.	2014	Journal Article
	Pharmacogenetics: Can genes determine treatment efficacy and safety in childhood arthritis?	Schmeling H, Fritzler MJ, Benseler S.	2014	Journal Article
	Diagnostic Criteria of Systemic Sclerosis	Hudson M, Fritzler MJ. .	2014	Journal Article
	An Autoimmune Myositis-Overlap Syndrome Associated With Autoantibodies to Nuclear Pore Complexes: Description and Long-Term Follow-up of the Anti-Nup Syndrome.	Sénécal JL, Isabelle C, Fritzler MJ, Targoff IN, Goldstein R, Gagné M, Raynauld JP, Joyal F, Troyanov Y, Dabauvalle MC	2014	Journal Article
	Ultrastructural characterization of primary cilica in pathologically characterized human glioblastoma multiforme (GBM) tumors.	Moser JJ, Fritzler, MJ, Rattner JB.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	A Computational Method to Differentiate Normal Individuals, Osteoarthritis and Rheumatoid Arthritis Patients using Serum Biomarkers.	Heard BJ, Rosvold JM, Fritzler MJ, El-Gabalawy H, Wiley JP, Krawetz	2014	Journal Article
	Diagnostic Criteria of Systemic Sclerosis	Hudson M, Fritzler MJ	2014	Journal Article
	Review: The spectrum of anti-chromatin/nucleosome autoantibodies: Independent and interdependent biomarkers of disease	Mehra S, Fritzler MJ	2014	Journal Article
	Systemic sclerosis immunoglobulin induces growth and a pro-fibrotic state in vascular smooth muscle cells through the epidermal growth factor receptor	Arts MR, Baron M, Chokr N, Fritzler MJ	2014	Journal Article
	Autoantibodies in systemic autoimmune disorders.	Mahler M, Pierangeli S, Meroni PL, Fritzler MJ	2014	Journal Article
	Additional reasons to measure anti-PM1-Alpha antibodies in systemic sclerosis.	D'Aoust J, Hudson M, Mahler M, Baron M, Fritzler MJ.	2014	Journal Article
	PR3-ANCA: a promising biomarker for the diagnosis of primary sclerosing cholangitis (PSC).	Stinton LM, Bentow C, Mahler M, Norman GL; Eksteen B; Mason AL, Kaplan G, Lindkvist B, Hirschfield GM; Milkiewicz P, Cheung A, Janssen HLA, Fritzler MJ	2014	Journal Article
	Khalidi N. Systemic Sclerosis Sine Scleroderma: A Multicenter Study of 1417 Subjects.	Diab S, Dostrovsky N, Hudson M, Tatibouet S, Fritzler MJ, Baron M	2014	Journal Article
	Mammalian microtubule P-body dynamics are mediated by nesprin-1.	Rajgor D, Mellad JA, Soong D, Rattner JB, Fritzler MJ, Shanahan CM	2014	Journal Article
	Systemic sclerosis immunoglobulin induces growth and a pro-fibrotic state in vascular smooth muscle cells through the epidermal growth factor receptor.	Arts MR, Baron M, Chokr N, Fritzler MJ, Canadian Scleroderma Research Group (CSRG), Servant MJ.	2014	Journal Article
	Serum with phospholipase A2 receptor autoantibodies interferes with podocyte adhesion to collagen.	Skoberne A, Behnert A, Teng B, Fritzler MJ, Pajek J, Lindič J, Haller H, Schiffer M.	2014	Journal Article
	Autoantibodies to the Rpp25 Component of the Th/To Complex are the Most Common Antibodies in Patients with Systemic Sclerosis without Antibodies Detectable by Widely Available Commercial Tests.	Mahler M, Satoh M, Hudson M, Baron M, Chan JY, Chan EKL, Wick J, Fritzler MJ.	2014	Journal Article
	Current Concepts and Future Directions for the Assessment of Autoantibodies to Cellular Antigens Referred to as Anti-Nuclear Antibodies.	Mahler M, Meroni PL, Bossuyt X, Fritzler MJ.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Fruetel, Karen	Phospholipid-binding proteins differ in their capacity to induce autoantibodies and murine systemic lupus erythematosus.	Levine J, Subang R, Setty S, Cabrera J, Laplante P, Fritzler M, Rauch J.	2014	Journal Article
	Antiphospholipase A2 receptor autoantibodies: a comparison of three different immunoassays for the diagnosis of idiopathic membranous nephropathy	Behnert A, Schiffer M, Müller-Deile J, Beck LH Jr, Mahler M, Fritzler MJ	2014	Journal Article
	A controlled quality improvement trial to reduce the use of physical restraints in older hospitalized adults	.Enns EI, Rhemtulla R, Ewa V, Fruetel K, Holroyd-Leduc JM.	2014	Journal Article
Ghali, William	The Efficacy and Safety of the Novel Anticoagulants in Elderly Adults	Stacey Hall, Karen Fruetel	2014	Journal Article
	Hospital ward design and prevention of hospital-acquired infections: A prospective clinical trial.	Ellison J, Southern D, Holton D, Henderson E, Wallace J, Faris P, Ghali WA, Conly J.	2014	Journal Article
	Hypertension Outcome and Surveillance Team. Relationship between primary care physician visits and hospital/emergency use for uncomplicated hypertension, an ambulatory care-sensitive condition.	Walker RL, Chen G, McAlister FA, Campbell NR, Hemmelgarn BR, Dixon E, Ghali W, Rabi D, Tu K, Jette N, Quan H.	2014	Journal Article
	Addressing cost-related barriers to prescription drug use in Canada.	Tang KL, Ghali WA, Manns BJ.	2014	Journal Article
	Sex-related differences in access to care among patients with premature acute coronary syndrome.	Pelletier R, Humphries KH, Shimony A, Bacon SL, Lavoie KL, Rabi D, Karp I, Tsadok MA, Pilote L, GENESIS-PRAXY Investigators.	2014	Journal Article
	The seamless transfer of care: a pilot study assessing the usability of an electronic transfer of care communication tool.	Santana MJ, Holroyd-Leduc J, Flemons WW, O'Beirne M, White D, Clayden N, Forster AJ, Ghali WA.	2014	Journal Article
	An assessment of the efficacy of searching in biomedical databases beyond MEDLINE in identifying studies for a systematic review on ward closures as an infection control intervention to control outbreaks.	Kwon Y, Powelson SE, Wong H, Ghali WA, Conly JM.	2014	Journal Article
	The effect of a regional care model on cardiac catheterization rates in patients with Acute Coronary Syndromes.	Curran HJ, Hubacek J, Southern D, Galbraith D, Knudtson ML, Ghali WA, Graham MM1; APPROACH Investigators.	2014	Journal Article
	International variation in the definition of 'main condition' in ICD-coded health data.	Quan H, Moskal L, Forster AJ, Brien S, Walker R, Romano PS, Sundararajan V, Burnand B, Henriksson G, Steinum O, Driesler S, Pincus HA, Ghali WA.	2014	Journal Article



Name	Title	Authorship	Publish Year	Type
	Medical applications: a database and characterization of apps in Apple iOS and Android platforms.	*Seabrook HJ, Stromer JN, Shevkenek C, Bharwani A, de Grood J, Ghali WA.	2014	Journal Article
	Addressing cost-related barriers to prescription drug use in Canada.	*Tang KL, Ghali WA, Manns BJ.	2014	Journal Article
	Stakeholder views regarding patient discharge from intensive care: Suboptimal quality and opportunities for improvement.	Li P, Boyd J, Ghali WA, Stelfox HT.	2014	Journal Article
	Depression and disease severity in patients with premature acute coronary syndrome.	Pelletier R, Lavoie KL, Bacon SL, Thanassoulis G, Khan NA, Pilote L, GENESIS-PRAXY Investigators.	2014	Journal Article
	A meta-analysis to derive literature-based benchmarks for readmission and hospital mortality after patient discharge from intensive care.	Hosein F, Roberts DJ, Turin T, Zygun D, Ghali WA, Stelfox HT.	2014	Journal Article
	Sex, socioeconomic status, access to cardiac catheterization, and outcomes for acute coronary syndromes in the context of universal healthcare coverage.	*Fabreau GE, Leung AA, Southern DA, Knudtson ML, McWilliams JM, Ayanian JZ, Ghali WA.	2014	Journal Article
	Health system capacity and infrastructure for adopting innovations to care for patients with venous thromboembolic disease.	Southern DA, Poole J, Patel A, Waters N, Pilote L, Hull RD, Ghali WA.	2014	Journal Article
	Hospital ward design and prevention of hospital-acquired infections: A prospective clinical trial.	Ellison J, Southern DA, Holton D, Henderson E, Wallace J, Faris P, Ghali WA, Conly J.	2014	Journal Article
	Characterizing types of readmission after acute coronary syndrome hospitalization: implications for quality reporting.	Southern DA, *Ngo J, Martin BJ, Galbraith PD, Knudtson ML, Ghali WA, James MT, Wilton SB.	2014	Journal Article
	Contrast-associated AKI and use of cardiovascular medications after acute coronary syndrome.	*Leung KC, Pannu N, Tan Z, Ghali WA, Knudtson ML, Hemmelgarn BR, Tonelli M, James MT, for the APPROACH and AKDN Investigators. Contrast-associated AKI and use of cardiovascular medications after acute coronary syndrome. Clin J Am Soc Nephrol. 2014;9(11):1840-8.	2014	Journal Article
	Predictors of Intraoperative Hypotension and Bradycardia.	Cheung CC, Martyn A, Campbell N, Frost S, Gilbert K, Michota F, Seal D, Ghali W, Khan NA.	2014	Journal Article
	Estimation of post-test probabilities by residents: Bayesian reasoning versus heuristics?	Hall S, Phang SH, Schaefer JP, Ghali W, Wright B, McLaughlin K.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	How many diagnosis fields are needed to capture safety events in administrative data? Findings and recommendations from the WHO ICD-11 Topic Advisory Group on Quality and Safety.	Drosler SE, Romano PS, Sundararajan V, Burnand B, Colin C, Pincus H, Ghali W.	2014	Journal Article
	Clonidine in patients undergoing noncardiac surgery.	Devereaux PJ, Sessler DI, Leslie K, Kurz A, Mrkobrada M, Alonso-Coello P, Villar JC, Sigamani A, Biccard BM, Meyhoff CS, Parlow JL, Guyatt G, Robinson A, Garg AX, Rodseth RN, Botto F, Lurati BG, Xavier D, Chan MT, Tiboni M, Cook D, Kumar PA, Forget P, Malaga G, Fleischmann E, Amir M, Eikelboom J, Mizera R, Torres D, Wang CY, VanHelder T, Paniagua P, Berwanger O, Srinathan S, Graham M, Pasin L, Le MY, Gao P, Pogue J, Whitlock R, Lamy A, Kearon C, Chow C, Pettit S, Chrolavicius S, Yusuf S, Poise 2 Investigators.	2014	Journal Article
	Aspirin in patients undergoing noncardiac surgery.	Devereaux PJ, Mrkobrada M, Sessler DI, Leslie K, Alonso-Coello P, Kurz A, Villar JC, Sigamani A, Biccard BM, Meyhoff CS, Parlow JL, Guyatt G, Robinson A, Garg AX, Rodseth RN, Botto F, Lurati BG, Xavier D, Chan MT, Tiboni M, Cook D, Kumar PA, Forget P, Malaga G, Fleischmann E, Amir M, Eikelboom J, Mizera R, Torres D, Wang CY, VanHelder T, Paniagua P, Berwanger O, Srinathan S, Graham M, Pasin L, Le MY, Gao P, Pogue J, Whitlock R, Lamy A, Kearon C, Baigent C, Chow C, Pettit S, Chrolavicius S, Yusuf S, POISE-2 Investigators.	2014	Journal Article
	A real-time locating system observes physician time-motion patterns during walk-rounds: a pilot study.	*Ward DR, Ghali WA, Graham A, Lemaire JB.	2014	Journal Article
	Sex-based disparities in cardioprotective medication use in adults with diabetes.	Butalia S, Lewin AM, Simpson SH, Dasgupta K, Khan N, Pilote L, Johnson JA, Ghali WA, Rabi DM.	2014	Journal Article
	Sex- and gender-related risk factor burden in patients with premature acute coronary syndrome.	Choi J, Daskalopoulou SS, Thanassoulis G, Karp I, Pelletier R, Behloul H, Pilote L, GENESIS-PRAXY Investigators.	2014	Journal Article
	Prediction of stroke or TIA in patients without atrial fibrillation using CHADS2 and CHA2DS2-VASc scores.	Mitchell LB, Southern DA, Galbraith D, Ghali WA, Knudtson M, Wilton SB.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Ghosh, Subrata	Likelihood of coronary angiography among First Nations patients with acute myocardial infarction.	*Bresee LC, Knudtson ML, Zhang J, Crowshoe LL, Ahmed SB, Tonelli M, Ghali WA, Quan H, Manns B, Fabreau G, Hemmelgarn BR.	2014	Journal Article
	Association Between Diabetic Ketoacidosis Hospitalizations and Driving Distance to Outpatient Diabetes Centres in Adults With Type 1 Diabetes Mellitus.	*Butalia S, Patel AB, Johnson JA, Ghali WA, Rabi DM.	2014	Journal Article
	Novel irregular vascular pattern features of serrated adenoma detected by high-definition iScan endoscopic technique	Iacucci M, Xianyong G, Love J, Eustace G, Ghosh S	2014	Journal Article
	Cumulative incidence of second intestinal resection in Crohn's disease: a systematic review and meta-analysis of population-based studies	Frolkis AD, Lipton DS, Fiest KM, Negrón ME, Dykeman J, deBruyn J, Jette N, Frolkis T, Rezaie A, Seow CH, Panaccione R, Ghosh S, Kaplan GG	2014	Journal Article
	Clostridium Difficile Infection Worsens the Prognosis of Ulcerative Colitis.	Negrón ME, Barkema HW, Rioux K, De Buck J, Checkley S, Proulx M, Frolkis A, Beck PL, Dieleman LA, Panaccione R, Ghosh S, Kaplan GG	2014	Journal Article
	Inflammatory Bowel Disease Cause-Specific Mortality: A Primer for Clinicians	Kassam Z, Belga S, Roifman I, Hirota S, Jijon H, Kaplan GG, Ghosh S, Beck PL	2014	Journal Article
	Colorectal Cancer Surveillance in Patients with Inflammatory Bowel Disease and Primary Sclerosing Cholangitis: An Economic Evaluation	Negrón ME, Kaplan GG, Barkema HW, Eksteen B, Clement F, Manns BJ, Coward S, Panaccione R, Ghosh S, Heitman SJ	2014	Journal Article
	Medical Management of Toxic Megacolon	Ghosh S, Iacucci M	2014	Journal Article
	Funding a Smoking Cessation Program for Crohn's Disease: An Economic Evaluation	Coward S, Heitman SJ, Clement F, Negron M, Panaccione R, Ghosh S, Barkema HW, Seow C, Leung YPY, and Kaplan GG	2014	Journal Article
	Opposing effects of smoking in ulcerative Colitis and Crohn's disease may be explained by differential effects on dendritic cells.	Ueno A, Jijon H, Traves S, Chan R, Ford K, Beck PL, Iacucci M, FortGasia M, Barkema HW, Panaccione R, Kaplan GG, Proud D, Ghosh S	2014	Journal Article
	Role of immunosuppressives in special situation: Perianal disease and postoperative period	Ghosh S, Iacucci M	2014	Journal Article
	Phenotypic features of Crohn's disease associated with failure of medical treatment	Moran GW, Dubeau M, Kaplan GG, Yang H, Seow CH, Fedorak RN, Dieleman LA, Barkema HW, Ghosh S, Panaccione R	2014	Journal Article
	Upper-Gastrointestinal Bleeding Secondary to Peptic Ulcer Disease: Incidence and Outcomes	Quan S, Frolkis A, Milne K, Molodecky N, Yang H, Dixon E, Ball CG, Myers RP, Ghosh S, Hilsden R, Veldhuyzen S van Zanten, and Kaplan GG.	2014	Journal Article

<b>Name</b>	<b>Title</b>	<b>Authorship</b>	<b>Publish Year</b>	<b>Type</b>
	Predictors of Mortality Among Patients Undergoing Colectomy for Ischemic Colitis: A Population-Based U.S. Study	Sadler MD, Ravindran NC, Hubbard J, Myers RP, Ghosh S, Bec kPL, Dixon E, Chad B, Prusinkiewicz C, Heitman SJ, and Kaplan GG	2014	Journal Article
Gibson,Paul	Diagnosis, Evaluation, and Management of the Hypertensive Disorders of Pregnancy: Executive Summary	Magee LA, Pels A, Helewa M, Rey E, von Dadelszen P, Audibert F, Bujold E, Côté AM, Douglas MJ, Eastabrook G, Firoz T, Gibson P, Gruslin A, Hutcheon J, Koren G, Lange I, Leduc L, Logan AG, MacDonell KL, Moutquin JM, Sebbag I.	2014	Journal Article
	Venous Thromboembolism and Antithrombotic Therapy in Pregnancy	Chan WS, Kent NE, Rey E, Corbett T, David M, Douglas MJ, Gibson PS, Magee L, Rodger M, MD, Smith RE.	2014	Journal Article
	Diagnosis, evaluation, and management of the hypertensive disorders of pregnancy	Magee LA, Pels A, Helewa M, Rey E, von Dadelszen P, Audibert F, Bujold E, Côté AM, Douglas MJ, Eastabrook G, Firoz T, Gibson P, Gruslin A, Hutcheon J, Koren G, Lange I, Leduc L, Logan AG, MacDonell KL, Moutquin JM, Sebbag I.	2014	Journal Article
Gill,John	Micronutrient deficiency and treatment adherence in a randomized controlled trial of micronutrient supplementation in ART-Naive person with HIV	Balfour L, Spaans JN, Fergusson D, Huff H, Mills EJ, la Porte CJ, Walmsley S, Singhal N, Rosenes R, Tremblay N, Gill MJ, Loemba H, Conway B, Rachlis A, Ralph E, Loutfy M, Mallick R, Moorhouse R, Cameron DW, on behalf of the MAINTAIN Study Group	2014	Journal Article
	Impact of risk factors for specific causes death in the first and subsequent years of ART among HIV-infected patients	Ingle SM, May MT, Gill MJ, Mugavero MJ, Lewden C, Abgrall S, Fatkenheuer G, Reiss P, Saag MS, Manzardo C, Grabar S, Bruyand M, Moore D, Mocroft A, Sterling TR, D'Arminio Monforte A, Hernando V, Teira R, 262. Guest J, Cavassini M, Crane HM, Sterne JAC..	2014	Journal Article
	Virological characteristics of occult hepatitis B virus in a North American Cohort of human immunodeficiency virus -7type 1-positive patients on dual active anti-HBV/HIV therapy.	Coffin C, Mulrooney-Cousins, PM, Osiowy C, van der Meer F, Nishikawa S, Michalak TI, van Marle G, Gill MJ.	2014	Journal Article

<b>Name</b>	<b>Title</b>	<b>Authorship</b>	<b>Publish Year</b>	<b>Type</b>
	The effects of HIV-1 subtype and ethnicity on the rate of CD4 cell count decline in patients' naïve to antiretroviral therapy: a Canadian-European collaborative retrospective cohort study.	Klein MB, Young J, Dunn D, Ledergerber B, Sabin C, Cozzi-Lepri, A, Dabis F, Harrigan R, Tan DH, Walmsley S, Gill MJ, Cooper C, Scherrer AU, Mocroft A, Hogg RS, Smail for the Canadian-European Clade Collaboration.	2014	Journal Article
	Cohort profile: Antiretroviral Therapy Cohort Collaboration (ART-CC).	May MT, Ingle SM, Costagliola D, Justice AC, de Wolf F, Cavassini M, D'Arminio Monforte A, Casabona J, Hogg RS, Mocroft A, Lampe FC, Dabis F, Fatkenheuer G, Sterling TR, del Amo J, Gill MJ, Crane HM, Saag MS, Guest J, Brodt HR, Sterne JAC, and the Antiretroviral Cohort Collaboration.	2014	Journal Article
	Mortality in patients with HIV-1 infection starting antiretroviral therapy in South America, Europe or North America: a collaborative analysis of prospective study.	Boulle A, Schomaker M, May M, Hogg RS, Shepherd B, Monge S, Keiser O, Lampe F, Giddy J, Ndirangu J, Garone D, Fox M, Ingle SM, Reiss P, Dabis F, Costagliola D, Castagna A, Ehren K, Campbell C, Gill JM, Saag M, Justice AC, Guest J, Crane HM, Egger M, Sterne JAC.	2014	Journal Article
	Evaluation of Rapid Progressors in HIV infection as an extreme phenotype. Journal of Acquired Immune Deficiency Syndromes	Olson AD, Guiguet M, Zangerle R, Gill MJ, Perez-Hoyos S, Lodi S, Ghosn J, Dorrucci M, Johnson A, Sannes M, Moreno S, Porter K for CASCADE Collaboration in EuroCoord.	2014	Journal Article
	Long-term mortality in HIV positive individuals virally suppressed for more than three years with incomplete CD4 recovery.	The Antiretroviral Therapy Cohort Collaboration (ARRT-CC) and the Collaboration of Observational HIV Research Europe (COHERE) in EuroCoord. Engsig FN, Zangerle R, Katsarou O, Dabis F, Reiss P, Gill MJ, Porter K, Sabin C, Riordan A, Fatkenheuer G, Gutierrez, F, Raffi F, Kirk O, Mary-Krause, M, Stephan C, Garcia de Olalla P, Guest J, Samji H, Castagna A, d'Arminio Monforte A, Skaletz-Rorowski A, Ramos J, Lapadula G, Mussini C, Force L, Meyer L, Lampe F, Boufassa F, Bucher HC, De Wit S, Burkholder G, Teira R, Justice A, Sterling TR, Crane H, Gerstoft J, Grarup J, May M, Chene G, Ingle SM, Sterne J, Obel N.	2014	Journal Article

<b>Name</b>	<b>Title</b>	<b>Authorship</b>	<b>Publish Year</b>	<b>Type</b>
	High mortality among human immunodeficiency virus (HIV)-infected individuals before accessing or linking to HIV care: a missing outcome in the cascade of care?	Krentz HB, MacDonald J, Gill MJ.	2014	Journal Article
	Disparities in the quality of HIV care when using US Department of Health and Human Services indicators.	Althoff KN, Rebeiro P, Brooks JT, Buchacz K, Gebo K, Martin JN, Hogg R, Thorne JE, Klein M, Gill MJ, Sterling TR, Yehia B, Silverberg MJ, Crane H, Justice AC, Gange SJ, Moore RD, Kitahata MM, Horberg MA for the North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD).	2014	Journal Article
	Correlates of drug use cessation among participants in the Canadian HIV-HCV Co-infection Cohort	Cox J, Maurais E, Hu L, Moodie EEM, Law S, Bozinoff N, Potter M, Rollet K, Hull M, Tyndall M, Cooper C, Gill J, Saeed S, Klein MB. The Canadian Co-Infection Cohort (CTN 222)	2014	Journal Article
	Mortality in HIV-hepatitis C co-infected patients in Canada compared to the general Canadian population (2003-2013).	Klein MB, Rollet-Kurhajec KC, Moodie EEM, Yaphe S, Tyndall M, Walmsley S, Gill MJ, Martel-Laferrriere, Cooper Cu, for the Canadian Co-Infection Cohort Investigators.	2014	Journal Article
	Incidence and risk factors of HPV-related and HPV-unrelated head and neck squamous cell carcinoma in HIV infected individual.	Beachler DC, Abraham AG, Silverberg MJ, Jing Y, Fakhry C, Gill MJ, Dubrow R, Kitahata MM, Klein MB, Burchell AN, Korthuis PT, Moore RD, D'Souza G, on behalf of the North American AIDS Cohort Collaboration on Research and Design (NA-ACCOR) of IeDEA.	2014	Journal Article
	Strong agreement between alternative HIV clinical retention indicators from the Institute of Medicine and the Department of Health and Human Services.	Rebeiro PF, Horberg MA, Gange SJ, Gebo KA, Yehia BR, Brooks JT, Buchacz K, Silverberg MJ, Gill MJ, Moore RD, Althoff KN, for the North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD).	2014	Journal Article
Girard,Louis	Validation of a histopathologic classification scheme for ANCA associated vasculitis.	Nohr E, Girard L, James M, and Benediktsson H.	2014	Journal Article
Gupta,Milli	Screening for Barrett's Esophagus: Results from a Population Based Survey	Gupta M, Beebe TJ,Dunagan KT, Schleck CD, Zinmeister AR, Talley NJ, Locke GR3rd, Iyer PG	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Haber, Richard	Positive correlation between endoscopist radiofrequency ablation volume and response rates in Barrett's esophagus.	Fudman DI, Lightdale CJ, Poneros JM, Ginsberg GG, Falk GW, Demarshall M, Gupta M, Iyer PG, Lutzke L, Wang KK, Abrams JA.	2014	Journal Article
	Screening for Barrett's esophagus: results from a population-based survey	Gupta M, Beebe TJ, Dunagan KT, Schleck CD, Zinsmeister AR, Talley NJ, Locke GR 3rd, Iyer PG	2014	Journal Article
	Trends in the association between pyoderma gangrenosum and autoimmune hepatitis: Case report and review of the literature	Wat H, Haber RM	2014	Journal Article
	Bilateral acromial dimples: A case report and review of the literature.	Debosz J, Haber RM	2014	Journal Article
	Focal dermal hypoplasia: report of a case with myelomeningocele, Arnold-Chiari malformation and hydrocephalus with a review of neurologic manifestations of Goltz syndrome.	Peters T, Perrier R, Haber RM.	2014	Journal Article
	Mosaic generalized neurofibromatosis 1	Hardin J, Behm A, Haber RM	2014	Journal Article
	Onychomadesis: Literature Review	Hardin J, Haber RM.	2014	Journal Article
	Moisturizers and Ceramide-containing Moisturizers May Offer Concomitant Therapy with Benefits	Chuck W. Lynde, Md; Anneke Andriessen, Phd; Benjamin Barankin, Md; Gillian De Gannes, Md; Wayne Gulliver, Md; Richard Haber, Md; Catherine Mccuaig, Md; Poonam Rajan, Md; Sandra P. Skotnicki, Md; Richard Thomas, Md; Jack Toole, Md; Ron Vender, Md	2014	Journal Article
	Eruptive disseminated porokeratosis: a new classification system	Shoimer I, Robertson R, Storwick G, Haber RM	2014	Journal Article
	Bisphosphonates for treatment of osteoporosis: expected benefits, potential harms, and drug holidays.	Brown JP, Morin S, Leslie W, Papaioannou A, Cheung AM, Davison KS, Goltzman D, Hanley DA, Hodsmen A, Josse R, Jovaisas A, Juby A, Kaiser S, Karaplis A, Kendler D, Khan A, Ngui D, Olszynski W, Ste-Marie LG, Adachi J.	2014	Journal Article
Hanley, David	The causal effect of vitamin D binding protein (DBP) levels on calcemic and cardiometabolic diseases: a Mendelian randomization study.	Leong A, Rehman W, Dastani Z, Greenwood C, Timpson N, Langsetmo L, Berger C; METASTROKE, Fu L, Wong BY, Malik S, Malik R, Hanley DA, Cole DE, Goltzman D, Richards JB.	2014	Journal Article



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	Mutations in SLC34A3/NPT2c are associated with kidney stones and nephrocalcinosis.	Dasgupta D, Wee MJ, Reyes M, Li Y, Simm PJ, Sharma A, Schlingmann KP, Janner M, Biggin A, Lazier J, Gessner M, Chrysis D, Tuchman S, Baluarte HJ, Levine MA, Tiosano D, Insogna K, Hanley DA, Carpenter TO, Ichikawa S, Hoppe B, Konrad M, Säwendahl L, Munns CF, Lee H, Jüppner H, Bergwitz	2014	Journal Article
	Prospectively measured 10-year changes in health-related quality of life and comparison with cross-sectional estimates in a population-based cohort of adult women and men.	Hopman WM, Berger C, Joseph L, Zhou W, Prior JC, Towheed T, Anastassiades T, Adachi JD, Hanley DA, Papadimitropoulos EA, Kirkland S, Kaiser SM, Josse RG, Goltzman D; CaMos Research Group.	2014	Journal Article
	Critical impact of patient knowledge and bone density testing on starting osteoporosis treatment after fragility fracture: secondary analyses from two controlled trials.	Majumdar SR, McAlister FA, Johnson JA, Weir DL, Bellerose D, Hanley DA, Russell AS, Rowe BH.	2014	Journal Article
	The VITAH trial VITamin D supplementation and cardiac Autonomic tone in Hemodialysis: a blinded, randomized controlled trial.	Mann MC, Exner DV, Hemmelgarn BR, Hanley DA, Turin TC, MacRae JM, Ahmed SB. T	2014	Journal Article
	Clinical review: Effect of vitamin D3 supplementation on improving glucose homeostasis and preventing diabetes: a systematic review and meta-analysis.	Seida JC, Mitri J, Colmers IN, Majumdar SR, Davidson MB, Edwards AL, Hanley DA, Pittas AG, Tjosvold L, Johnson JA.	2014	Journal Article
	Choice of lumbar spine bone density reference database for fracture prediction in men and women: a population-based analysis.	Leslie WD, Langsetmo L, Zhou W, Goltzman D, Kovacs CS, Prior J, Josse R, Olszynski WP, Davison KS, Anastassiades T, Towheed T, Hanley DA, Kaiser SM, Lentle B, Kreiger N; CaMos Research Group	2014	Journal Article
	Bone microarchitecture and strength of the radius and tibia in a reference population of young adults: an HR-pQCT study.	Burt LA, Macdonald HM, Hanley DA, Boyd SK.	2014	Journal Article
Hanly, Patrick	Evaluation of continuous positive airway pressure therapy on Renin-Angiotensin system activity in obstructive sleep apnea.	Nicholl D, Hanly P, Poulin M, Handley G, Sola D, Hemmelgarn B, Ahmed S.	2014	Journal Article
	Short-term potentiation in the control of pharyngeal muscles in obstructive apnea patients.	Younes M, Loewen A, Ostrowski M, Hanly P.	2014	Journal Article
	Sleep apnea and the kidney: is sleep apnea a risk factor for chronic kidney disease?	Hanly P, Ahmed S.	2014	Journal Article

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	Cyclooxygenases 1 and 2 differentially regulate blood pressure and cerebrovascular responses to acute and chronic intermittent hypoxia: implications for sleep apnea.	Beaudin A, Pun M, Yang C, Nicholl D, Steinbeck C, Slater DM, Wynne-Edwards K, Hanly P, Ahmed S, Poulin M.	2014	Journal Article
	Relationship between arousal intensity and heart rate response to arousal.	Azarbarzin A, Ostrowski O, Hanly P, Younes M.	2014	Journal Article
	Evaluation of continuous positive airway pressure therapy on Renin-Angiotensin system activity in obstructive sleep apnea.	Nicholl D, Hanly P, Poulin M, Handley G, Sola D, Hemmelgarn B, Ahmed S.	2014	Journal Article
	Limitations of split-night polysomnography for the diagnosis of nocturnal hypoventilation and titration of noninvasive positive pressure ventilation in Amyotrophic Lateral Sclerosis.	Loewen A, Korngut L, Rimmer K, Hanly P.	2014	Journal Article
	Obstructive sleep apnea and driving: A Canadian Thoracic Society and Canadian Sleep Society position paper.	Ayas N, Skomro R, Blackman A, Curren K, Fitzpatrick M, Fleetham J, George C, Hanly P, Li C, Morrison D, Series F.	2014	Journal Article
Hawkins,Tarisha	Atrial Mass in a Pregnant Patient with Antiphospholipid Syndrome	Bhavsar SV, Hawkins TL, Castillo E	2014	Journal Article
Hazlewood,Glen	The Comparative Efficacy of Remission Maintenance Therapy in Adult Patients with ANCA-Associated Vasculitis: A Bayesian Network Meta-Analysis	Hazlewood GS, Metzler C, Tomlinson G, Gross W, Feldman B, Guillevin L, Pagnoux C	2014	Journal Article
Heitman,Steven	The feasibility and reliability of transient elastography using Fibroscan: A practice audit of 2335 examinations.	Pang JX, Pradhan F, Zimmer S, Niu S, Crotty P, Tracey J, Schneider C, Heitman SJ, Kaplan GG, Swain MG, Myers RP.	2014	Journal Article
Hemmelgarn,Bren	Economic evaluation of frequent home nocturnal hemodialysis based on a randomized controlled trial.	Klarenbach SW, Culleton B, Tonelli M, Pauly R, So H, Walsh M, Hemmelgarn BR, Manns BJ.	2014	Journal Article
	Vitamin D supplementation is associated with improved modulation of cardiac autonomic tone in health humans.	Mann M, Exner D, Chowdhury TC, Hemmelgarn BR, Sola D, Ellis L, Ahmed SB.	2014	Journal Article
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	Willingness to use different types of information technology among patients with chronic non-communicable disease.	Ehteshami-Afshar A, Weaver, R, Lin M, Allan M, Sanmartin C, Lewanszuk R, Manns BJ, Hemmelgarn BR, Tonelli M.	2014	Journal Article
	Avoidable hospitalization in youth with kidney failure after transfer to or with only adult care.	Samuel S, Nettel-Aguirre A, Soo A, Hemmelgarn BR, Tonelli M, Foster B.	2014	Journal Article
	The association between financial barriers and care and outcomes for patients with chronic disease.	Campbell DJT, King-Shier K, Hemmelgarn BR, Ronksley PE, Sanmartin C, Weaver RG, Tonelli M, Hennessy D, Manns BJ.	2014	Journal Article
	The cost of kidney transplantation over time.	Barnieh L, Hemmelgarn BR, Klarenbach S, Yilmaz S, McLaughlin K, Manns BJ.	2014	Journal Article
	Sex influences the effect of body mass index on the vascular response to angiotensin II in humans.	Zalucky AA, Nicholl DDM, Mann MC, Hemmelgarn BR, Turin TC, MacRae JM, Sola D, Ahmed SB.	2014	Journal Article
	Relationship between primary care physicians visits and hospital emergency use for uncomplicated hypertension, an ambulatory care sensitive condition. Can J Cardiol 2014;30:1640-8.	Walker RL, Chen G, McAlister FA, Campbell NR, Hemmelgarn BR, Dixon E, Ghali W, Rabi D, Tu K, Jette N, Quan H.	2014	Journal Article
	Establishing a national knowledge translation and generation network in kidney disease: the Canadian KidNey Knowledge TraNslation and Generation NeTwork.	Manns B, Barrett B, Evans M, Garg A, Hemmelgarn BR, Kappel J, Klarenbach S, Madore F, Parfrey P, Samuel S, Soroka S, Suri R, Tonelli M, Wald R, Walsh M, Zappitelli M.	2014	Journal Article
	Effective chronic kidney disease care in European countries: challenges and opportunities for health policy.	Bello A, Levin A, Manns BJ, Feehally J, Drueke T, Faruque L, Hemmelgarn BR, Kernahan C, Mann J, Klarenbach S, Remuzzi G, Tonelli M.	2014	Journal Article
	Sociodemographic correlates of Vitamin D test utilization in Calgary, Alberta.	De Koning L, Henne D, Woods P, Hemmelgarn BR, Naugler C.	2014	Journal Article
	Short-term change in eGFR and risk of cardiovascular events.	Turin TC, James MT, Jun M, Tonelli M, Coresh J, Manns BJ, Hemmelgarn BR.	2014	Journal Article
	Safety, effectiveness and cost-effectiveness of long-acting versus intermediate-acting insulin for patients with type 1 diabetes: a systematic review and network meta-analysis.	Tricco A, Ashoor H, Antony T, Beyene J, Harrington A, Wilson C, Soobiah C, Yu C, Hutton B, Hoch J, Hemmelgarn BR, Majumder S, Straus SE.	2014	Journal Article
	Interpreting treatment effects from clinical trials in the context of real world risk information: the example of end-stage renal disease prevention in older adults.	O'Hare AM, Hotchkiss JR, Tamura MK, Larson EB, Hemmelgarn BR, Batten A, Covinsky KE.	2014	Journal Article

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Hilsden,Robert	Sessile serrated polyps at screening colonoscopy: have they been under diagnosed?	Tinmouth J, Henry P, Hsieh E, Baxter NN, Hilsden RJ, McGregor SE, Paszat LF, Ruco A, Saskin R, Schell AJ, Torlakovic EE, Rabeneck L.	2014	Journal Article
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Hogan,David	Strategies for discontinuing psychotropic medications	Hogan DB,	2014	Journal Article
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	Improving Prevention, Early Recognition and Management of Acute Kidney Injury after Major Surgery: A Planning Meeting with Multidisciplinary Stakeholders.	James MT, Dixon E, Roberts DJ, Barry R, Balint C, Bharwani A, Buie, WD, Godinez T, Hemmelgarn BR, Kortbeek JB, Manns BJ, Marin A, Scott-Douglas A, Stelfox, HT, Pannu N.	2014	Journal Article
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	Human Rhinovirus-Induced ISG15 Selectively Modulates Epithelial Antiviral Immunity	Zaheer RS, Wiehler S, Hudy MH, Traves SL, Pelikan JB, Leigh R, Proud D.	2014	Journal Article
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	A real-time locating system observes physician time-motion patterns during walk-rounds: a pilot study.	Ward DR, Ghali WA, Lemaire JB.	2014	Journal Article
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Loewen, Andrea	Limitations of split-night polysomnography for the diagnosis of nocturnal hypoventilation and titration of noninvasive positive pressure ventilation in Amyotrophic Lateral Sclerosis	Loewen AHS, Korngut L, Rimmer K, Damji O, Turin TC, Hanly PJ	2014	Journal Article
Ma, Irene Wai Yan	Notes from the Field: Direct Observation Versus Rating by Videos for the Assessment of Central Venous Catheterization Skills.	Ma IW, Zalunardo N, Brindle ME, Hatala R, McLaughlin K.	2014	Journal Article
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	Cognitive load imposed by knobology may adversely affect learners' perception of utility in using ultrasonography to learn physical examination skills, but not anatomy.	Jamniczky HA, McLaughlin K, Kaminska ME, Raman M, Somayaji R, Wright B, Ma IW	2014	Journal Article
	Measuring competence in central venous catheterization: a systematic-review.	Ma IW, Sharma N, Brindle ME, Caird J, McLaughlin K.	2014	Journal Article



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MacRae,Jennifer	Conservative Management of an Iatrogenic Arteriovenous Fistula	Miller RJH, MacRae JM, Mustata S. Department of Medicine and Division of Nephrology, Department of Medicine, University of Calgary	2014	Journal Article
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	Ultrafiltration biofeedback guided by blood volume monitoring to reduce intradialytic hypotensive episodes in hemodialysis:study protocol for a randomized controlled trial.	Leung KC, Quinn RR, RAvani P, MacRae JM	2014	Journal Article

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Manns, Braden	VITAH Trial: Vitamin D Supplementation and Cardiac Autonomic Tone in Hemodialysis – A Blinded, Randomized Controlled Trial	Mann M, Exner DV, Hemmelgarn BR, Hanley DA, Turin TC, MacRae JM and Ahmed SB.	2014	Journal Article
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	Clinical and Serological Features of Patients Referred through a Rheumatology Triage System because of Positive Antinuclear Antibodies Christie Fitch-Rogalsky, Whitney Steber, Michael Mahler, Terri Lupton, Liam Martin, Susan G. Barr, Dianne P. Mosher, James Wick, Marvin J. Fritzler	Fitch-Rogalsky C, Steber W, Mahler M, Lupton T, Martin L, Barr SG, Mosher DP, Wick J, Fritzler MJ	2014	Journal Article
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	Effect of Remission Definition on Cost Savings Estimates for Rheumatoid Arthritis Patients Treated with Biologic Therapies. J Rheumatol 2014;41(8):1600-6.	Barnabe C, Thanh N, Ohinmaa A, Homik J, Barr SG, Martin L, Maksymowych WP.	2014	Journal Article
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	Estimation of post-test probabilities by residents: Bayesian reasoning vs. heuristics?	Hall S, Phang SH, Schaefer JP, Ghali W, Wright B, McLaughlin K.	2014	Journal Article
	When I say...retroactive interference. Med Educ.	McLaughlin K.	2014	Journal Article
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	How do graduates of longitudinal integrated clerkships fare on the Medical Council of Canada Qualifying Exam Part II?	Woloschuk W, Myhre D, Jackson W, McLaughlin K, Wright B.	2014	Journal Article
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Meddings,Jonathan	Intestinal and Gastric Permeability in Children with Eosinophilic Esophagitis and Reflux Esophagitis	Leung AJ, Persad S, Slae M, Abdelradi A, Kluthe C, Shirton L, Danchuk R, Persad R, Meddings J, Huynh HQ	2014	Journal Article
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Minty,Evan	Using the Wisdom of Crowds to Find Critical Errors in a Biomedical Ontology.	Mortensen J, Minty E et al.	2014	Journal Article
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Mody,Christopher	A Twenty-Five Year Outbreak of Pseudomonas aeruginosa Infecting Individuals With Cystic Fibrosis: Identification of the Prairie Epidemic Strain (PES).	Parkins MD, Glezerson BA, Sibley CD, Sibley KA, Duong J, Purighalla S, Mody CH, Workentine ML, Storey DG, Surette MG, Rabin HR.	2014	Journal Article
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	Clinical and serological features of patients referred through a rheumatology triage system of positive antinuclear antibodies.	Fitch-Rogalsky C, Steber W, Mahler M, Lupton T, Martin L, Barr SG, Mosher DP, Wich J, Fritzler MJ.	2014	Journal Article



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	Burden of disease and cost of chronic hepatitis C infection in Canada.	Myers RP, Krajden M, Bilodeau M, Kaita K, Marotta P, Peltekian K, Ramji A, Estes C, Razavi H, Sherman M.	2014	Journal Article
	Sadler MD, Ravindran NC, Hubbard J, Myers RP, Ghosh S, Beck PL, Dixon E, Ball C, Prusinkiewicz C, Heitman SJ, Kaplan GG	Predictors of mortality among patients undergoing colectomy for ischemic colitis: A population-based United States study.	2014	Journal Article
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Nerenberg, Kara	Impact of Gestational Diabetes Mellitus and Maternal Obesity on the Development of Diabetes, Hypertension and Cardiovascular Disease: A Population-Level Analysis.	Kaul P, Savu A, Nerenberg KA, Donovan LE, Chic CL, Ryan EA, Johnson JA.	2014	Journal Article

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	Obesity prevention from conception: a workshop to guide the development of a pan-Canadian trial targeting the gestational period.	Adamo KB, Jean-Philippe S, Ferraro Z, Prud'homme D, Stacey D, Shen G, Mottola MF, Lira do Nascimento S, Nerenberg KA, Smith GN, Chari R, Gaudet L, Piccinini-Vallis H, Wolcott C, McDonald S, Atkinson S, Godbout A, Robitaille J, Davidge ST.	2014	Journal Article
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	A case series of LMWH use in pregnancy: Should Anti-Xa levels guide dosing?	Berresheim M, Wilkie J, Nerenberg KA, Bungard TJ.	2014	Journal Article
	Intrapersonal, social and physical environmental determinants of moderate-to-vigorous physical activity in working-age women: a systematic review protocol.	Prince SA, Reed JL, Nerenberg KA, Kristjansson EA, Hiremath S, Adamo KB, Tulloch HE, Mullen KA, Fodor JG, Wright E, Reid RD.	2014	Journal Article
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Owen, Carolyn	Comparative effectiveness analysis of different salvage therapy intensities used for B-cell lymphoma in Northern or Southern Alberta: an instrumental variable analysis.	Oh DH, Ghosh S, Chua N, Kostaras X, Tilley D, Chu M, Owen CJ, diffuse large Stewart DA.	2014	Journal Article
	Obinutuzumab for B cell malignancies	Owen C and Stewart DA	2014	Journal Article
	Obinutuzumab plus chlorambucil in patients with CLL and coexisting conditions.	22. Goede V, Fischer K, Busch R, Engelke A, Eichhorst B, Wendtner CM, Chagorova T, de la Serna J, Dillhuydy MS, Illmer T, Opat S, Owen CJ, Samoylova O, Kreuzer KA, Stilgenbauer S, Döhner H, Langerak AW, Ritgen M, Kneba M, Asikanius E, Humphrey K, Wenger M, Hallek M.N	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Panaccione, Remo	Serrated adenoma prevalence in inflammatory bowel disease surveillance colonoscopy, and characteristics revealed by chromoendoscopy and virtual chromoendoscopy.	Iacucci M, Hassan C, Fort Gasia M, Urbanski S, Gui X, Eustace G, Kaplan G, Eksteen B, Panaccione R.	2014	Journal Article
	The Probiotic VSL#3 Has Anti-inflammatory Effects and Could Reduce Endoscopic Recurrence After Surgery for Crohn's Disease.	Fedorak RN, Feagan BG, Hotte N, Leddin D, Dieleman LA, Petrunia DM, Enns R, Bitton A, Chiba N, Paré P, Rostom A, Marshall J, Depew W, Bernstein CN, Panaccione R, Aumais G, Steinhart AH, Cockeram A, Bailey RJ, Gionchetti P, Wong C, Madsen K.	2014	Journal Article
	Comparative effectiveness of immunosuppressants and biologics for inducing and maintaining remission in Crohn's disease: a network meta-analysis.	Hazlewood GS, Rezaie A, Borman M, Panaccione R, Ghosh S, Seow CH, Kuenzig E, Tomlinson G, Siegel CA, Melmed GY, Kaplan GG.	2014	Journal Article
	Cumulative incidence of second intestinal resection in Crohn's disease: a systematic review and meta-analysis of population-based studies.	Frolkis AD, Lipton DS, Fiest KM, Negrón ME, Dykeman J, deBruyn J, Jette N, Frolkis T, Rezaie A, Seow CH, Panaccione R, Ghosh S, Kaplan GG.	2014	Journal Article
	Funding a smoking cessation program for Crohn's disease: an economic evaluation.	Coward S, Heitman SJ, Clement F, Negrón M, Panaccione R, Ghosh S, Barkema HW, Seow C, Leung YP, Kaplan GG.	2014	Journal Article
	Canadian Association of Gastroenterology position statement regarding the use of thiopurines for the treatment of inflammatory bowel disease.	Marshall JK, Otley AR, Afif W, Bernstein CN, Hookey L, Leontiadis G, Panaccione R, Bressler B.	2014	Journal Article
	Colorectal cancer surveillance in patients with inflammatory bowel disease and primary sclerosing cholangitis: an economic evaluation.	Negrón ME, Kaplan GG, Barkema HW, Eksteen B, Clement F, Manns BJ, Coward S, Panaccione R, Ghosh S, Heitman SJ.	2014	Journal Article
	Clostridium difficile infection worsens the prognosis of ulcerative colitis.	Negrón ME, Barkema HW, Rioux K, De Buck J, Checkley S, Proulx MC, Frolkis A, Beck PL, Dieleman LA, Panaccione R, Ghosh S, Kaplan GG.	2014	Journal Article
	Update on ustekinumab for the treatment of Crohn's disease.	Leung Y, Panaccione R.	2014	Journal Article
	Four-year maintenance treatment with adalimumab in patients with moderately to severely active ulcerative colitis: Data from ULTRA 1, 2, and 3.	Colombel JF, Sandborn WJ, Ghosh S, Wolf DC, Panaccione R, Feagan B, Reinisch W, Robinson AM, Lazar A, Kron M, Huang B, Skup M, Thakkar RB.	2014	Journal Article
	Management of the pregnant inflammatory bowel disease patient on anti-tumour necrosis factor: state of the art and future directions.	Leung Y, Panaccione R, Ghosh S, Seow CH.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Treating beyond symptoms with a view to improving patient outcomes in inflammatory bowel diseases.	Sandborn WJ, Hanauer S, Van Assche G, Panés J, Wilson S, Petersson J, Panaccione R.	2014	Journal Article
	Opposing effects of smoking in ulcerative colitis and Crohn's disease may be explained by differential effects on dendritic cells.	Ueno A, Jijon H, Traves S, Chan R, Ford K, Beck PL, Iacucci M, Fort Gasia M, Barkema HW, Panaccione R, Kaplan GG, Proud D, Ghosh S.	2014	Journal Article
	Combination therapy with infliximab and azathioprine is superior to monotherapy with either agent in ulcerative colitis.	Panaccione R, Ghosh S, Middleton S, Márquez JR, Scott BB, Flint L, van Hoogstraten HJ, Chen AC, Zheng H, Danese S, Rutgeerts P.	2014	Journal Article
	Novel concepts in inflammatory bowel disease.	Moran GW, Dubeau MF, Kaplan GG, Panaccione R, Ghosh S.	2014	Journal Article
	Phenotypic features of Crohn's disease associated with failure of medical treatment.	Moran GW, Dubeau MF, Kaplan GG, Yang H, Seow CH, Fedorak RN, Dieleman LA, Barkema HW, Ghosh S, Panaccione R; Alberta Inflammatory Bowel Disease Consortium.	2014	Journal Article
	Cannabis use provides symptom relief in patients with inflammatory bowel disease but is associated with worse disease prognosis in patients with Crohn's disease.	Storr M, Devlin S, Kaplan GG, Panaccione R, Andrews CN.	2014	Journal Article
	Will cross-sectional imaging replace endoscopy for monitoring response to therapy in Crohn's disease?	Novak KL, Panaccione R.	2014	Journal Article
	Methotrexate in combination with infliximab is no more effective than infliximab alone in patients with Crohn's disease.	Feagan BG, McDonald JW, Panaccione R, Enns RA, Bernstein CN, Ponich TP, Bourdages R, Macintosh DG, Dallaire C, Cohen A, Fedorak RN, Paré P, Bitton A, Saibil F, Anderson F, Donner A, Wong CJ, Zou G, Vandervoort MK, Hopkins M, Greenberg GR.	2014	Journal Article
Pendharkar,Sachin	Using Patient Flow Simulation to Improve Access at a Multidisciplinary Sleep Centre	Pendharkar SR, Bischak DP, Rogers, P, Flemons W, Noseworthy, TW.	2014	Journal Article
Poon,Man-Chiu	What do Canadian men living with hemophilia need to know? zperspectives of individuals with hemophilia.	Arnold E, Lane S, Weber KE, Chan A, Walker I, Tufts J, Rubin S, Poon M-C, Heddle NM.	2014	Journal Article
	Joint Disease status of serve and moderate hemophilia patients at the Beijing Children's Hospital: Early onset and rapid increasing severity of arthropathy in 90% of patients by 6 years of age.	Wu RH, Wu XY, Zhang NN, Zhao L, Zhang JS,; Luke KH, Poon M-C, Peng Y, Doria A.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Train-the-Trainer™: An effective and successful training model to accelerate training and improve physiotherapy services for persons with hemophilia in China. (to Haemophilia)	Chen L, Sun J, Hilliard P, Zourikian N, Hang M, Blanchette V, Poon M-C, Luke K.	2014	Journal Article
	Canadian hereditary angioedema guideline.	Betschel S, Badiou J, Binkley K, Hebert J, Kanani A, Keith P, Lacuesta G, Yang B, Aygoren-Pursun E, Bernstein B, Bork K, Caballero T, Cicardi M, Craig T, Farkas H, Longhurst H, Zuraw B, Boysen H, Borici-Mazi R, Bowen T, Dallas K, Dean J, Lang-Robertson K, Laramée B, Leith E, Mace S, McCusker C, Moote B, Poon M-C, Ritchie B, Stark D, Sussman G, Wasserman S,	2014	Journal Article
	Patterns of tertiary prophylaxis in Canadian adults with severe and moderately severe hemophilia B.	Jackson SC, Yang M, Minuk L, St-Louis J, Sholzberg M, Card R, Lorio A, Poon M-C.	2014	Journal Article
	Adult sickle cell disease epidemiology and the potential role of a multidisciplinary comprehensive care centre in a city with low prevalence.	Binding A, Valentine K, Poon M-C, Sayani F.	2014	Journal Article
	Acquired von Willebrand syndrome: von Willebrand factor propeptide to von Willebrand factor antigen ratio predicts remission status.	Lee A, Sinclair GD, Valentine KA, James P. Poon M-C.	2014	Journal Article
	Chinese Hemophilia Joint Health Score 2.1 Reliability Study.	Sun J, Hilliard P, Feldman BM, Zourikian N, Chen L., Blanchette VS, Luke KH, Poon M-C.	2014	Journal Article
Quinn, Robert	The impact of modality choice on rates of hospitalization among patients eligible for both peritoneal dialysis and hemodialysis	Quinn RR, Ravani P, Zhang X, Garg AX, Blake PG, Austin PC, Zacharias JM, Johnson JF, Pandeya S, Verrelli M, Oliver MJ	2014	Journal Article
	The 2014 Canadian Hypertension Education Program recommendations for blood pressure measurement, diagnosis, assessment of risk, prevention, and treatment of hypertension.	Dasgupta K, Quinn RR, Zarnke KB, Rabi DM, Ravani P, Daskalopoulou SS, Rabkin SW, Trudeau L, Feldman RD, Cloutier L, Prebttaini A, Herman RJ, Bacon SL, Gilbert RE, Ruzicka M, McKay DW, Campbell TS, Grover, S, Honos G, Schifffrin EL, Bolli P, Wilson TW, Lindsay P, Hill MD, Coutts SB, Gubitz G, Gelfer M, Vallee M, Prasad GV, Lebel M, McLean D, Arnold JM, Moe GW, Howlett JG, Boulanger JM, Larochelle P, Leiter LA, Jones C, Ogilvie RI, Woo V, Kaczorowski J, Burns KD, Petrella RJ, Hiremath S, Milot A, Stone JA, Drouin D, Lavoie KL, Lamarre-Cliché M, Tremblay G, Hamet P, Fodor G, Carruther SG, Pylypchuk GB, Burgess E, Lewanczuk R, Dresser GK, Penner SB, Hegele RA, McFarlane PA, Khara M, Pipe A, Oh P, Selby P, Sharma M, Reid DJ, Tobe SW, Padwal RS, Poirier L;	2014	Journal Article

Canadian Hypertension Education Program.

<b>Name</b>	<b>Title</b>	<b>Authorship</b>	<b>Publish Year</b>	<b>Type</b>
	Practice Guidelines for Timing the Initiation of Chronic Dialysis	Ruzicka M, Quinn RR, McFarlane P, Hemmelgarn B, Ramesh Prasad GV, Feber J, Nesrallah G, McKinnon M, Tangri N, McCormick B, Tobe S, Blydt-Hansen TD, Hiremath S	2014	Journal Article
	Ultrafiltration biofeedback guided by blood volume monitoring to reduce intradialytic hypotensive episodes in hemodialysis: study protocol for a randomized controlled trial.	Leung KC, Quinn RR, Ravani P, MacRae JM	2014	Journal Article
	Peritoneal dialysis catheter implantation by nephrologists is associated with higher rates of peritoneal dialysis utilization: a population –based study.	Perl J, Pierratos A, Kandasamy G, McCormick BB, Quinn RR, Jain AK, Huang A, Paterson JM, Oliver MJ.	2014	Journal Article
	Renal denervation therapy for the treatment of resistant hypertension: a position statement by the Canadian Hypertension Education Program	Khan NA, Herman RJ, Quinn RR, Rabkin SW, Ravani P, Tobe SW, Feldman RD, Wijeyesundera HC, Padwal RS; Canadian Hypertension Education Program	2014	Journal Article
	Managing hypertension: evidence supporting the 2013/2014 recommendations of the Canadian Hypertension Education Program.	Dasgupta K, Padwal R, Poirier L, Quinn RR: On behalf of the Canadian Hypertension Education Program Scientific Summary Writing Group.	2014	Journal Article
	Risk of death following kidney allograft failure: a systematic review and meta-analysis of cohort studies	Kabani R, Quinn RR, Palmer S, Lewin AM, Yilmaz S, Tibbles LA, Lorenzetti DL, Strippoli GFM, McLaughlin K, Ravani P and the Alberta Kidney Disease Network	2014	Journal Article
	Canadian Society of Nephrology commentary on the 2012 KDIGO clinical practice guidelines for the management of blood pressure in CKD.	Ruzicka M, Quinn RR, McFarlane P, Hemmelgarn B, Ramesh Prasad GV, Feber J, Nesrallah G, MacKinnon M, Tangri N, McCormick B, Tobe S, Blydt-Hansen TD, Hiremath S.	2014	Journal Article
	Predictors of treatment with mastectomy, use of sentinel lymph node biopsy and upstaging to invasive cancer in patients diagnosed with DCIS on core biopsy	Chin-Lenn L, Cherniak W, Quinn RR, Ravani P, Lewin A, Mack L, Temple W, Quan ML	2014	Journal Article
	Recalibrating vascular access for elderly patients	Oliver MJ, Quinn RR	2014	Journal Article



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	Practice Guidelines for Timing the Initiation of Chronic Dialysis	Ruzicka M, Quinn RR, McFarlane P, Hemmelgarn B, Ramesh Prasad GV, Feber J, Nesrallah G, MacKinnon M, Tangri N, McCormick B, Tobe S, Blydt-Hansen TD, Hiremath S.	2014	Journal Article
	Patency rates of the arteriovenous fistula for hemodialysis: a systematic review and meta-analysis	Al-Jaishi A, Oliver MJ, Thomas SM, Lok CE, Zhang JC, Garg AX, Kosa SD, Quinn RR, Moist L	2014	Journal Article
	Canadian Society of Nephrology 2014 Clinical Practice Guideline for Timing the Initiation of Chronic Dialysis	Nesrallah GE, Mustata RA, Clark WF, Bass A, Barnieh L, Hemmelgarn BR, Klarenbach S, Quinn RR, Hiremath S, Ravani P, Sood MM, Moist LM; Canadian Society of Nephrology	2014	Journal Article
Rabi, Doreen	Trends in postcoronary artery bypass graft sternal wound dehiscence in a provincial population.	Doherty C, Nickerson D, Southern DA, Kieser T, Appoo J, Dawes J, De Souza MA, Harrop AR, Rabi D; Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH) Investigators.	2014	Journal Article
	Relationship between primary care physician visits and hospital/emergency use for uncomplicated hypertension, an ambulatory care-sensitive condition.	Walker RL, Chen G, McAlister FA, Campbell NR, Hemmelgarn BR, Dixon E, Ghali W, Rabi D, Tu K, Jette N, Quan H; Hypertension Outcome and Surveillance Team.	2014	Journal Article
	Sex-related differences in access to care among patients with premature acute coronary syndrome.	Pelletier R, Humphries KH, Shimony A, Bacon SL, Lavoie KL, Rabi D, Karp I, Avgil Tsadok M, Pilote L.	2014	Journal Article
	Sex- and gender-related risk factor burden in patients with premature acute coronary syndrome.	Choi J, Daskalopoulou SS, Thanassoulis G, Karp I, Pelletier R, Behlouli H, Pilote L; GENESIS-PRAXY Investigators.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	The 2014 Canadian Hypertension Education Program recommendations for blood pressure measurement, diagnosis, assessment of risk, prevention, and treatment of hypertension.	Dasgupta K, Quinn RR, Zarnke KB, Rabi DM, Ravani P, Daskalopoulou SS, Rabkin SW, Trudeau L, Feldman RD, Cloutier L, Prebtani A, Herman RJ, Bacon SL, Gilbert RE, Ruzicka M, McKay DW, Campbell TS, Grover S, Honos G, Schiffrin EL, Bolli P, Wilson TW, Lindsay P, Hill MD, Coutts SB, Gubitz G, Gelfer M, Vallée M, Prasad GV, Lebel M, McLean D, Arnold JM, Moe GW, Howlett JG, Boulanger JM, Larochelle P, Leiter LA, Jones C, Ogilvie RI, Woo V, Kaczorowski J, Burns KD, Petrella RJ, Hiremath S, Milot A, Stone JA, Drouin D, Lavoie KL, Lamarre-Cliche M, Tremblay G, Hamet P, Fodor G, Carruthers SG, Pylypchuk GB, Burgess E, Lewanczuk R, Dresser GK, Penner SB, Hegele RA, McFarlane PA, Khara M, Pipe A, Oh P, Selby P, Sharma M, Reid DJ, Tobe SW, Padwal RS, Poirier L; Canadian Hypertension Education Program.	2014	Journal Article
	Sex-based disparities in cardioprotective medication use in adults with diabetes.	Butalia S, Lewin AM, Simpson SH, Dasgupta K, Khan N, Pilote L, Johnson JA, Ghali WA, Rabi DM.	2014	Journal Article
	Association between participation in a brief diabetes education programme and glycaemic control in adults with newly diagnosed diabetes.	Weaver RG, Hemmelgarn BR, Rabi DM, Sargious PM, Edwards AL, Manns BJ, Tonelli M, James MT.	2014	Journal Article
	Depression and disease severity in patients with premature acute coronary syndrome.	Pelletier R, Lavoie KL, Bacon SL, Thanassoulis G, Khan NA, Pilote L; GENESIS-PRAXY Investigators.	2014	Journal Article
	Prescribing patterns and adherence to medication among South-Asian, Chinese and white people with type 2 diabetes mellitus: a population-based cohort study.	Chong E, Wang H, King-Shier KM, Quan H, Rabi DM, Khan NA.	2014	Journal Article
	Association between diabetic ketoacidosis hospitalizations and driving distance to outpatient diabetes centres in adults with type 1 diabetes mellitus.	Butalia S, Patel AB, Johnson JA, Ghali WA, Rabi DM.	2014	Journal Article
Rabin,Harvey	Twenty-Five-Year Outbreak of Pseudomonas aeruginosa Infecting Individuals with Cystic Fibrosis: Identification of the Prairie Epidemic Strain.	Parkins MD, Glezerson BA, Sibley CD, Sibley KA, Duong J, Mody CH, Workentine ML, Storey DG, Surette MG and Rabin HR	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Raman,Maitreyi	Validation of the NASA-TLX as a tool to evaluate the learning curve for endoscopy training.	Mohamed Rachid, Raman Maitreyi, Anderson John, McLaughlin Kevin, Rostom Alaa, Coderre Sylvain.	2014	Journal Article
Ravani,Pietro	Risk of death following kidney allograft failure: a systematic review and meta-analysis of cohort studies.	Kabani R, Quinn RR, Palmer S, Lewin AM, Yilmaz S, Tibbles LA, Lorenzetti DL, Strippoli GF, McLaughlin K, Ravani P; Alberta Kidney Disease Network.	2014	Journal Article
	Impact of modality choice on rates of hospitalization in patients eligible for both peritoneal dialysis and hemodialysis.	Quinn RR, Ravani P, Zhang X, Garg AX, Blake PG, Austin PC, Zacharias JM, Johnson JF, Pandeya S, Verrelli M, Oliver MJ:	2014	Journal Article
	Canadian Society of Nephrology 2014 clinical practice guideline for timing the initiation of chronic dialysis.	Nesrallah GE, Mustafa RA, Clark WF, Bass A, Barnieh L, Hemmelgarn BR, Klarenbach S, Quinn RR, Hiremath S, Ravani P, Sood MM, Moist LM:	2014	Journal Article
	Barriers to adopting a fistula-first policy in Europe: an international survey among national experts.	van der Veer SN, Ravani P, Coentrão L, Fluck R, Kleophas W, Labriola L, Hoischen SH, Noordzij M, Jager KJ, van Biesen W.	2014	Journal Article
	Ultrafiltration biofeedback guided by blood volume monitoring to reduce intradialytic hypotensive episodes in hemodialysis: study protocol for a randomized controlled trial.	Leung KC, Quinn RR, Ravani P, MacRae JM.	2014	Journal Article
	Glomerular Autoimmune Multicomponents of Human Lupus Nephritis In Vivo (2): Planted Antigens.	Bruschi M, Galetti M, Sinico RA, Moroni G, Bonanni A, Radice A, Tincani A, Pratesi F, Migliorini P, Murtas C, Franceschini F, Trezzi B, Brunini F, Gatti R, Tardanico R, Barbano G, Piaggio G, Messa P, Ravani P, Scolari F, Candiano G, Martini A, Allegri L, Ghiggeri GM.	2014	Journal Article
	Use of vascular access for hemodialysis in Europe: a report from the ERA-EDTA Registry.	Noordzij M, Jager KJ, van der Veer SN, Kramar R, Collart F, Heaf JG, Stojceva-Taneva O, Leivestad T, Buturovic-Ponikvar J, Benitez Sanchez M, Moreso F, Prutz KG, Severn A, Wanner C, Vanholder R, Ravani P.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Glomerular Autoimmune Multicomponents of Human Lupus Nephritis in Vivo: a-Enolase and Annexin A1.	Bruschi M, Sinico RA, Moroni G, Pratesi F, Migliorini P, Galetti M, Murtas C, Tincani A, Madaio M, Radice A, Franceschini F, Trezzi B, Bianchi L, Giallongo A, Gatti R, Tardanico R, Scaloni A, D' Ambrosio C, Carnevali ML, Messa P, Ravani P, Barbano G, Bianco B, Bonanni A, Scolari F, Martini A, Candiano G, Allegri L, Ghiggeri GM.	2014	Journal Article
	An Economic Evaluation of rt-PA Locking Solution in Dialysis Catheters.	Manns BJ, Scott-Douglas N, Tonelli M, Ravani P, LeBlanc M, Dorval M, Holden R, Moist L, Lok C, Zimmerman D, Au F, Hemmelgarn BR.	2014	Journal Article
	Analysis of data from the ERA-EDTA Registry indicates that conventional treatments for chronic kidney disease do not reduce the need for renal replacement therapy in autosomal dominant polycystic kidney disease.	Spithoven EM, Kramer A, Meijer E, Orskov B, Wanner C, Caskey F, Collart F, Finne P, Fogarty DG, Groothoff JW, Hoitsma A, Nogier MB, Postorino M, Ravani P, Zurriaga O, Jager KJ, Gansevoort RT.	2014	Journal Article
	The 2014 Canadian Hypertension Education Program recommendations for blood pressure measurement, diagnosis, assessment of risk, prevention, and treatment of hypertension.	Dasgupta K, Quinn RR, Zarnke KB, Rabi DM, Ravani P, Daskalopoulou SS, Rabkin SW, Trudeau L, Feldman RD, Cloutier L, Prebtani A, Herman RJ, Bacon SL, Gilbert RE, Ruzicka M, McKay DW, Campbell TS, Grover S, Honos G, Schiffrin EL, Bolli P, Wilson TW, Lindsay P, Hill MD, Coutts SB, Gubitz G, Gelfer M, Vallée M, Prasad GV, Lebel M, McLean D, Arnold JM, Moe GW, Howlett JG, Boulanger JM, Larochelle P, Leiter LA, Jones C, Ogilvie RI, Woo V, Kaczorowski J, Burns KD, Petrella RJ, Hiremath S, Milot A, Stone JA, Drouin D, Lavoie KL, Lamarre-Cliche M, Tremblay G, Hamet P, Fodor G, Carruthers SG, Pylypchuk GB, Burgess E, Lewanczuk R, Dresser GK, Penner SB, Hegele RA, McFarlane PA, Khara M, Pipe A, Oh P, Selby P, Sharma M, Reid DJ, Tobe SW, Padwal RS, Poirier L; Canadian Hypertension Education Program.	2014	Journal Article
	Renal replacement therapy for autosomal dominant polycystic kidney disease (ADPKD) in Europe: prevalence and survival--an analysis of data from the ERA-EDTA Registry.	Spithoven EM, Kramer A, Meijer E, Orskov B, Wanner C, Abad JM, Aresté N, de la Torre RA, Caskey F, Couchoud C, Finne P, Heaf J, Hoitsma A, de Meester J, Pascual J, Postorino M, Ravani P, Zurriaga O, Jager KJ, Gansevoort RT; ERA-EDTA Registry; EuroCYST Consortium; WGIKD.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Discovery of new risk loci for IgA nephropathy implicates genes involved in immunity against intestinal pathogens.	Kiryluk K, Li Y, Scolari F, Sanna-Cherchi S, Choi M, Verbitsky M, Fasel D, Lata S, Prakash S, Shapiro S, Fischman C, Snyder HJ, Appel G, Izzi C, Viola BF, Dallera N, Del Vecchio L, Barlassina C, Salvi E, Bertinetto FE, Amoroso A, Savoldi S, Rocchietti M, Amore A, Peruzzi L, Coppo R, Salvadori M, Ravani P, Magistroni R, Ghiggeri GM, Caridi G, Bodria M, Lugani F, Allegri L, Delsante M, Maiorana M, Magnano A, Frasca G, Boer E, Boscutti G, Ponticelli C, Mignani R, Marcantoni C, Di Landro D, Santoro D, Pani A, Polci R, Feriozzi S, Chicca S, Galliani M, Gigante M, Gesualdo L, Zamboli P, Battaglia GG, Garozzo M, Maixnerová D, Tesar V, Eitner F, Rauen T, Floege J, Kovacs T, Nagy J, Mucha K, Pączek L, Zaniew M, Mizerska-Wasiak M, Roszkowska-Blaim M, Pawlaczyk K, Gale D, Barratt J, Thibaudin L, Berthouix F, Canaud G, Boland A, Metzger M, Panzer U, Suzuki H, Goto S, Narita I, Caliskan Y, Xie J, Hou P, Chen N, Zhang H, Wyatt RJ, Novak J, Julian BA, Feehally J, Stengel B, Cusi D, Lifton RP, Gharavi	2014	Journal Article
	Renal replacement therapy for rare diseases affecting the kidney: an analysis of the ERA-EDTA Registry.	Wühl E, van Stralen KJ, Wanner C, Ariceta G, Heaf JG, Bjerre AK, Palsson R, Duneau G, Hoitsma AJ, Ravani P, Schaefer F, Jager KJ.	2014	Journal Article
Read,Ronald	Prevalence and Characteristics of Rectal chlamydia and Gonorrhea cases among MSM after the Introduction of NAAT Screening at 2 Canadian STI Clinics	Jennifer Gatrix, Ameeta E. Singh, Joshua Bergman, Cari Egan, Justin McGinnis, Steven J. Drews, Ron Read	2014	Journal Article
Rezaie,Ali	Vedolizumab, a gut-specific monoclonal antibody, renews hope for an alternative to anti-TNF therapy in inflammatory bowel diseases	Ali Rezaie	2014	Journal Article
Rimmer,Karen	Limitations of split-night polysomnography for diagnosis of nocturnal hypoventilation and titration of non-invasive ventilation in Amyotrophic Lateral Sclerosis	Loewen AH, Korngut L, Rimmer K, Damji O, Turin TC, Hanly PJ	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Rioux, Kevin	Clostridium difficile infection worsens the prognosis of ulcerative colitis.	Negrón ME, Barkema HW, Rioux KP, De Buck J, Checkley S, Proulx MC, Frolkis A, Beck PL, Dieleman LA, Panaccione R, Ghosh S, Kaplan GG	2014	Journal Article
	A novel method to identify fat malabsorption: The serum retinyl palmitate test.	Raman M, Fenton T, Crotty P, Ghosh S, Rioux KP, Hundal R.	2014	Journal Article
Robertson, Lynne	Granuloma Annulare as an Isotopic Response to Herpes Zoster	Levy J, Barber D, Robertson L.	2014	Journal Article
	Eruptive Disseminated Porokeratosis: A case report and new classification system.	Ilya Shoimer; Lynne H Robertson; Greg Storwick; Richard Haber	2014	Journal Article
Rorstad, Otto	Cognitive impairment associated with carcinoid syndrome	Pasieka JL, Longman RS, Chambers AJ, Rorstad O, Rach-Longman K, Dixon E. .	2014	Journal Article
Rydz, Natalia	Comprehensive analysis of the role of von Willebrand factor and platelet glycoprotein VI- and $\alpha 2\beta 1$ -mediated collagen binding in thrombus formation	Shida Y, Rydz N, Stegner D, Brown C, Mewburn J, Sponagle K, Danisment O, Crawford B, Vidal B, Hegadorn CA, Pruss CM, Nieswandt B, Lillicrap D	2014	Journal Article
Sargious, Peter	Seeing the forests and the trees-- innovative approaches to exploring heterogeneity in systematic reviews of complex interventions to enhance health system decision-making: a protocol.	Ivers N, Tricco AC, Trikalinos TA, Dahabreh IJ, Danko KJ, Moher D, Straus SE, Lavis JN, Yu CH, Shojania K, Manns B, Tonelli M, Ramsay T, Edwards A, Sargious P, Paprica A, Hillmer M, Grimshaw JM.	2014	Journal Article
	Association between participation in a brief diabetes education programme and glycaemic control in adults with newly diagnosed diabetes.	Weaver RG, Hemmelgarn BR, Rabi DM, Sargious PM, Edwards AL, Manns BJ, Tonelli M, James MT.	2014	Journal Article
Savoie, Mary Lynn	Long-term outcome of a pediatric-inspired regimen used for adults ages 18 to 50 with newly diagnosed acute lymphoblastic leukemia	DeAngelo DJ, Stevenson KE, Dahlberg SE, Silverman LB, Couban C, Suplo JG, Amrein PC, Ballen KK, Seftel MD, Turner AR, Leber B, Howson-Jan K, Kelly K, Cohen S, Matthews JH, Savoie L, Wadleigh M, Sirulnik LA, Galinsky I, Neuberger DS, Sallan SE, Stone RM	2014	Journal Article

<b>Name</b>	<b>Title</b>	<b>Authorship</b>	<b>Publish Year</b>	<b>Type</b>
	Medication adherence among adults prescribed imatinib, dasatinib or nilotinib for the treatment of chronic myeloid leukemia	Anderson KR, Chambers CR, Lam N, Yau PS, Cusano F, Savoie ML and Sheikh N	2014	Journal Article
Schaefer,Jeffrey	Think Global, Act Local: Medical Students Contextualize Global Health Education	Ibrahim GM, Hoffart S, Lam RA, Minty EP, Schaefer JP.	2014	Journal Article
Seow,Cynthia	Phenotypic features of Crohn's disease associated with failure of medical treatment.	Moran GW, Dubeau M, Kaplan GG, Yang H, Seow C, Fedorak RN, Dieleman LA, Barkema HW, Ghosh S, Panaccione R.	2014	Journal Article
	Budesonide for Maintenance of Remission in Crohn's Disease (Review).	Kuenzig ME, Rezaie A, Seow CH, Otley AR, Steinhart AH, Griffiths AM, Kaplan GG, Benchimol EI.	2014	Journal Article
	Defining quality indicators for best-practice management of inflammatory bowel disease in Canada	Nguyen GC, Devlin SM, Afif W, Bressler B, Gruchy SE, Kaplan GG, Oliveira L, Plamondon S, Seow C, Williams C, Wong K, Yan BM, Jones J.	2014	Journal Article
	Management of the Pregnant Inflammatory Bowel Disease Patient on Anti-tumor Necrosis Factor: State of the Art and Future Directions.	Leung Y, Panaccione R, Ghosh S, Seow CH.	2014	Journal Article
	Cumulative Incidence of Second Intestinal Resection in Crohn's Disease: A Systematic Review and Meta-Analysis of Population-Based Studies.	Frolkis AD, Lipton DS, Kiest KM, Negron ME, Dykeman J, Debruyn J, Jette N, Frolkis T, Rezaie A, Seow CH, Panaccione R, Ghosh S, Kaplan GG.	2014	Journal Article
	Funding a Smoking Cessation Program for Crohn's Disease: An Economic Evaluation.	Coward S, Heitman SJ, Clement F, Negron M, Panaccione R, Ghosh S, Barkema HW, Seow CH, Leung Y, Kaplan GG.	2014	Journal Article
Shaffer,Eldon	Gallbladder cancer: Epidemiology and outcome	Hundal R, Shaffer EA	2014	Journal Article
	Solitary lesions with fibrosis and increased IgG4+ plasma cells: Part of the expanding spectrum of IgG4-related disease or a non-specific inflammatory response?	Lik HL, Shaffer EA, Falck VG, Kelly MM.	2014	Journal Article
	Gallbladder cancer: Epidemiology and outcome	Hundal R, Shaffer EA	2014	Journal Article
	Eosinophilic colitis is a sporadic self-limited disease of middle-aged people: a population based study.	Alfadda AA, Shaffer EA, Urbanski SJ, Storr MA	2014	Journal Article



Name	Title	Authorship	Publish Year	Type
Silvius,James	Effective Use of the built environment to manage behavioural and psychological symptoms of dementia: a systematic review.	Soril LJ; Leggett LE; Lorenzetti DL; Silvius J; Robertson D; Mansell L; Holroyd-Leduc J; Noseworthy TW; Clement FM	2014	Journal Article
	The Pathway to Diagnosis of Dementia for francophones living in a minority situation.	Garcia LJ, McCleary L, Emerson V, Leopoldoff H, Dalziel W, Drummond N, Cohen C, Silvius J	2014	Journal Article
Storek,Jan	Fludarabine metabolite level on day zero does not affect outcomes of hematopoietic cell transplantation in patients with normal renal function (letter).	Griffiths C, Ng E, Kangarloo S, Williamson TS, Chaudhry A, Booker R, Duggan PR, Yue P, Savoie LM, Brown C, Cox-Kennett N, Russell JA, Daly A, Storek J:	2014	Journal Article
	Immune cell subset counts associated with GVHD.	1.Podgorny PJ, Liu Y, Dharmani-Khan P, Pratt LM, Jamani K, Luider J, Auer-Grzesiak I, Mansoor A, Williamson TS, Ugarte-Torres A, Hoegh-Petersen M, Stewart DA, Daly A, Khan FM, Russell JA, Storek J:	2014	Journal Article
	Immune cell subset counts associated with GVHD.	Podgorny PJ, Liu Y, Dharmani-Khan P, Pratt LM, Jamani K, Luider J, Auer-Grzesiak I, Mansoor A, Williamson TS, Ugarte-Torres A, Hoegh-Petersen M, Stewart DA, Daly A, Khan FM, Russell JA, Storek J:	2014	Journal Article
	High serum level of antithymocyte globulin immediately before graft infusion is associated with a low likelihood of chronic but not acute graft-vs-host disease.	Chawla S, Dharmani-Khan P, Liu Y, Prokopishyn N, Munir MA, Griffiths C, Khan FM, Stewart DA, Russell JA, Daly A, Storek J:	2014	Journal Article
	Non-permissive -DPB1 mismatch among otherwise HLA-matched donor-recipient pairs results in increased overall mortality after unrelated allogeneic hematopoietic cell transplantation.	Pidala J, Lee S, Ahn KW, Spellman S, Wang HL, Aljurf M, Askar M, Dehn J, Fernandez-Vina M, Gratwohl A, Gupta V, Hanna R, Horowitz M, Hurley C, Inamoto Y, Kassim A, Nishihori T, Mueller CR, Oudshoorn M, Petersdorf P, Prasad V, Robinson J, Saber W, Schultz K, Shaw B, Storek J, Wood WA, Woolfrey A, and Anasetti C:	2014	Journal Article
Swain,Mark	Anti-TNF-induced autoimmune hepatitis.	Borman MA, Urbanski S, Swain MG	2014	Journal Article
	The feasibility and reliability of transient elastography using Fibroscan®: a practice audit of 2335 examinations.	Pang JX, Pradhan F, Zimmer S, Niu S, Crotty P, Tracey J, Schneider C, Heitman SJ, Kaplan GG, Swain MG, Myers RP.	2014	Journal Article

<b>Name</b>	<b>Title</b>	<b>Authorship</b>	<b>Publish Year</b>	<b>Type</b>
	Liver stiffness by transient elastography predicts liver-related complications and mortality in patients with chronic liver disease.	Pang JX, Zimmer S, Niu S, Crotty P, Tracey J, Pradhan F, Shaheen AA, Coffin CS, Heitman SJ, Kaplan GG, Swain MG, Myers RP.	2014	Journal Article
Tang, Karen	Association between drug insurance cost sharing strategies and outcomes in patients with chronic diseases: a systematic review	Mann BS, Barnieh L, Tang KL, Campbell DJT, Clement F, Hemmelgarn BR, Tonelli M, Lorenzetti D, Manns BJ	2014	Journal Article
	A systematic review of value-based insurance design in chronic diseases.	Tang KL, Barnieh L, Mann B, Clement F, Campbell DJT, Hemmelgarn BR, Tonelli M, Lorenzetti D, Manns BJ.	2014	Journal Article
Thakrar, Mitesh	Pregnancy after lung and heart-lung transplantation	M.V. Thakrar, K. Morley, J. Lordan, G. Meachery, A.J. Fisher, G. Parry, P.A. Corris	2014	Journal Article
Tibbles, Lee Anne	Risk of Death Following Kidney Allograft Failure: A Systematic Review and Meta-Analysis of Cohort Studies	Kabani, R., Quinn, R., Palmer, S., Lewin, A., Yilmaz, S., Tibbles, L.A., Lorenzetti, D., Strippoli, G., McLaughlin, K., and Ravani, P. Nephrol Dial Transplant, 2014 0:	2014	Journal Article
	Sirolimus: A Therapeutic Advance for Dermatologic Disease.	Peters, T., Traboulsi, D., Tibbles, L.A., and Mydlarski, P.R.	2014	Journal Article
Tremblay, Alain	Mediastinal staging for lung cancer.	Gelberg J, Grondin S, Tremblay A.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
	Resource Utilization and Costs during the Initial Years of Lung Cancer Screening with Computed Tomography in Canada.	Cressman, Sonya; Lam, Stephen; Tammemagi Martin C.; Evans, William K.; Leighl, Natasha B.; Regier, Dean A.; Bolbocean, Corneliu MPP; Shepherd, Francis A.; Tsao, Ming-Sound; Manos, Daria, Liu, Geoffrey; Atkar-Khattra, Sukhinder Cromwell, Ian; Johnson, Michael R.; Mayo, John R.; McWilliams, Annette MB; Couture, Christian; English, John C.; Goffin, John; Hwang, David M.; Puksa, Serge; Roberts, Heidi Tremblay, Alain; MacEachern, Paul; Burrowes, Paul, Bhatia, Rick Finley, Richard J.; Goss, Glenwood D.; Nicholas, Garth; Seely, Jean; Sekhon, Harmanjatinder S.; Yee, John; Amjadi, Kayvan; Cutz, Jean-Claude Ionescu, Diana N., Yasufuku, Kazuhiro, Martel, Simon MD; Soghrati, Kamyar; Sin, Don	2014	Journal Article

#### Valentine, Karen

Anticoagulation in acute pulmonary embolism. UpToDate in Pulmonary and Critical Care Medicine 2014	Valentine KA and Hull RD	2014	Journal Article
Therapeutic use of heparin and low molecular weight heparin, UpToDate in Pulmonary and Critical Care Medicine 2014	Valentine KA and Hull RD.	2014	Journal Article
Therapeutic use of Warfarin. UpToDate in Pulmonary and Critical Care Medicine, 2014	Valentine KA and Hull RD	2014	Journal Article
Outpatient management of oral anticoagulation. UpToDate in Pulmonary and Critical Care Medicine, 2014.	Valentine KA and Hull RD.	2014	Journal Article
Correcting excess anticoagulation after warfarin. UpToDate in Pulmonary and Critical Care Medicine, 2014.	Valentine KA and Hull RD.	2014	Journal Article

Name	Title	Authorship	Publish Year	Type
Wong, Norman	Acquired von Willebrand syndrome: von Willebrand factor propeptide to von Willebrand factor antigen ratio predicts remission status	Adrienne Lee, Gary Sinclair, Karen Valentine, Paula James and Man-Chiu Poon	2014	Journal Article
	Adult Sickle Cell Disease Epidemiology and the Potential Role of a Multidisciplinary comprehensive care centre in a city with Low Prevalence	Andrew Binding, Karen Valentine, Man-Chiu Poon, Farzana A Sayani	2014	Journal Article
	Induction of hepatic apolipoprotein A-I gene expression by the isoflavones quercetin and isoquercitrin	Haas MJ, Onstead-Haas LM, Szafran-Swietlik A, Kojanian H, Davis T, Armstrong P, Wong NC, Mooradian AD	2014	Journal Article
	Induction of apolipoprotein A-I gene expression by black seed (Nigella sativa) extracts.	Haas MJ, Onstead-Haas LM, Naem E, Wong NC, Mooradian AD	2014	Journal Article
Zarnke, Kelly	A novel BET bromodomain inhibitor, RVX-208, shows reduction of atherosclerosis in hyperlipidemic ApoE deficient mice	Jahagirdar R, Zhang H, Azhar S, Tobin J, Attwell S, Yu R, Wu J, McLure KG, Hansen HC, Wagner GS, Young PR, Srivastava RA, Wong NC, Johansson J	2014	Journal Article
	Inhibition of apolipoprotein A-I expression by TNF-alpha in HepG2 cells: requirement for c-jun.	Parseghian S, Onstead-Haas LM, Wong NC, Mooradian AD, Haas MJ.	2014	Journal Article
	Expert Consensus on a Canadian Internal Medicine Ultrasound Curriculum	The Western Canadian Internal Medicine Ultrasound Curriculum Committee: S Arishekoff, M Blouw, S Card, J Conly, C Gebhardt, N Gibson, R Lenz, IWY Ma, GS. Meneilly, L Reimche, J Schaefer, M Sochocki, K Zarnke	2014	Journal Article
	The 2014 Canadian Hypertension Education Program Recommendations for Blood Pressure Management, Diagnosis, Assessment of Risk, Prevention and Treatment of Hypertension.	Dasgupta K, Quinn R, Zarnke KB, et al.	2014	Journal Article
	Clonidine for patients undergoing noncardiac surgery.	Devereaux PJ, Sessler DI, Leslie K, et al. for the POISE 2 Investigators (Zarnke KB).	2014	Journal Article
	Aspirin for patients undergoing noncardiac surgery.	Devereaux PJ, Mrkobra M, Sessler DI et al. for the POISE 2 Investigators (Zarnke KB).	2014	Journal Article

### Research Grants in 2014

Name	Prorated Amount	Title	Role	Year
<b>Adrienne Lee</b>	\$4,800.00	Calgary Laboratory Services Research Program Competition	Co-PI	2014
	\$57,692.31	Canadian Hemophilia Society/Pfizer Care Until Cure Research Program Grant	Principal/Senior	2014
<b>Sum</b>	<b>\$62,492.31</b>			
<b>Alain Tremblay</b>	\$109,671.16	Early Detection of Lung Cancer - A Pan Canadian Study	Principal/Senior	2014
	\$20,769.23	“Does Bronchial Thermoplasty result in long-term structural changes in the airway?”	Co-investigator	2014
	\$5,000.00	Assessment of Airway Wall Structure in Asthmatic Patients With Cryobiopsy	Co-investigator	2014
	\$348,997.05	Alberta Lung Cancer Screening Program	Principal/Senior	2014
	\$8,853.50	Evaluation of endobronchial ultrasound sampling devices.	Principal/Senior	2014
	\$25,000.00	Cancer Screening in Asbestos Exposed Workers in Alberta	Principal/Senior	2014
	\$75,420.18	Canine Scent Detection for Lung Cancer Detection	Co-PI	2014
<b>Sum</b>	<b>\$593,711.12</b>			
<b>Aleem Bharwani</b>	\$14,200.00	Tablet Computer use in Hospitals	Principal/Senior	2014
	\$6,000.00	Snap DX	Principal/Senior	2014
	\$4,285.71	Leadership Needs Assessment	Principal/Senior	2014
	\$15,000.00	Use of a Medical App to Reduce Inappropriate Investigations and to Improve Understanding of Evidence Based History and Physical Exams in Trainees.	Co-investigator	2014
	\$5,000.00	Leadership Evaluations Tool Development	Principal/Senior	2014

Name	Prorated Amount	Title	Role	Year
<b>Sum</b>	<b>\$44,485.71</b>			
<b>Alex Chee</b>				
	\$564.55	Quantifying procedural performance using electromagnetic tracking of procedural instruments: a pilot study evaluating expert-novice differences	Principal/Senior	2014
	\$7,713.60	Improving bedside procedural competence using electromagnetic tracking as part of the training program	Principal/Senior	2014
	\$8,571.43	Assessment of Airway Wall Structure in Asthmatic Patients with Cryobiopsy	Principal/Senior	2014
	\$10,000.00	Chronic Inflammation in Lung Diseases	Co-investigator	2014
	\$2,947.37	Evaluation of cardiac sarcoidosis	Principal/Senior	2014
<b>Sum</b>	<b>\$29,796.94</b>			
<b>Alexander Leung</b>				
	\$935,920.20	W21C: Interdisciplinary Research and Innovation for Health System Quality and Safety	* Collab.Member	2014
<b>Sum</b>	<b>\$935,920.20</b>			
<b>Alun Edwards</b>				
	\$100,000.00	2013 – 2015 \$100,000 per year. PI R DeBruyn Co-investigators C Elliott, J Ho, F McMaster, S Jelinski, A Edwards	Co-investigator	2014
	\$240,000.00	Access with Evidence Development (AED) for Alberta Policy on Insulin pump reimbursement	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$737,704.92	Improving the Efficient and Equitable Care of Patients with Chronic Medical Conditions: Interdisciplinary Chronic Disease Collaboration (ICDC). 2014-2019. \$5,000,000. Leads Hemmelgarn B, Manns B, Tonelli M. McBrien K and Edwards A (co-leads) on improving diabetes control in high risk individuals in Alberta	Co-investigator	2014
	\$142,592.59	Team to Address Bariatric Care in Canadian Children 2014 – 2016	Co-investigator	2014
<b>Sum Angel Chu</b>	<b>\$1,220,297.51</b>			
	\$4,782.61	Characterising Oral Human Papilloma Virus Infections in HIV Positive Men who have Sex with Men	Co-PI	2014
<b>Sum Ann Clarke</b>	<b>\$4,782.61</b>			
	\$50,000.00	Cancer risk: advancing knowledge in systemic rheumatic disease.	Co-investigator	2014
	\$3,333.33	Cancer risk after renal transplant in autoimmune disease	Co-investigator	2014
	\$56,250.00	C-CARE: A Cross-Canada Anaphylaxis Registry	* Co-Principal	2014
	\$200,000.00	Canadian Food Allergy Strategic Team (CanFAST)	* Co-Prog. Leader	2014
	\$30,000.00	SPAACE to SPAACE: Trends in food allergy prevalence over time (Project of CanFAST)	Principal/Senior	2014
	\$130,133.00	Causes and Prevention: Identifying the Genetic Basis of Peanut Allergy (Project of CanFAST)	Principal/Senior	2014



Name	Prorated Amount	Title	Role	Year
	\$39,163.00	C-CARE: A Cross-Canada Anaphylaxis Registry (Project of CanFAST)	* Co-Principal	2014
	\$30,670.00	Neurodevelopmental Disorders in Children Born to Women with Systemic Lupus Erythematosus	Co-investigator	2014
	\$83,333.33	GET-FACTS: Genetics, Environment and Therapies: Food Allergy Clinical Tolerance Studies	* Co-Principal	2014
	\$23,389.00	Cancer Risk: Advancing knowledge in systemic rheumatic disease	Co-investigator	2014
	\$451,388.89	PRECISION: Preventing complications from inflammatory skin, joint and bowel conditions	Co-investigator	2014
	\$12,500.00	Development of a National Food Allergy Strategy for Canada	Co-PI	2014
	\$28,325.58	Quantifying the Risk and Economic Burden of Steroid-Related Damage in SLE: The SLICC Inception Cohort Study	Principal/Senior	2014
<b>Sum</b>	<b>\$1,138,486.14</b>			
<b>Barry Baylis</b>				
	\$1,034,482.76	W21C: Interdisciplinary Research and Innovation for Health System Quality and Safety	* Collaborator	2014
<b>Sum</b>	<b>\$1,034,482.76</b>			
<b>Bayan Missaghi</b>				
	\$24,000.00	Alberta Sepsis Network Abstract for SpectrumCalgary ICU Antimicrobial Stewardship Smartphone Application	Co-investigator	2014

Name	Prorated Amount	Title	Role	Year
	\$250,000.00	A prospective, multi-center, randomized trial of fecal microbiota transplantation (FMT) delivered by capsule vs. colonoscopy in the management of recurrent Clostridium difficile infection (CDI)	Co-investigator	2014
	\$50,000.00	Systematic Review and Environmental Scan of IPC Outbreak Best Practices	Co-investigator	2014
<b>Sum Bonnie Lynn</b>	<b>\$324,000.00</b>			
	\$4,500.00	Screening Hematologic Malignancy Patients at Risk for Strongyloides Hyperinfection and Disseminated Strongyloidiasis	Co-investigator	2014
	\$7,500.00	Retrospective study of management of malaria in the Calgary health region	Principal/Senior	2014
<b>Sum Braden Manns</b>	<b>\$12,000.00</b>			
	\$50,000.00	Improving the Efficient and Equitable Care of Patients with Chronic Medical Conditions Interdisciplinary Chronic Disease Collaboration (ICDC)	Principal/Senior	2014
	\$205,714.29	CANadian KidNey KNowledge Translation and Generation NETwork (CANN-NET)	Principal/Senior	2014
	\$32,432.43	Risk of adverse effects among elderly statin users.	Co-investigator	2014
	\$194,594.59	Seeing the forests and the trees - Innovative approaches to exploring heterogeneity in systematic reviews of complex knowledge translation interventions to enhance policy decision making.	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$14,285.71	Implementation and evaluation of a clinical pathway for chronic kidney disease in primary care	Co-investigator	2014
	\$94,714.29	Epidemiology, costs and consequences of multimorbidity	Co-investigator	2014
	\$10,000.00	Patient navigators and living kidney donor transplantation	Principal/Senior	2014
	\$454,545.45	The Interdisciplinary Chronic Disease Collaboration (ICDC) Team	Principal/Senior	2014
	\$15,000.00	Screening for Chronic Kidney Disease – the SEEKD study	Principal/Senior	2014
	\$71,428.57	The Access Study	Principal/Senior	2014
<b>Sum</b>	<b>\$1,142,715.34</b>			
<b>Brandie Walker</b>				
	\$15,000.00	A CRE managed clinic for patients with COPD considered to be high risk for hospital admission.	Co-PI	2014
<b>Sum</b>	<b>\$15,000.00</b>			
<b>Brenda Hemmelgarn</b>				
	\$255,714.00	Enhancing existing capacity in applied health services and policy research in Western Canada	* Team Member	2014
	\$833,333.33	Improving the efficient and equitable care of patients with chronic medical conditions: the Interdisciplinary Chronic Disease Collaboration (ICDC)	* Team Leader	2014
	\$2,916,666.67	Canadian Network for Observational Drug Effect Studies (cNODES)	* Team Member	2014
	\$150,000.00	The Canadian KidNey Knowledge Translation and Generation NETwork (CANN-NET)	Principal/Senior	2014
	\$59,467.00	Quality of cancer care in remote-dwelling Canadians	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$43,333.33	Predicting the need for community care for chronic kidney disease following hospitalization with acute kidney injury	Co-investigator	2014
	\$50,000.00	Do EMRs in primary care improve care and outcomes (EPIC)	Co-investigator	2014
	\$168,605.25	Implementation and evaluation of a clinical pathway for chronic kidney disease in primary care	Principal/Senior	2014
	\$266,763.67	An innovative service model for AHS and community-based pharmacist collaborative care of adult rural patients with chronic kidney disease	Principal/Senior	2014
	\$126,380.86	The therapeutic evaluation of Steroids in IgA Nephropathy Global (TESTING) study – Canadian Network	Co-investigator	2014
	\$112,500.00	Effectiveness and cost of weekly rt-PA in hemodialysis patients at high risk for catheter complications: Quality assurance project of the implementation and evaluation of PreCLOT	Principal/Senior	2014
	\$1,875,000.00	The Canadian National Transplant Research Program: Increasing donation and improving transplant outcomes	Co-investigator	2014
	\$38,971.67	Identifying opportunities to improve care for patients after acute kidney injury	Co-investigator	2014
	\$76,948.67	Reducing the risk of serious adverse events and improving quality of life for patients with kidney disease: the role of AVF creation in hemodialysis patients	Co-investigator	2014
	\$91,666.67	Systematic review of MID estimates and methods	Co-investigator	2014
	\$99,042.81	Enhancing uptake of systematic reviews	Principal/Senior	2014
	\$71,158.05	Cardiovascular risk among cancer survivors	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$89,416.22	Epidemiology, costs and consequences of multimorbidity	Co-investigator	2014
	\$834,153.33	Improving the efficient and equitable care of patients with chronic medical conditions: the Interdisciplinary Chronic Disease Collaboration (ICDC)	* Team Leader	2014
<b>Sum</b>	<b>\$8,159,121.52</b>			
<b>Carla Coffin</b>				
	\$73,000.00	Leaders of Opportunity Fund and Alberta Advanced Education Technology: Translational Health Research Collobatorium	Co-PI	2014
	\$29,166.67	Translational Health Research Collobatorium (Matching funds)	Co-PI	2014
	\$60,000.00	New Investigator Award	Principal/Senior	2014
	\$482.67	A long term follow-up registry study of subjects who did not achieve loss of S Antigen (HBsAg) and sustained HBV Viral load reduction below the limit of Quantitation (BLQ) in Gilead-Sponsored Trials of GS-9620 in subjects with chronic Hepatitis B	Site/Local PI	2014
	\$1,508.10	HBV Registry, Prospective, Observational, Post-Marketing Renal Safety Surveillance Registry in patients with chronic Hepatitis B (HBV) infection with decompensated liver disease receiving Nucleotide/side therapy while on the Orthotopic Liver Transplantation (OLT) list	Site/Local PI	2014
	\$3,050.87	A Double-Blind, Randomized, Placebo-Controlled, Single and Multiple-Dose Ranging Study Evaluating the Safety, Tolerability, Pharmacokinetics, Pharmacodynamics, and Antiviral Activity of GS 9620 in Virologically Suppressed Subjects with Chronic Hepatitis B Virus Infection.	Site/Local PI	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$3,105.13	A Double-Blind, Randomized, Placebo-Controlled, Single and Multiple-Dose Ranging, Adaptive Study Evaluating the Safety, Tolerability, Pharmacokinetics, Pharmacodynamics, and Antiviral Activity of GS 9620 in Treatment Naïve Subjects with Chronic Hepatitis B Virus Infection.	Site/Local PI	2014
	\$2,974.00	Dose-Ranging Study to Evaluate the Safety, Efficacy and Pharmacokinetics of Pegylated Interferon Lambda (BMS-914143) Monotherapy in Interferon Naïve Patients with Chronic Hepatitis B Virus Infection who are HBeAg-positive	Site/Local PI	2014
	\$1,702.55	Pharmacogenomic analysis of blood samples to identify host genomic profiles that segregate responders from non-responders following treatment with Peg-Interferon and Ribavirin in HCV-infected subjects (genotype 1)	Site/Local PI	2014
	\$7,437.36	A randomized, double-blind, controlled evaluation of Tenofovir DF versus Adefovir Dipivoxil for the treatment of presumed Pre core mutant chronic Hepatitis B.	Site/Local PI	2014
	\$7,850.03	A Phase 3 blinded randomized study of Peginterferon Lambda-1a and Ribavirin compared to Peginterferon Alfa-2a and Ribavirin, each administered with Telaprevir in subjects with Genotype-1 Chronic Hepatitis C who are treatment-naïve or relapsed on treatment with Peginterferon Alfa and Ribavirin	Site/Local PI	2014
	\$9,836.07	Development of a Vaccine Against the Hepatitis C Virus (HCV) and Demonstration of Efficacy in Intravenous Drug Users	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$2,520.74	Pathogenicity of Hepatitis B Virus related hepatocellular carcinoma	Principal/Senior	2014
	\$1,166.67	Molecular Status Hepatocellular Carcinoma Related Chronic Hepatitis B Virus Infection	Principal/Senior	2014
	\$3,333.33	Molecular Status Hepatocellular Carcinoma Related Chronic Hepatitis B Virus Infection	Principal/Senior	2014
	\$8,272.00	A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Tenofovir Alafenamide (TAF) 25 mg QD versus Tenofovir Disoproxil Fumarate (TDF) 300 mg QD for the Treatment of HBeAg-Positive, Chronic Hepatitis B	Site/Local PI	2014
	\$8,272.00	A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Tenofovir Alafenamide (TAF) 25 mg QD versus Tenofovir Disoproxil Fumarate (TDF) 300 mg QD for the Treatment of HBeAg-Negative, Chronic Hepatitis B	Site/Local PI	2014
<b>Sum</b>	<b>\$223,678.17</b>			
<b>Carolyn Owen</b>				
	\$2,283.33	Molecular basis of familial hematological malignancies	Principal/Senior	2014
	\$864.00	Molecular analysis of light-chain switch and transformation to aggressive lymphoma from follicular lymphoma.	Principal/Senior	2014
<b>Sum</b>	<b>\$3,147.33</b>			
<b>Charlene Fell</b>				
	\$12,010.24	Medical Grant for research coordinator with Intermune Canada, Inc. Total Grant: \$100,000.00	Principal/Senior	2014
<b>Sum</b>	<b>\$12,010.24</b>			



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Cheryl Barnabe</b>	\$11,809.94	"The Window of Opportunity": Seizing the Opportunity for Positive Lifestyle Modifications in Early Inflammatory Arthritis.	Principal/Senior	2014
	\$14,184.97	Access and Utilization of Healthcare for Rheumatoid Arthritis in Aboriginal People in Alberta.	Co-PI	2014
	\$27,416.67	Rheumatoid Arthritis Management in Alberta's Aboriginal Population	Principal/Senior	2014
	\$60,000.00	Canadian Rheumatology Association (Canadian Initiative for Outcomes in Rheumatology Care) and The Arthritis Society Clinician Investigator Award	Principal/Senior	2014
	\$111,329.67	Erosion Healing and Restoration of Function in Rheumatoid Arthritis	Principal/Senior	2014
	\$41,250.00	Urban Aboriginal Arthritis Detection and Management Strategy	Principal/Senior	2014
	\$39,845.00	Precision, Preventing Complications from Inflammatory Skin, Joint, and Bowel Conditions	Co-investigator	2014
	\$17,500.00	A Multidisciplinary Approach to Target Chronic Inflammation of the Gut, Liver and Joint	Co-investigator	2014
	\$17,500.00	Brain Dysfunction in Chronic Inflammatory Disease	Co-investigator	2014
	\$250,000.00	Optimizing Centralized Intake to Improve Arthritis Care for Albertans	Co-investigator	2014
	\$40,584.00	Creating an optimal model of care for the efficient delivery of appropriate and effective arthritis care	Co-investigator	2014
	\$7,500.00	Cardiovascular Quality Indicators for Rheumatoid Arthritis	Co-investigator	2014
	\$6,211.75	Administrative Data in Rheumatic Disease Research and Surveillance	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$143,237.67	Developing an innovative evidence-based support tool to improve osteoarthritis care planning and health service management for diverse patient populations in Alberta, Saskatchewan and Manitoba	Co-investigator	2014
	\$198,400.00	Our Health Counts Toronto, Developing a Population based Urban Aboriginals Cohort to assess and enhance individual, family and community Health and Well being	* Collaborator	2014
	\$14,958.33	Case Managers to Improve the Management of Arthritis and Associated Comorbidities with Aboriginal Communities: A Proof of Concept Study.	Co-PI	2014
	\$13,125.00	Case Managers to Improve the Management of Inflammatory Arthritis and Associated Comorbidities with First Nations Communities: A Proof of Concept Study.	Co-PI	2014
	\$6,494.60	Development and usability testing of a personalized risk communication tool to facilitate the shared decision of methotrexate treatment options in early rheumatoid arthritis.	Co-investigator	2014
	\$1,500.00	European League Against Rheumatism (EULAR) Annual Meeting Travel Bursary	Principal/Senior	2014
	\$1,000.00	American College of Rheumatology Study Group for the SPECTRA Collaboration	Principal/Senior	2014
<b>Sum</b>	<b>\$1,023,847.59</b>			
<b>Christopher</b>	\$31,250.00	GI motility patient management and research	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$16,666.67	Inc. Prucalopride versus Placebo in Diabetic Gastroparesis: Randomized Placebo controlled Crossover Trial, investigator initiated.	Principal/Senior	2014
<b>Sum</b>	<b>\$47,916.67</b>			
<b>Christopher Mody</b>				
	\$126,991.48	Direct Lymphocyte mediated antimicrobial mechanisms	Principal/Senior	2014
	\$16,800.00	Host Defense to Cryptococcus gattii from Vancouver Island	Principal/Senior	2014
	\$101,189.19	Lymphocyte-mediated host defense to Burkholderia cepacia complex	Principal/Senior	2014
<b>Sum</b>	<b>\$244,980.66</b>			
<b>Claire Barber</b>				
	\$46,750.00	Development and Testing of Quality Indicators for Rheumatoid Arthritis	* Training grant	2014
	\$5,000.00	Development of Cardiovascular Quality Indicators for Rheumatoid Arthritis	* PI	2014
	\$19,354.84	Vanier Canada Graduate Scholarships 2013-2014	* Training grant	2014
	\$0.00	Developing System-Level Arthritis Performance Measures For AAC Framework.	* PI but instn. paid	2014
	\$0.00	PRECISION: Preventing Complications from Inflammatory Skin, Joint and Bowel Conditions	* Trainee	2014
	\$0.00	Optimizing Centralized Intake to Improve Arthritis Care in Alberta	Co-investigator	2014
<b>Sum</b>	<b>\$71,104.84</b>			
<b>Cynthia Seow</b>				
	\$9,000.00	Psychological Distress and Cortisol Among Pregnant Women with Inflammatory Bowel Disease	Co-investigator	2014
<b>Sum</b>	<b>\$9,000.00</b>			

Name	Prorated Amount	Title	Role	Year
<b>Daniel Muruve</b>	\$1,000.00	The Alberta Sepsis Network	Co-investigator	2014
	\$83,333.33	Inflammation and Kidney Disease	Principal/Senior	2014
	\$6,250.00	The Role of the Inflammasome in Renal Injury	Principal/Senior	2014
	\$83,333.33	Personalized Medicine, Inflammation and Kidney Disease	* Canada Research	2014
	\$203,416.67	Nod-like receptors: linking innate immunity and inflammation to chronic disease	Co-PI	2014
	\$16,666.67	NOD-Like Receptors and Inflammasomes in Kidney Disease	Principal/Senior	2014
	\$135,352.83	NOD-Like Receptors and Inflammasomes in Kidney Disease	Principal/Senior	2014
	\$166,768.33	Favouring engraftment and preventing rejection /GVHD through targeted disruption of danger and death signals:from cells to patients.	* Co-lead, Project 3	2014
	\$206,000.00	A Biobank for the Molecular Classification of Kidney Disease	Principal/Senior	2014
<b>Sum</b>	<b>\$902,121.17</b>			
<b>David Hanley</b>	\$30,523.60	A biomedical engineering approach to investigating bone quality across the lifespan	Co-investigator	2014
	\$60,000.00	Canadian Multicentre Osteoporosis Study ( I am the local Principal Investigator,)	Co-investigator	2014
	\$131,566.00	On the development of bone quality parameters for assessing osteoporosis using peripheral quantitative computed tomography	Co-investigator	2014
	\$277,777.78	Randomized double-blind study investigating dose-dependent longitudinal effects of vitamin D supplementation on bone health	Co-PI	2014
<b>Sum</b>	<b>\$499,867.38</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>David Hogan</b>	\$288,932.87	Canadian Longitudinal Study on Aging	Site/Local PI	2014
	\$131,840.00	Effects of Regular Exercise on Cerebrovascular Reserve in Older Adults: Role in the Prevention of Age-Related Cognitive Decline	Co-investigator	2014
	\$255,833.33	InfoRehab: Enhancing MSK Rehabilitation through Better Use of Health Information	* Collaborator	2014
	\$76,604.20	Canadian Longitudinal Study on Aging	Site/Local PI	2014
	\$76,604.20	Canadian Longitudinal Study on Aging	Site/Local PI	2014
	\$833,333.33	W21C: Interdisciplinary Research and Innovation for Health System Quality and Safety.	* Co-Applicant	2014
	\$45,224.84	Expression of Interest to the CIHR Canadian Consortium on Neurodegeneration in Aging (CCNA) Funding Opportunity.	* Co-Applicant	2014
	\$50,000.00	Exploring frailty and its role in the assessment of high risk medications and risk of for poor health outcomes in vulnerable populations	Co-investigator	2014
	\$3,658,000.00	CCNA (Howard Chertkow, Nominated principal Applicant)	* Co-Applicant	2014
	\$149,226.50	Framing-LTC (Andrew Morris, Chaim Bell, Susan Bronskill, Lianne Jeffs, and Dr. Colleen Maxwell)	Co-investigator	2014
<b>Sum</b>	<b>\$5,565,599.28</b>			

Name	Prorated Amount	Title	Role	Year
David Lau	\$13,714.29	Saxagliptin Assessment of Vascular Outcomes Recorded in Patients with Diabetes Mellitus - A 24-week, multicentre, randomized, double-blind, placebo controlled phase 3 study with a 28-week extension period to evaluate the efficacy of Dapagliflozin 10mg once daily compared with placebo on control, blood pressure, body weight, and safety, in patients with type 2 diabetes, cardiovascular disease and hypertension who exhibit inadequate glycaemic control on usual care. Protocol No: D1690C00018	Principal/Senior	2014
	\$16,646.50	Phase III double-blind, extension, placebo controlled parallel group safety and efficacy trial of BI10773 (10 and 25 mg once daily) and sitagliptin (100 mg od) given for a minimum of 76 weeks (including 24 weeks of preceding trial – 1245.23) as monotherapy or with different back-ground therapies in patients with type 2 DM.	Principal/Senior	2014
	\$56,110.40	Effect of liraglutide on body weight in non-diabetic subjects or overweight subjects with co-morbidities. A randomized, double-blind, placebo controlled, parallel group. Multicentre, multinational trial with stratification of subjects to either 56 or 160 weeks of treatment based on pre-diabetes status at randomization	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$41,250.00	Dapagliflozin Evaluation of Cardiovascular Events (DECLARE – TIMI 58); A Multicenter, Randomized, Double-Blind, Placebo-Controlled Phase 3b Trial to Evaluate the Effect of Dapagliflozin 10 mg Once Daily on the Incidence of Cardiovascular Death, Myocardial Infarction or Ischemic Stroke in Patients with Type 2 Diabetes.	Principal/Senior	2014
	\$16,071.43	Development of educational slide set on management of body weight in type 2 diabetes	Principal/Senior	2014
<b>Sum</b>	<b>\$143,792.61</b>			
<b>David Sam</b>				
	\$2,004.08	Real-Time Clinical Audit for the Medical Disorders in Pregnancy Program: Clinical Database. Hardware and Software Requirements.	Co-investigator	2014
	\$8,918.92	Real-Time Clinical Audit for the Medical Disorders in Pregnancy Program: Clinical Database. Hardware and Software Requirements.	Co-investigator	2014
	\$9,000.00	Unrestricted research and educational grant	Co-investigator	2014
<b>Sum</b>	<b>\$19,923.00</b>			
<b>Dawn Goodyear</b>				
	\$8,823.53	Barriers to Health Care Delivery in Mild Hemophilia	Co-PI	2014
	\$2,050.10	Canadian VWD and Angiodysplasia Survey	Co-PI	2014
	\$2,079.59	Pregnancy loss in von Willebrand disease: A multi-centre cohort study	Co-PI	2014
<b>Sum</b>	<b>\$12,953.22</b>			



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Dianne Mosher</b>	\$11,536.46	Training the Rheumatologists of Tomorrow: A Qualitative Case Study	Site/Local PI	2014
	\$143,237.67	Developing an innovative evidence-based decision support tool to improve osteoarthritis care planning and health service management for diverse patients populations in Alberta, Saskatchewan and Manitoba	Co-investigator	2014
	\$369,222.16	Optimizing Centralized Intake to Improve Arthritis Care for Albertans	Co-investigator	2014
	\$5,004.00	Developing System-Level Arthritis Performance Measures for AAC (Arthritis Alliance of Canada) Framework	Co-investigator	2014
	\$15,000.00	Fit for Work: Arthritis in the Workplace & Early Intervention Clinics	Co-PI	2014
	\$18,750.00	Dissemination of the Pan-Canadian Standardized Inflammatory Arthritis Model of Care	* Leader	2014
	\$488,700.00	A multidisciplinary approach to target chronic inflammation of the gut, liver and joint	* Collaborator	2014
	\$40,584.00	Creating an optimal model of care for the efficient delivery of appropriate and effective arthritis care	* Collaborator	2014
<b>Sum</b>	<b>\$1,092,034.29</b>			

Name	Prorated Amount	Title	Role	Year
Dina Fisher	\$20,871.00	TDE-PH-308: A 16-Week, International, Multicenter, Double-Blind, Randomized, Placebo-Controlled Study of the Efficacy and Safety of Oral UT-15C Sustained Release Tablets in Subjects with Pulmonary Arterial Hypertension (FREEDOM-C2 )	Site-investigator	2014
		A 12-Week, International, Multicenter, Double-Blind, Randomized, Placebo-Controlled Comparison of the Efficacy and Safety of Oral UT-15C Sustained Release Tablets in Subjects with Pulmonary Arterial Hypertension		
	\$18,366.57	Protocol: An Open Label Extension of UT 15CSR for subjects with Pulmonary Arterial Hypertension TDE-PH-304	Site-investigator	2014
	\$8,488.33	Research Project Title: A Phase-3, Long-term, Open-Label, Multicenter Safety and Efficacy Study of Ambrisentan in Subjects with Pulmonary Hypertension	Site-investigator	2014
	\$7,159.33	Protocol: Randomized, double-blind, placebo-controlled, multi-centre, multi-national study to evaluate the efficacy and safety of oral BAY 63-2521 (1 mg, 1.5mg, 2 mg, or 2.5 mg tid) in patients with symptomatic Pulmonary Arterial Hypertension (PAH) Principal Investigator: Helmersen Sub'I's: Fell, Fisher, Hirani, Jarand, Rimmer, Viner	Site-investigator	2014
	\$3,840.00	Protocol: Long-term extension, multi-centre, multi-national study to evaluate the efficacy and safety of oral BAY 63-2521 (1 mg, 1.5mg, 2 mg, or 2.5 mg tid) in patients with Chronic Thromboembolic Pulmonary Hypertension (CTEPH) Sub'I's: Fell, Fisher, Hirani, Jarand, Rimmer, Viner	Site-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$1,748.29	Protocol: An extension study to QTI571A2301 to evaluate the long-term safety, tolerability and efficacy of oral QTI571 (imatinib) in the treatment of severe pulmonary arterial hypertension: IMPRES Extension	Site-investigator	2014
	\$15,959.67	Protocol: AMBITION: A Randomized, Multi-Center Study of First-Line Ambrisentan and Tadalafil Combination Therapy in Subjects with Pulmonary Arterial Hypertension. Sub-I's: Fisher, Helmersen, Loewen, Rimmer, Viner	Site-investigator	2014
	\$6,016.94	Social work services in the treatment of patients with Tuberculosis	Principal/Senior	2014
	\$6,747.75	Study with an ERA in Pulmonary Arterial Hypertension to Improve Clinical outcome. Long-term single-arm extension study of the SERAPHIN study, to assess the safety and tolerability of ACT-064992 in patients with symptomatic pulmonary arterial hypertension	Site-investigator	2014
	\$5,813.25	Improving the diagnosis of Extra-pulmonary Tuberculosis in Bangladesh	Principal/Senior	2014
	\$7,667.50	Understanding of tuberculosis infection,disease,and treatment following TB prophylaxis implementation among people living with HIV in KwaZulu-Natal South Africa	Co-investigator	2014
	\$14,400.00	Can certified respiratory educators improve the care of patients with COPD	Co-investigator	2014
	\$1,783.50	A 24 week randomized, double-blind, multi-center, placebo-controlled efficacy, safety, tolerability and PK trial of Nilotinib ( Tassigna, AMN107) in Pulmonary Hypertension	Site-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$68,987.00	A phase 2, Placebo Controlled, Double-Blind, Randomized, Clinical Study to Determine Safety, Tolerability and Efficacy of Pulsed, Inhaled Nitric Oxide versus Placebo as Add-On therapy in Symptomatic subjects with Pulmonary arterial Hypertension	Site-investigator	2014
	\$8,441.75	A 52-week, double-blind Randomized, placebo-controlled, parallel-group study to evaluate the effect of roflumilast 500 ug on Exacerbation rate in patients with COPD treated with fixed-dose combination of long-acting beta agonist and inhaled corticosteroid.	Site-investigator	2014
	\$3,561.33	Protocol: An Open Label Extension of UT 15CSR for subjects with Pulmonary Arterial Hypertension TDE-PH-310	Site-investigator	2014
<b>Sum</b>	<b>\$199,852.21</b>			
<b>Doreen Rabi</b>				
	\$78,571.43	Population Health Investigator Award	* Recipient	2014
	\$16,666.67	Economic evaluation of intense blood pressure targets in type 2 diabetes	Co-investigator	2014
	\$50,000.00	GENESIS PRAXY (Gender and Sex determinants of Cardiovascular Disease: From Bench to Beyond premature acute coronary syndrome	Co-investigator	2014
	\$37,326.86	Improving efficiency and access in diabetes care through e-communications: Developing a framework for clinical and technology policy.	Principal/Senior	2014
	\$56,158.50	The effect of air pollution on developing type 1 diabetes mellitus	Co-PI	2014
	\$74,138.00	Preventing myocardial infarction with the air quality health index	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$5,000.00	Optimizing physician training in motivational interviewing (MI) to improve MI competency, patient health behaviours and morbidity among patients with cardiovascular and chronic lung disease	Co-investigator	2014
	\$55,178.25	A Mixed-Methods Human Factors Evaluation of Patient Health Portals in diabetes	Principal/Senior	2014
	\$7,750.00	Ambulatory care sensitive conditions indentified in hospital discharge data: Which admissions are deemed avoidable?	* Co-applicant	2014
	\$5,000.00	Maternal vitamin D concentration and its association with pregnancy and neonatal outcomes	* Co-applicant	2014
<b>Sum</b>	<b>\$385,789.70</b>			
<b>Douglas Hamilton</b>	\$9,729.73	Comparison of Continuous Noninvasive and Invasive Intracranial Pressure Measurement	Co-investigator	2014
<b>Sum</b>	<b>\$9,729.73</b>			
<b>Douglas Helmersen</b>	\$6,366.25	A Phase-3, Long-term, Open-Label, Multicenter Safety and Efficacy Study of Ambrisentan in Subjects with Pulmonary Hypertension	Site/Local PI	2014
	\$428.57	Pharmacogenomics in pulmonary arterial hypertension : a multicentre international study to determine clinically in PAH patients if associations exist between efficacy and toxicity of endothelin receptor antagonists and selected gene polymorphisms	Site/Local PI	2014
	\$7,159.33	Long Term extension multicentre multinational study to evaluate the efficacy and safety of oral BAY 63-2521 in patients with PAH	Site/Local PI	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$5,376.00	Long Term Extension multicentre multinational study to evaluate the efficacy and safety of oral BAY 63-2521 in chronic thromboembolic pulmonary hypertension (CTEPH)	Site/Local PI	2014
	\$19,151.60	A Randomized, Multi-Center Study of First-Line Ambrisentan and Tadalafil Combination Therapy in Subjects with Pulmonary Arterial Hypertension.	Co-investigator	2014
	\$6,747.75	Study with an ERA in Pulmonary Arterial Hypertension to Improve Clinical Outcome. Long Term Single Arm open label extension study of the SERAPHIN study to assess the safety and tolerability of ACT-064992 in patients with Symptomatic Pulmonary Arterial Hypertension	Site-investigator	2014
	\$16,070.75	An Open Label Extension of UT 15CSR for subjects with Pulmonary Arterial Hypertension TDE-PH-304	Site-investigator	2014
	\$103,480.50	A phase 2, placebo controlled, double blind, randomized, clinical study to determine safety, tolerability and efficacy of pulsed, inhaled nitric oxide (iNO) versus placebo as add-on therapy in symptomatic patients with pulmonary arterial hypertension (PAH)	Site-investigator	2014
	\$16,883.50	52 week, double blind, randomized, placebo controlled, parallel group study to evaluate the effect of Roflumilast 500 mcg on exacerbation rate in patients with COPD treated with fixed dose combination of LABA/ICS	Site/Local PI	2014
	\$16,026.00	An Open Label Extension of UT 15CSR for subjects with Pulmonary Arterial Hypertension TDE-PH-310	Site-investigator	2014
<b>Sum</b>	<b>\$197,690.25</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Ghazwan Altabbaa</b>				
	\$6,666.67	DOM Business Cost Program ARP Competition Fund for IM Program structure RGH Internal Medicine Simulation Lab	Principal/Senior	2014
	\$6,750.00	DOM Business Cost Program ARP Competition Fund for IM Program Structure RGH Sony PMW-100 XDCAM HD422	Principal/Senior	2014
<b>Sum</b>	<b>\$13,416.67</b>			
<b>Gilaad Kaplan</b>				
	\$250,000.00	Etiology of Inflammatory Bowel Disease: Gene, Microbe, & Environment Interactions	Co-investigator	2014
	\$34,426.23	CIHR New Investigator Award	Principal/Senior	2014
	\$108,705.88	Alberta Heritage Foundation for Medical Research (AHFMR) Population Health Investigator	Principal/Senior	2014
	\$75,000.00	A translational approach to understanding and managing primary sclerosing cholangitis	* Co-leader	2014
	\$50,000.00	Aberrant dendritic cell and T cell immune function driven by IBD associated genetic mutations.	Co-investigator	2014
	\$60,000.00	An enhanced method to measure chronic disease burdens using health administrative data	Co-investigator	2014
	\$17,500.00	Clinical Research Award from the American College of Gastroenterology for "Serological technologies and profiles to deliver precision diagnostics for inflammatory bowel disease patients".	Co-investigator	2014
	\$833,333.33	Canadian Children Inflammatory Bowel Disease Network	* Co-Principal	2014
	\$90,000.00	Do altitude-related air pressure differences influence susceptibility to cardiovascular disease?	Co-investigator	2014



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$43,333.33	The Effect of Air Pollution in Developing Type 1 Diabetes Mellitus.	Co-investigator	2014
	\$56,250.00	Preventing Myocardial Infarctions with the Air Quality Health Index.	Principal/Senior	2014
	\$1,250,000.00	PRECISION: Preventing Complications from Inflammatory Skin, Joint and Bowel Conditions.	Co-investigator	2014
	\$451,388.89 2014	A Multidisciplinary Approach To Target Chronic Inflammation Of The Gut, Liver And Joint.	Co-investigator	
	\$451,388.89	Nod-like receptors: linking innate immunity and inflammation to chronic disease.	Co-investigator	2014
	\$451,388.89	Brain Dysfunction in Chronic Inflammatory Disease: Reciprocal Effects of CNS and Periphery Crosstalk.	Co-investigator	2014
	\$16,250.00	Preventing Strokes with the Air Quality Health Index.	Principal/Senior	2014
	\$67,708.33	Reassessment of Clinical Practices for Patient Presenting to the Emergency Department with Upper Gastrointestinal Bleeding.	* Co-Principal	2014
<b>Sum</b>	<b>\$4,306,673.78</b>			
<b>Glen Hazlewood</b>				
	\$5,457.65	Development and usability of a personalized risk calculator for shared decision making in early rheumatoid arthritis	Principal/Senior	2014
	\$54,444.44	Clinical Fellowship Award	Principal/Senior	2014
	\$0.00	Towards Informing and Improving the Management of Rheumatoid Arthritis in Pregnancy	* Collaborator	2014
<b>Sum</b>	<b>\$59,902.09</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Habib Kurwa</b>	\$10,000.00	MiR-125b: a novel oncomir in cutaneous squamous cell carcinoma	Co-investigator	2014
	\$20,000.00	MirNAs: unraveling the mechanism of squamous cell carcinoma	Co-investigator	2014
<b>Sum</b>	<b>\$30,000.00</b>			
<b>Harvey Rabin</b>	\$22,850.00	Vertex (VX-11-661-101) A Phase 2, Multicenter, Double-Blinded, Placebo-Controlled, 3-Part Study to Evaluate Safety, Efficacy, Pharmacokinetics, and Pharmacodynamics of VX-661 Monotherapy and VX-661/VX-770 Co-therapy in Subjects with Cystic Fibrosis, Homozygous for the F508del-CFTR Mutation.	Site/Local PI	2014
	\$15,861.75	Cystic Fibrosis Clinic Incentive Grant	Principal/Senior	2014
	\$12,553.50	Vertex (VX-12-809-104) A Phase 3, Randomized, Double-Blinded, Placebo-Controlled, Parallel-Group Study to Evaluate Efficacy and Safety of Lumacaftor in Combination With Ivacaftor in Subjects Aged 12 Years and Older with Cystic Fibrosis, Homozygous for the F508del-CFTR Mutation.	Site/Local PI	2014
	\$43,924.85	Cystic Fibrosis Canada Clinic Incentive Grant	Principal/Senior	2014
	\$4,194.55	Vertex (VX-12-809-105) A Phase 3, Roll-over Study to Evaluate Efficacy and Safety of Long-term Treatment With Lumacaftor in Combination With Ivacaftor in Subjects Aged 12 Years and Older with Cystic Fibrosis, Homozygous or Heterozygous for the F508del-CFTR Mutation.	Site/Local PI	2014
<b>Sum</b>	<b>\$99,384.64</b>			

Name	Prorated Amount	Title	Role	Year
<b>Humberto Jijon</b>				
	\$66,666.67	Establishment of a high-throuput screening strategies for the identification of IBD patients and customization of therapies	Co-investigator	2014
	\$92,400.00	Alberta Innovates - Health Solutions Clinical Fellowship	* Clinical Research	2014
<b>Sum</b>	<b>\$159,066.67</b>			
<b>Irene Wai Yan Ma</b>				
	\$4,944.62	Improving bedside procedural competence using electromagnetic tracking as part of the training program	Co-investigator	2014
	\$9,230.77	Four hand-held ultrasound devices	Co-investigator	2014
	\$5,625.00	2013 DOM Quality Improvement Spring Competition: Evaluating the Implementation of a Procedure Cart for Internal Medicine Postgraduate Training	Principal/Senior	2014
	\$4,038.46	Evaluating the usability of augmented reality technology in simulation-based teaching of central venus catheterization	Principal/Senior	2014
<b>Sum</b>	<b>\$23,838.85</b>			
<b>J. Albertus Eksteen</b>				
	\$75,000.00	Start-up funds for Dr. Eksteen	Principal/Senior	2014
	\$10,216.22	Inflammasone in Fatty Liver Disease	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$36,486.49	A Translational Approach to Understanding and Managing Primary Sclerosing Cholangitis	Co-investigator	2014
	\$8,196.72	Etiology of Inflammatory Bowel Disease: Gene, Microbe, and Environment Interactions	Co-investigator	2014
	\$10,000.00	Genetics of PSC	Co-investigator	2014
	\$120,000.00	CIHR Human Immunology Network	Co-investigator	2014
	\$16,666.67	CCFC/Vertex Operating Grant	Co-PI	2014
	\$35,790.00	"A 2-Part, Open Label Study of Telaprevir in Combination With Peginterferon Alfa-2a (Pegasys®) and Ribavirin (Copegus®) in Subjects Chronically Infected with Genotype 1 Hepatitis C Virus Following Liver Transplantation"	Site/Local PI	2014
	\$19,332.00	A Phase 3b Study of 2 Treatment Durations of Telaprevir, Peg-IFN (Pegasys®), and Ribavirin (Copegus®) in Treatment-Naive and Prior Relapser Subjects With Genotype 1 Chronic Hepatitis C and IL28B CC Genotype	Site/Local PI	2014
	\$27,085.00	"A Phase 2b, Dose-Ranging, Randomized, Double-Blind, Placebo-Controlled Trial Evaluating the Safety and Efficacy of GS-6624, a Monoclonal Antibody Against Lysyl Oxidase Like 2 (LOXL2) in Subjects with Primary Sclerosing Cholangitis (PSC)"	Site/Local PI	2014
	\$245,901.64	CIHR Team Grant- Health Challenges in Chronic Inflammation Signature Initiative	Principal/Senior	2014
<b>Sum</b>	<b>\$604,674.73</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Jan Storek</b>	\$20,066.07	SCOT (Scleroderma-Cyclophosphamide or Transplantation?) trial	Site/Local PI	2014
	\$100,000.00	Team Grant on Biomarkers of viral pathogenesis in transplant recipients	Co-investigator	2014
	\$16,216.22	Biomarkers of Chronic Graft-vs-Host Disease	Site/Local PI	2014
	\$166,666.67	Toward Improved Outcomes of ATG-Conditioned Hematopoietic Cell Transplantation	Principal/Senior	2014
	\$2,662.50	Alberta Cancer Foundation/AHS-Cancer Care Investigator-Initiated Trial Award for pharmacy fees for a trial of Preemptive Therapy of GVHD, 2013-2016, C\$10,650	Principal/Senior	2014
	\$8,250.00	Calgary Health Trust Hematology Research and Education Fund grant "Identification of patients at high risk of developing posttransplant lymphoproliferative disorder (PTLD) and leukemia relapse using Epstein-Barr virus-specific T cells and NK cells", 2014-2017, C\$33,000	Principal/Senior	2014
	\$4,962.50	IL-10 gene profile of allogeneic HCT donors as a biomarker of GVHD", P.I.: F.Khan, J.Storek is a co-investigator, 2013-2015, C\$9,825	Co-investigator	2014
	\$2,800,000.00	CIHR Team Grant on Solid Organ and Hematopoietic Cell Transplantation (Canadian National Transplant Research Program), section on Viral Pathogenesis in Transplantation, Overall PI: L.West, J.Storek is a co-applicant, 2013-2018, Overall budget C\$14,000,000	Co-investigator	2014
	\$6,800.00	Predictors of GVHD	Principal/Senior	2014
<b>Sum</b>	<b>\$3,125,623.96</b>			

Name	Prorated Amount	Title	Role	Year
<b>Jane Lemaire</b>	\$3,743.04	The Experience of Professional Role Transition for Newly Licensed Independently Practicing Physicians	Co-investigator	2014
	\$4,000.00	Exploring the Dimensions of the Medical Teaching Unit Preceptor Role	Principal/Senior	2014
	\$1,000,000.00	W21C CRIO W21C Interdisciplinary Research and Innovation for Health System Quality and Safety	* collaborator	2014
	\$15,000.00	Medical Teaching Unit Preceptor Study Dissemination Symposium. Other symposium members: William Ghali, Peter Sargious, Jean Wallace, Kelly Zarnke, Maria Bacchus, Jill de Grood, Sharon Card, Ken Harris.	Principal/Senior	2014
<b>Sum</b>	<b>\$1,022,743.04</b>			
<b>Jayna Holroyd-</b>	\$502,218.17	Knowledge Translation Canada: Strategic training initiative in health research	Site-investigator	2014
	\$31,662.70	Efficacy of a web-based seamless discharge tool	Co-investigator	2014
	\$15,364.31	Fall prevention among seniors	Co-investigator	2014
	\$500,000.00	Advance Care Planning and Goals of Care Alberta: a population based Knowledge Translation intervention study	Co-investigator	2014
	\$93,311.17	Enhancing uptake of systematic reviews: Making evidence more accessible to decision makers	* Co-Investigator	2014
	\$1,666.67	Examining the Sustainability of a Screening for Distress Program in 2 Outpatient Oncology Clinics	* Supervisor	2014
	\$45,882.35	Targeting discharge resources for DOM inpatients (SISDoM project)	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$21,467.50	A post-policy implementation review of the Winnipeg Central Intake Service (WCIS): a single-entry model to manage referrals and waiting times for hip and knee replacement	Co-investigator	2014
	\$214,033.37	Optimizing Seniors' Surgical Care - The Elder-Friendly Surgical Unit	Co-PI	2014
	\$19,876.15	Supporting Family Caregivers of Seniors: Improving care and caregiver outcomes	Co-PI	2014
	\$26,819.24	Mobilization of Vulnerable Elderly in Alberta	* Principal Knowledge	2014
	\$26,250.00	Elder Friendly Care Initiative	Principal/Senior	2014
<b>Sum</b>	<b>\$1,498,551.63</b>			
<b>Jeffrey Schaefer</b>				
	\$1,176.47	Comprehensive Assessment of Procedural Skills in Internal Medicine. Ma I, Bacchus M, Schaefer J, Walzak A.	Co-investigator	2014
<b>Sum</b>	<b>\$1,176.47</b>			
<b>Jennifer MacRae</b>				
	\$52,500.00	Predicting adverse events in home hemodialysis.	Co-investigator	2014
	\$15,000.00	Randomized Cross over trial of BioLogic RR and the reduction of intradialytic heparin: BP-RIDH trial	Principal/Senior	2014
	\$25,000.00	Hemocontrol's effectiveness in a randomized controlled trial on the reduction of cardiovascular long-term events: HERCULES Study	Principal/Senior	2014
	\$3,333.33	The effect of intradialytic exercise on physical function in chronic HD patients	Principal/Senior	2014



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$10,000.00	Biofeedback a randomized cross-over trial of Blood Volume Controlled biofeedback in HD patients with intradialytic hypotension. The Roy and Vi Baay Foundation. K Leung, P Ravani, R Quinn, H Duff	Principal/Senior	2014
	\$10,800.00	Randomized trial of Buttonhole vs Standard Rope Ladder Needling in Home hemodialysis patients	Principal/Senior	2014
	\$1,666.67	Dialysis Outcomes and Practice Patterns Study (DOPPS) DOPPS 4 and DOPPS 5	Site/Local PI	2014
<b>Sum</b>	<b>\$118,300.00</b>			
<b>John Conly</b>				
	\$58,333.33	AIHS Strategic Initiative - Innovation Platforms - 2013/09/01 to 2016/08/31	Co-investigator	2014
	\$935,920.40	W21C: Interdisciplinary Research and Innovation for Health System Quality and Safety	Co-PI	2014
	\$961.54	Infection Prevention and Control Priority areas associated with the transmission of Ebola Virus Disease (EVD) from suspected patients to health care workers.	Co-investigator	2014
	\$69,172.50	Systematic Review and Environmental Scan of Infection Prevention and Control Outbreaks: Best Practices	Co-PI	2014
<b>Sum</b>	<b>\$1,064,387.77</b>			
<b>John Esdaile</b>				
	\$415,060.33	CIHR team in Investigations of Mobility, Physical Activity, and Knowledge Translation in HIP pain (IMPAKT-HIP)	Principal/Senior	2014
	\$115,090.43	A randomized controlled trial evaluating the effectiveness of the Making It Work program at preventing work loss	Co-investigator	2014
<b>Sum</b>	<b>\$530,150.76</b>			

Name	Prorated Amount	Title	Role	Year
<b>John Gill</b>	\$1,724.14	The Canadian Cohort of HIV slow progressors: study of host and viral factors associated with disease progression long term HIV infected subjects HIV/HCV co infection	Co-investigator	2014
	\$24,793.39	NA Accord Cohort Collaboration	Co-investigator	2014
	\$90,000.00	Towards a transformative understanding of HIV Associated Neurocognitive Disorder	Co-investigator	2014
	\$17,647.06	Inflammatory markers and aging in HIV patients	Site/Local PI	2014
	\$20,000.00	HIV outcomes and cost of therapy	Site/Local PI	2014
	\$14,482.76	Hepatitis C Cohort (CTN-222) If hepatitis C (HCV) is an opportunistic infection, why has HAART not led to dramatic improvements in live disease among HIV-HCV co-infected persons?	Co-investigator	2014
	\$31,250.00	Southern Alberta Cohort ART Collaboration	Co-investigator	2014
	\$2,500.00	ING 114467 A phase 3 randomized, double-blind study of the safety and efficacy of GSWK 1349572	Co-investigator	2014
	\$20,250.00	Maraviroc Switch Collaborative Study	Co-investigator	2014
	\$16,438.36	Maintain (CTN 238) a randomized control clinical trial of micronutrient & Antioxidant supplementation in person with untreated HIV infection	Co-investigator	2014
	\$40,833.33	Research Evidence into Action for Community Health) in HIV/AIDS Initiative;IPV theme co leader	Site-investigator	2014
	\$2,692.31	cc4ms community agency	Co-investigator	2014
	<b>\$282,611.34</b>			
<b>Sum</b>				

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Jose Ferraz</b>				
	\$93,750.00	Integration of Anti-Inflammatory Pathways in IBD	Co-PI	2014
<b>Sum</b>	<b>\$93,750.00</b>			
<b>Kelly Burak</b>				
	\$9,333.33	A Phase III randomized, double-blind, placebo-controlled study of sorafenib as adjuvant treatment for hepatocellular carcinoma after surgical resection or local ablation (STORM: Sorafenib as adjuvant Treatment in the prevention of Recurrence of hepatocellular carcinoMa). [in progress]	Site/Local PI	2014
	\$23,792.60	Dose-Ranging Study to Evaluate the Safety, Efficacy and Pharmacokinetics of Pegylated Interferon Lambda (BMS-914143) Monotherapy in Interferon-Naive Patients with Chronic Hepatitis B Virus Infection who are HBeAg-Positive	Site-investigator	2014
	\$11,379.20	A Phase 2b, Randomized, Double-Blind, Placebo-Controlled Trial Evaluating 16 and 24 Weeks of Response Guided Therapy with GS-9190, GS-9256, Ribavirin (Copegus®) and Peginterferon Alfa 2a (Pegasys®) in Treatment Naïve Subjects with Chronic Genotype 1 Hepatitis C Virus Infection	Site-investigator	2014
	\$1,026.89	A Long Term Follow-up Registry for Subjects Who Achieve a Sustained Virologic Response to Treatment in Gilead-Sponsored Trials in Subjects with Chronic Hepatitis C Infection	Site-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$1,005.50	A Long Term Follow-up Registry Study of Subjects Who Did Not Achieve Sustained Virologic Response in Gilead-Sponsored Trials in Subjects with Chronic Hepatitis C Infection	Site-investigator	2014
	\$7,799.49	A Randomized, Open-Label, Multicenter Study to Evaluate the Antiviral Activity, Safety, and Pharmacokinetics, of ABT-450 with Ritonavir (ABT-450/r) in Combination with ABT-267 and/or ABT-333 With and Without Ribavirin (RBV) for 8, 12 or 24 Weeks in Treatment-Naïve and Null Responder Subjects with Genotype 1 Chronic Hepatitis C Virus Infection	Site-investigator	2014
	\$20,353.57	A Phase 3, Safety and Efficacy Study of Boceprevir/Peginterferon Alfa-2a/ribavirin in Chronic HCV Genotype 1 IL28B CC Subjects	Site-investigator	2014
	\$7,993.57	A Long-Term Follow-up Study of Subjects Who Participated in a Clinical Trial in which Asunaprevir BMS-650032 and/or Daclatasvir BMS-790052 was Administered for the Treatment of Chronic Hepatitis C	Site-investigator	2014
	\$3,050.87	A Double-Blind, Randomized, Placebo-Controlled, Single and Multiple-Dose Ranging Study Evaluating the Safety, Tolerability, Pharmacokinetics, Pharmacodynamics, and Antiviral Activity of GS 9620 in Virologically Suppressed Subjects with Chronic Hepatitis B Virus Infection	Site-investigator	2014

Name	Prorated Amount	Title	Role	Year
	\$3,105.13	A Double-Blind, Randomized, Placebo-Controlled, Single and Multiple-Dose Ranging, Adaptive Study Evaluating the Safety, Tolerability, Pharmacokinetics, Pharmacodynamics, and Antiviral Activity of GS 9620 in Treatment Naive Subjects with Chronic Hepatitis B Virus Infection	Site-investigator	2014
	\$8,480.31	An Open-Label Study of GS-7977+ Ribavirin for 12 Weeks in Subjects with Chronic HCV Infection who Participated in Prior Studies Evaluating GS-7977	Site-investigator	2014
	\$1,508.10	Prospective, Observational, Post-Marketing Renal Safety Surveillance Registry in Patients with Chronic Hepatitis B (HBV) Infection with Decompensated Liver Disease Receiving Nucleotide/side Therapy on the Orthotopic Liver Transplant (OLT) List	Site-investigator	2014
	\$600.00	"A Prospective Observational Study Investigating the Management of G1 Chronic Hepatitis C Adult Patients Treated with VICTRELISM (boceprevir) in Combination with Peginterferon Alpha / Ribavirin: A Real Life Trial in Canada (S.I.M.P.L.E. – Canada)."	Site-investigator	2014
	\$7,429.03	A Phase 2b, Dose-Ranging, Randomized, Double-Blind, Placebo-Controlled Trial Evaluating the Safety and Efficacy of GS-6624, a Monoclonal Antibody Against Lysyl Oxidase Like 2 (LOXL2) in Subjects with Primary Sclerosing Cholangitis (PSC)	Site-investigator	2014
<b>Sum</b>	<b>\$106,857.58</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Kelly Zarnke</b>	\$1,153.85	POISE 2: Peri-operative Ischemic Evaluation Study	Co-investigator	2014
<b>Sum</b>	<b>\$1,153.85</b>			
<b>Kerri Johannson</b>	\$625.00	Association of Long-Term Air Pollution Exposure with Development and Progression of Idiopathic Pulmonary Fibrosis	Principal/Senior	2014
	\$25,000.00	Clinical Research Grant in Pulmonary Fibrosis.	Principal/Senior	2014
<b>Sum</b>	<b>\$25,625.00</b>			
<b>Kerri Novak</b>	\$12,500.00	Monitoring for Subclinical Inflammation in Crohn's Disease.	Co-investigator	2014
	\$17,307.69	Improving Care for Patient with Common Gastrointestinal Conditions within their Medical Home, a Collaborative Project with Primary Care	Principal/Senior	2014
<b>Sum</b>	<b>\$29,807.69</b>			
<b>Kevin Rioux</b>	\$5,000.00	Fecal Calprotectin for Quality of Care Improvement in IBD	Principal/Senior	2014
	\$25,967.64	The Study of Bacterial Ecology of Human Intestine in Health and Disease	Principal/Senior	2014
<b>Sum</b>	<b>\$30,967.64</b>			
<b>Laura Stinton</b>	\$17,500.00	American College of Gastroenterology (ACG) Clinical Research Award	Principal/Senior	2014
<b>Sum</b>	<b>\$17,500.00</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Lee Anne Tibbles</b>	\$390,551.29	The BK: KIDNI Trial (BK Viremia: Kinase Inhibition to Decrease Nephropathy Intervention Trial) Residual balance 2,435,742	Principal/Senior	2014
	\$1,333.33	Effect of Immunosuppressive Medication Use On Patient Outcomes Following Kidney Transplant Failure	Co-investigator	2014
	\$0.00	Novel Markers to Improve the Detection of Declining Kidney Function	Co-investigator	2014
	\$329,362.22	The Canadian ACE-inhibitor trial to improve renal outcomes and patient survival in kidney transplantation	Co-investigator	2014
	\$50,000.00	Biomarkers of Viral Pathogenesis	Principal/Senior	2014
	\$90,000.00	The Canadian National Transplant Research Program: Increasing Donation and Improving Transplantation Outcomes	Co-investigator	2014
	\$375.00	Collaborative Team - Letter of Intent AIHS CRIO Team Letter of Intent Competition	Co-investigator	2014
	<b>\$861,621.85</b>			
<b>Lesley Street</b>	\$3,243.24	ISCAN/Confocal Endomicroscopy as Novel Endoscopic Technique for Evaluating Gastric and Intestinal Lymphoma	Co-PI	2014
	\$1,125.00	Improving Patient Safety by Screening Hematologic Malignancy Patients at Risk for Strongyloides Hyperinfection and Disseminated Strongyliodiasis	Co-PI	2014
	<b>\$4,368.24</b>			
<b>Sum</b>	<b>\$4,368.24</b>			



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Liam Martin</b>	\$13,574.47	Early Inflammatory Arthritis Clinic Assessment	Principal/Senior	2014
	\$10,000.00	Radiographic, Clinical and Patient outcomes in a multicenter, open-label phase IV randomized trial of earlier Adalimumab introduction therapy versus later introduction as per standard of care after initial methotrexate failure in Early Rheumatoid Arthritis patients. EID: 24011 / RT: 10000267	Site/Local PI	2014
	\$12,500.00	BMS VERA = IM101-226 A Phase 3b, Randomized, Active Controlled Trial to Evaluate the Efficacy and Safety of Abatacept SC in Combination with Methotrexate in Inducing Clinical Remission Compared to Methotrexate Monotherapy in Adults with Very Early Rheumatoid Arthritis RA. EID: 23484 / RT: 630139	Site/Local PI	2014
	\$12,500.00	BMS SEVEN = IM133-001 Protocol IM133001: Phase IIB, Randomized, Multi-Center, Double-Blind, Dose-Ranging, Placebo/Active Controlled Study to Evaluate the Efficacy and Safety of BMS-945429 Subcutaneous Injection With or Without Methotrexate in Subjects with Moderate to Severe Rheumatoid Arthritis With Inadequate Response to Methotrexate. EID: 24177 / RT: 10000512	Site/Local PI	2014
	\$150,326.49	Brain Dysfunction in Chronic Inflammatory Disease: Reciprocal Effects of CNS and Periphery Crosstalk. Team Grant: Health Challenges in Chronic Inflammation Initiative. Canadian Institutes for Health Research, \$2,292,479.	Co-investigator	2014
<b>Sum</b>	<b>\$198,900.96</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Lois Donovan</b>				
	\$69,271.08	Families Defeating Diabetes: Canadian Intervention for Family- centered Diabetes Prevention following Gestational Diabetes (GDM)	Site/Local PI	2014
	\$339,047.62	Metformin in Women with Type 2 Diabetes in Pregnancy Trial (MiTy)	Site/Local PI	2014
	\$500.00	Use of Metformin in Pregnancy and Neonatal Outcomes; A Metanalysis	Principal/Senior	2014
	\$227,272.73	Systematic Review on Behavioural Health Programs for the Diabetes Mellitus	*Clinical Investigator	2014
	\$69,534.75	Gestational Diabetes; Variations in Pregnancy Outcomes by Diagnostic Criteria and Health Zones in Alberta	Co-investigator	2014
	\$1.21	Metformin in Women with Type 2 Diabetes in Pregnancy Trial:Kids Follow-up Study (MiTy -Kids)	Site/Local PI	2014
<b>Sum</b>	<b>\$705,627.39</b>			
<b>Lynn Lambert</b>				
	\$3,750.00	Evaluating the implementation of a procedure cart for Internal medicine Postgraduate training (Department of Medicine Quality Improvement Spring Competition)	Co-PI	2014
<b>Sum</b>	<b>\$3,750.00</b>			
<b>Lynne Robertson</b>				
	\$80.93	"Sun and Skin Safety Awareness"	*Project Mentor	2014
<b>Sum</b>	<b>\$80.93</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Maitreyi Raman</b>				
	\$8,155.21	Olimel and Custom Compounded Parenteral Nutrition Prescriptions May be Used Interchangeably in Hospitalized Patients Requiring Parenteral Nutrition.	Principal/Senior	2014
	\$0.00	Effect of n-e Polyunsaturated Fatty Acid Lipid Emulsion on Parenteral Nutrition Associated Liver Disease (Omegavan Study)	Principal/Senior	2014
	\$1,666.67	High Risk Malnutrition Clinic	Principal/Senior	2014
	\$833.33	High Risk Malnutrition Clinic	Principal/Senior	2014
	\$1,666.67	High Risk Malnutrition Clinic	Principal/Senior	2014
	\$6,000.00	Canadian Association of Gastroenterology Research Grant	Principal/Senior	2014
	\$60,390.75	CIHR Operating Grant - Prebiotic fiber supplementation and gut microbiota in non-alcoholic fatty liver disease	Co-investigator	2014
	\$10,000.00	Development of a quantatative fecal fat test based on microscopy and automated image analysis	Co-investigator	2014
<b>Sum</b>	<b>\$88,712.63</b>			
<b>Man-Chiu Poon</b>				
	\$9,149.18	Barriers to Health Care Delivery to Patients with Mild Hemophilia A	Co-PI	2014
	\$10,000.00	Multicentre Canadian Study of Prophylaxis in Older Adults with Severe Hemophilia	Co-investigator	2014
	\$42,500.00	In vivo assessment of bone microarchitecture using HR-pQCT in hemophilia patients: Insight into etiology of decreased BMD in this patient population - Hemostasis Fellowship funding for Dr. Adrienne Lee	Co-PI	2014
	\$3,000.00	History of Hemophilia Care in Canada	Co-PI	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$18,750.00	“In vivo assessment of bone microarchitecture using HR-pQCT in hemophilia patients: Insight into etiology of decreased BMD in this patient population” Canadian Hemophilia Society- Association of Hemophilia Clinic Directors of Canada – CSL- Behring Hemostasis Fellowship for Dr. Adrienne Lee (declined) \$75,000 (2012-13)	Co-PI	2014
	\$3,173.33	Potential role of thromboelastography (TEG) in DDAVP response monitoring for von Willebrand disease and mild hemophilia A	Co-PI	2014
	\$43,059.00	HR-pQCT: a novel imaging technology detects microarchitectural skeletal pathology in hemophilia patients	Co-PI	2014
	\$4,852.67	Pregnancy loss in von Willebrand disease: A multi-centre cohort study	Co-PI	2014
	\$14,666.67	Hematologist Exchange Program (Between Hemophilia Program in Calgary and China)	Principal/Senior	2014
<b>Sum</b>	<b>\$149,150.84</b>			
<b>Marcy Mintz</b>	\$1,775.00	Written Communication between Internal Medicine Residents and Family Physicians: The impact of a Letter-Writing Workshop on the Quality of Consultation Letters Dictated by Residents	Principal/Senior	2014
<b>Sum</b>	<b>\$1,775.00</b>			
<b>Marietta Iacucci</b>	\$56,756.76	A translational approach to understanding and managing primary sclerosing cholangitis. Faculty of Medicine Emerging Team Grant, University of Calgary, \$300,000 – Team Member	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$7,500.00	Surveillance colonoscopy in patients with IBD - comparison of high definition virtual chromoendoscopy using iScan with standard white light endoscopy for detection of colonic dysplastic lesions	Principal/Senior	2014
	\$5,416.67	Preparing iSCAN Atlas	Principal/Senior	2014
	\$8,666.67	Mucosal Healing by iSCAN virtual chromoendoscopy and confocal endomicroscopy in patients treated with azathioprine monotherapy or adalimumab.	Principal/Senior	2014
	\$1,777.78	Early diagnosis and endomicroscopic assessment of GvHD in the GI tract by Confocal Laser Endomicroscopy.	Principal/Senior	2014
	\$441,187.50	A Multidisciplinary Approach to target chronic inflammation of the Gut, liver and Joint.	Co-investigator	2014
<b>Sum</b>	<b>\$521,305.37</b>			
<b>Mark Bosch</b>				
	\$75,000.00	Predicting Benefit of Standard Treatment and Personalized Medicine for Relapse/Refractory Diffuse Large B-Cell Lymphoma Using Genetic and Proteomic Testing	Co-investigator	2014
	\$5,000.00	Predicting Benefit of Standard Treatment and Personalized Medicine for Relapse/Refractory Diffuse Large B-Cell Lymphoma Using Genetic and Proteomic Testing	Principal/Senior	2014
<b>Sum</b>	<b>\$80,000.00</b>			
<b>Mark Swain</b>				
	\$52,785.00	The role of CXCR3 and CCR1/CCR5 chemokine receptor ligands in experimental T cell mediated hepatitis.	Principal/Senior	2014
	\$102,990.00	Regulatory role of NK cells in the hepatic innate immune response.	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$94,736.84	A translational approach to understanding and managing primary sclerosing cholangitis.	Principal/Senior	2014
	\$4,083.11	An Open-Label Study of GS-7977+ Ribavirin for 12 Weeks in Subjects with Chronic HCV Infection who Participated in Prior Studies Evaluating GS-7977	Site/Local PI	2014
	\$5,195.27	A phase III randomised, partially double-blind and placebo-controlled study of BI 207127 in combination with faldaprevir and ribavirin for chronic genotype 1 hepatitis C infection in an extended population of treatment naïve patients that includes those ineligible to receive peginterferon. BI Trial Number: 1241.36	Site/Local PI	2014
	\$2,414.95	A phase III, randomised, double-blind and placebo-controlled study of once daily BI 201335 120 mg for 24 weeks or BI 201335 240 mg for 12 weeks in combination with pegylated interferon- $\alpha$ and ribavirin in treatment-naïve patients with genotype 1 chronic hepatitis C infection	Site/Local PI	2014
	\$2,654.49	A phase III, randomised, double-blind and placebo-controlled study of once daily BI 201335, 240 mg for 12 or 24 weeks in combination with pegylated interferon- $\alpha$ and ribavirin in patients with genotype 1 chronic hepatitis C infection who failed a prior PegIFN/RBV treatment	Site/Local PI	2014
<b>Sum</b>	<b>\$264,859.66</b>			
<b>Martin Storr</b>				
	\$833,333.33	AHFMR Team Grant	Co-investigator	2014
<b>Sum</b>	<b>\$833,333.33</b>			

Name	Prorated Amount	Title	Role	Year
<b>Marvin Fritzler</b>				
	\$21,285.71	Relationship of GWB to Prions and Neurological Disease	Principal/Senior	2014
	\$6,338.03	AHFMR CRIO TEAM Osteoarthritis Research: from Bench to Bedside	Co-investigator	2014
	\$150,000.00	Phase V: Autoimmune System (GW Bodies) Research	Principal/Senior	2014
	\$16,800.00	Serological Technologies And Profiles to deliver Precision Diagnostics for IBD patients	Co-PI	2014
<b>Sum</b>	<b>\$194,423.74</b>			
<b>Matthew James</b>				
	\$65,214.00	Curcumin to prevent peri-operative complications after abdominal aortic aneurysm repair	Co-investigator	2014
	\$8,333.33	Processes of Care and Clinical Outcomes of Acute Kidney Injury: A Multidisciplinary Research Program	Principal/Senior	2014
	\$68,252.00	Predicting the need for community care for chronic kidney disease following hospitalization with acute kidney injury	Principal/Senior	2014
	\$64,044.17	Epidemiology, costs and consequences of multimorbidity	Co-PI	2014
	\$60,895.00	Identifying Opportunities to Improve Care for Patients after Acute Kidney Injury	Co-PI	2014
	\$12,500.00	Improving Early Identification of Acute Kidney Injury after Major Surgery Through Use of the Knowledge to Action Cycle	Principal/Senior	2014
	\$36,572.50	Inflammation and Disease Team Grant, Nod-like receptors: linking innate immunity and inflammation to chronic disease.	Co-PI	2014



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$12,250.00	Refined prognostication in coronary artery disease using routine laboratory data.	Co-PI	2014
	\$26,835.00	A Prognostic Tool To Inform Management of Acute Coronary Syndrome in People with Kidney Disease.	Principal/Senior	2014
<b>Sum</b>	<b>\$354,896.00</b>			
<b>Michelle Geddes</b>				
	\$10,146.67	Myelodysplastic Syndromes (MDS) in Canada: A national prospective study of the epidemiology, quality of life and impact of co-morbidity on disease outcome	Site/Local PI	2014
<b>Sum</b>	<b>\$10,146.67</b>			
<b>Mike Parkins</b>				
	\$4,918.03	Factors involved in the occurrence and evolution of an acute pulmonary exacerbation in patients with cystic fibrosis and chronic lung infection: A preliminary investigation	Principal/Senior	2014
	\$3,010.37	The Evolution of a Pulmonary Exacerbation: A preliminary analysis of bacterial population dynamics culminating in an acute respiratory perturbations	Principal/Senior	2014
	\$3,969.07	Pseudomonas aeruginosa infection transmission among patients attends attending the Calgary Adult Cystic Fibrosis Clinic: Implications for Infection Control	Principal/Senior	2014
	\$62,543.47	A Retrospective Evaluation of a Twenty-Five Year Outbreak of Clonal Pseudomonas aeruginosa Infecting Patients with Cystic Fibrosis: Comprehensive Evaluation and Characterization of the Prairie Epidemic Strain (PES) – Confirmation pending	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$3,000.00	The influence of chronic renal failure on host normal microbial flora: A contributor to increased susceptibility to infection?	Co-PI	2014
	\$2,500.00	Improving the microbiologic diagnosis of orthopedic device associated infections: Assessing the use of culture independent molecular approaches	Principal/Senior	2014
	\$2,926.83	Continuous infusion of beta-lactam antibiotics for the management of drug resistant Gram negative infections in individuals with cystic fibrosis and other nosocomial infections	Principal/Senior	2014
	\$4,885.20	Enhanced Bacterial Strain Typing to Improve Patient Care in Infectious Diseases and Respiratory Medicine	Principal/Senior	2014
	\$127,543.78	Exploring the mechanisms of inhaled aztreonam lysine clinical efficacy in individuals with cystic fibrosis and chronic Pseudomonas aeruginosa infection	Principal/Senior	2014
	\$9,729.41	Epidemiology, natural history and virulence potential of Pseudomonas aeruginosa strains infecting individuals with non-cystic fibrosis bronchiectasis	Principal/Senior	2014
<b>Sum</b>	<b>\$225,026.16</b>			
<b>Mitesh Thakrar</b>				
	\$9,314.59	Is epidemic Pseudomonas aeruginosa infection in patients with cystic fibrosis a risk factor for poor clinical outcome following lung transplantation?	Co-investigator	2014
	\$4,166.67	The Effects of Iyengar Yoga in Patients with Pulmonary Arterial Hypertension	Co-PI	2014
<b>Sum</b>	<b>\$13,481.26</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Mona Shafey</b>	\$105,083.33	"Infusional Gemcitabine and High-dose Melphalan Conditioning Prior to Autologous Stem Cell Transplantation for Patients with Relapsed/Refractory Lymphoma"	Site/Local PI	2014
<b>Sum</b>	<b>\$105,083.33</b>			
<b>Natalia Rydz</b>	\$2,050.10	Canadian VWD (von Willebrand Disease) and Angiodysplasia Survey	Co-PI	2014
<b>Sum</b>	<b>\$2,050.10</b>			
<b>Naushad Hirani</b>	\$16,629.44	FREEDOM Trials: A 16-Week, International, Multicenter, Double-Blind, Randomized, Placebo-Controlled Comparison of the Efficacy and Safety of Oral UT-15C Sustained Release Tablets in Combination with an Endothelin Receptor Antagonist and/or a Phosphodiesterase-5 Inhibitor in Subjects with Pulmonary Arterial Hypertension; 12 week placebo controlled trial and open label extension trial also included.	Site/Local PI	2014
	\$29,081.33	SERAPHIN Trial: The effect of a novel dual endothelin receptor antagonist on morbidity and mortality in Pulmonary Arterial Hypertension (including open label trial)	Site/Local PI	2014
	\$29,081.33	SERAPHIN Trial: The effect of a novel dual endothelin receptor antagonist on morbidity and mortality in Pulmonary Arterial Hypertension (including open label trial)	Site/Local PI	2014

Name	Prorated Amount	Title	Role	Year
	\$25,967.86	SCOT Study - A Randomized, Open-Label, Phase II/III Multi-Center Study of High-Dose Immunosuppressive Therapy Using Total Body Irradiation, Cyclophosphamide, ATGAM, and Autologous Transplantation with Auto-CD34+HPC versus Intravenous Pulse Cyclophosphamide for the Treatment of Severe Systemic Sclerosis	Co-investigator	2014
	\$25,132.67	First-line Bosentan and Sildenafil Combination Therapy for Pulmonary Arterial Hypertension: A safety and efficacy pilot study	Principal/Senior	2014
	\$25,194.00	PATENT and CHEST Trials: Randomized, double-blind, placebo-controlled, multi-centre, multi-national study to evaluate the efficacy and safety of riociguat in patients with symptomatic Pulmonary Arterial Hypertension (PAH) and Chronic Thromboembolic Pulmonary Hypertension (CTEPH)	Co-investigator	2014
	\$1,000.00	Pulmonary complications following head and neck reconstructive surgery	Co-investigator	2014
	\$15,959.67	AMBITION: A Randomized, Multi-Center Study of First-Line Ambrisentan and Tadalafil Combination Therapy in Subjects with Pulmonary Arterial Hypertension.	Site/Local PI	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$14,427.00	IMPRES Studies: A 24-week randomized placebo-controlled, double-blind multi-center clinical trial evaluating the efficacy and safety of oral QTI571 as an add-on therapy in the treatment of severe pulmonary arterial hypertension: Imatinib in Pulmonary arterial hypertension, a Randomized, Efficacy Study	Co-investigator	2014
	\$68,987.00	A Phase 2, Placebo Controlled, Double-Blind, Randomized, Clinical Study to Determine Safety, Tolerability and Efficacy of Pulsed, Inhaled Nitric Oxide (iNO) Versus Placebo as Add-On Therapy in Symptomatic subjects With Pulmonary Arterial Hypertension (PAH)	Site/Local PI	2014
	\$8,441.75	RESPOND Trial: A 52-Week, Double-Blind, Randomized, Placebo-Controlled, Parallel-Group Study to Evaluate the Effect of Roflumilast 500 µg on Exacerbation Rate in Patients With Chronic Obstructive Pulmonary Disease (COPD) Treated With a Fixed-Dose Combination of Long-Acting Beta Agonist and Inhaled Corticosteroid (LABA/ICS)	Co-investigator	2014
<b>Sum</b>	<b>\$230,820.72</b>			
<b>Nizar Bahlis</b>	\$144,000.00	Bortezomib mediated BRCAness in Myeloma cells: novel therapeutic approach combining PARP1-2 and 26S proteasome inhibitors.	Principal/Senior	2014
<b>Sum</b>	<b>\$144,000.00</b>			

Name	Prorated Amount	Title	Role	Year
<b>Norman Campbell</b>				
	\$65,298.50	Population-level prevention and implications for socioeconomic inequities in health: dietary sodium as a case example. CIHR L McLaren PI, with N Campbell, J Emery, D Lorensetti, L McIntyre and V Tarasuk as investigators- \$43674 in 2011 total grant \$261,194 2011-2014	* Investigator	2014
	\$150,000.00	HSFC-CIHR Chair in Hypertension Prevention & Control	* Chair	2014
	\$500,000.00	Improving the Efficient and Equitable Care of Patients with Chronic Medical Conditions Interdisciplinary Chronic Disease Collaboration (ICDC)	Co-investigator	2014
	\$360,820.20	DREAM-GLOBAL: Diagnosing hypertension - Engaging Action and Management in Getting/ Lower Bp in Aboriginal and LMIC - A Research Proposal. CIHR Investigators Lui P, Tobe S, Campbell NRC, Yeates K	* CIHR Investigator	2014
	\$118,398.17	Utilizing HIV/AIDS infrastructure as a gateway to chronic care of hypertension in Africa. Mr. N. Bansback, Dr. I. Bourgeault, Dr. N. Campbell, Dr. P. Devereaux, Dr. A. Featherstone, Dr. N. Ford, Dr. M. Joffres, Dr. R. Kalyesubula, Dr. J. Kamwesiga, Dr. I. Kanfer, Dr. A. Kengne, Dr. R. Lester, Dr. E. Luyirika, Dr. V. Mutabazi, Dr. J. Nachega, Mr. J. Tayari, Dr. L. Thabane	* Investigator	2014
<b>Sum</b>	<b>\$1,194,516.87</b>			
<b>Norman Wong</b>				
	\$84,063.14	Endocrinology (Thyroid, D.M. & Lipids) - Enhancement Research	Principal/Senior	2014
	\$84,063.14	Endocrinology (Thyroid, D.M. & Lipids) - Enhancement Research	Principal/Senior	2014

Name	Prorated Amount	Title	Role	Year
	\$84,063.14	Endocrinology (Thyroid, D.M. & Lipids) - Enhancement Research	Principal/Senior	2014
<b>Sum</b>	<b>\$252,189.43</b>			
<b>Oscar Larios</b>				
	\$1,406.25	Bionumerics: Enhanced Bacterial Strain Typing to Improve Patient Care in Infectious Diseases and Respiratory Medicine	Co-investigator	2014
	\$7,000.00	Antisepsis resistance in Alberta Staphylococci- Molecular Testing of Alberta Staphylococcus from Invasive Strains	Co-PI	2014
<b>Sum</b>	<b>\$8,406.25</b>			
<b>P. Timothy Pollak</b>				
	\$54,848.93	A Randomized Cross Over Trial to Observe Differences in Blood Pressure Responses to Switching Between the Extended Release Nifedipine Preparations Adalat XL and Mylan-Nifedipine XR	Principal/Senior	2014
	\$12,307.69	Clinical Monitoring of Amiodarone	Principal/Senior	2014
<b>Sum</b>	<b>\$67,156.63</b>			
<b>Patrick Hanly</b>				
	\$154,948.00	Regulation of Cerebral Blood Flow in Obstructive Sleep Apnea	Co-investigator	2014
	\$50,000.00	Eyes High Postdoctoral Award	Co-investigator	2014
	\$114,617.37	Role of Intermittent hypoxia in the Pathogenesis of Obstructive Sleep Apnea	Co-investigator	2014
	\$5,000.00	The effect of obstructive sleep apnea and nocturnal hypoxia on kidney function	Principal/Senior	2014
	\$25,000.00	Effects of intermittent hypoxia on the regulation of cerebral blood flow in healthy humans and in patients with obstructive sleep apnea: role of oxidative stress	Co-investigator	2014
	\$7,500.00	Evaluation of a "Fast Track" Respiratory Therapy Clinic for Patients with Suspected Severe Sleep-Disordered Breathing	Co-investigator	2014



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$3,333.33	Ventilatory stability in obstructive sleep apnea	Co-investigator	2014
	\$8,333.33	Effect of CPAP on blood rheological properties and cerebral blood flow reactivity in OSA: Role of oxidative stress	Co-investigator	2014
<b>Sum</b>	<b>\$368,732.04</b>			
<b>Paul Beck</b>				
	\$74,517.58	Hypoxia-inducible factor-1 (HIF-1) plays an innate protective role in Clostridium difficile-induced colitis	Co-investigator	2014
	\$8,333.33	Alberta Heritage Foundation for Medical Research, Interdisciplinary Team Grant. Etiology of Inflammatory Bowel Disease: Gene, Microbe & Environment Interactions.	Co-investigator	2014
	\$141,875.00	Innate Immune Responses in Clostridium Difficile Toxin-induced Intestinal Injury	* Clinical Senior	2014
	\$8,333.33	Operating Grant 'Aberrant dendritic cell and T-cell function driven by IBD-associated genetic mutations'.	Co-investigator	2014
	\$407,250.00	A Multidisciplinary Approach to Target Chronic Inflammation of the Gut, Liver and Joint.	Principal/Senior	2014
	\$406,856.17	Nod-like Receptors: Linking Innate Immunity and Inflammation to Chronic Disease.	Principal/Senior	2014
	\$92,865.00	Protease-activated Receptor 2 Reduces Apoptosis and Induces COX-2 to Mediate the Resolution of Inflammation.	Co-PI	2014
	\$92,865.00	Mechanisms of Microbiota Microfilm Disruptions Causing Post-Infectious Flare-Ups in IBD: The Path Towards a New Therapy for Inflammatory Bowel Disease.	Co-PI	2014
<b>Sum</b>	<b>\$1,232,895.41</b>			

Name	Prorated Amount	Title	Role	Year
<b>Paul Gibson</b>	\$2,004.08	Real-Time Clinical Audit for the Medical Disorders in Pregnancy Program: Clinical Database. Hardware and Software Requirements.	Co-investigator	2014
	\$8,918.92	Real-Time Clinical Audit for the Medical Disorders in Pregnancy Program: Clinical Database	Co-investigator	2014
	\$4,500.00	Utilization of LMWH for Prevention and Treatment of Venous Thrombosis During Pregnancy	Principal/Senior	2014
<b>Sum</b>	<b>\$15,423.00</b>			
<b>Paul MacEachern</b>	\$23,000.00	Alberta Lung Cancer Screening Program	Site-investigator	2014
<b>Sum</b>	<b>\$23,000.00</b>			
<b>Paule Mydlarski</b>	\$10,000.00	MiR-125b: a novel oncomir in cutaneous squamous cell carcinoma	Principal/Senior	2014
	\$30,000.00	MiRNAs: unraveling the mechanisms of squamous cell carcinoma	Principal/Senior	2014
	\$2,500.00	Sun protection knowledge and educational practices of health care professionals involved in the care of organ transplant recipients	Principal/Senior	2014
	\$2,500.00	Burnout among Canadian dermatology residents	Principal/Senior	2014
<b>Sum</b>	<b>\$45,000.00</b>			
<b>Peter Sargious</b>	\$152,149.00	Seeing the Forest and the Trees - innovative approaches to exploring heterogeneity in systematic reviews of complex knowledge translation efforts to enhance policy decision making	* Decision maker	2014
	\$27,033.89	ACCEPT	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$352,941.18	W21C AIHS Team Grant	Co-investigator	2014
	\$9,812.50	Patient Centred Care Planning E-tool	Principal/Senior	2014
	\$1,875.00	iDECIDE	Site-investigator	2014
<b>Sum</b>	<b>\$543,811.57</b>			
<b>Pietro Ravani</b>				
	\$100,000.00	Reducing the risk of serious adverse events and improving the quality of Life for patients with Kidney Disease; the role of arteriovenous fistula creations in hemodialysis patients.	Co-PI	2014
	\$486,111.17	Canadian Network for Observational Drug Effect Study (cNODES)	* Team Member	2014
	\$833,415.33	Improving the Efficient and Equitable Care of Patients with Chronic Medical Conditions: The Interdisciplinary Chronic disease Collaboration (ICDC)	Co-investigator	2014
	\$51,151.24	Promoting the arteriovenous fistula as hemodialysis access: expected benefits and unintended consequences	Principal/Senior	2014
	\$32,000.00	Reducing the risk of serious adverse events and improving the quality of life for patients with kidney disease: the role of arteriovenous fistula creations in hemodialysis patients	Co-PI	2014
	\$9,333.24	Reducing the risk of serious adverse events and improving the quality of life for patients with kidney disease: the role of arteriovenous fistula creations in hemodialysis patients	Co-PI	2014
	\$34,126.00	Predicting the need for community care for Chronic Kidney Disease following hospitalization with acute kidney injury.	Co-PI	2014

Name	Prorated Amount	Title	Role	Year
	\$4,175.00	Pan-Alberta gathering of stakeholders in Health Outcomes and Public Health	Principal/Senior	2014
<b>Sum</b>	<b>\$1,550,311.98</b>			
<b>Remo Panaccione</b>				
	\$2,604.17	Population Health Studies in IBD Alberta IBD Consortium	Co-investigator	2014
	\$5,187.60	A Phase IIb Multi-Center, Randomized, Double-blind, Parallel-Group, Placebo-Controlled, Dose Ranging Study Comparing the Efficacy, Safety, and Pharmacokinetics of Intravenous Infusions of ABT-874 vs Placebo in Subjects with Moderately to Severely Active Crohn's Disease	Principal/Senior	2014
	\$25,000.00	A Translational Approach to Understanding and Managing Primary Sclerosing Cholangitis	Co-investigator	2014
	\$6,106.54	An Open-Label, Multicenter, Efficacy and Safety Study to Evaluate Two Treatment Algorithms in Subjects with Moderate to Severe Crohn's Disease (CALM)	Principal/Senior	2014
	\$1,310.14	A Randomized, Double-blind, Placebo-controlled Study to Evaluate the Safety, Tolerability, and Efficacy of AMG 827 in Subjects with Moderate to Severe Crohn's Disease	Principal/Senior	2014
	\$6,215.70	Prospective, Multicenter, Randomized, Double-blind, Placebo-Controlled Trial Comparing REMICADE (Reg. Trademark) (infliximab) and Placebo in the Prevention of Recurrence in Crohn's Disease Patients Undergoing Surgical Resection Who Are at an Increased Risk of Recurrence - PREVENT	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$1,534.00	A Randomized, Double-blind, Placebo-controlled Study to Investigate the Efficacy and Safety of GSK1605786A in the Treatment of Subjects with Moderately to Severely Active Crohn's Disease - SHIELD 1	Principal/Senior	2014
	\$1,995.50	A 52-week, Randomized, Double-blind, Placebo-controlled Study to Investigate the Efficacy and Safety of GSK1605786A in the Maintenance of Remission in Subjects with Crohn's Disease - SHIELD 2	Principal/Senior	2014
	\$2,540.20	An Open-Label Extension Study to Assess the Safety of GSK1605786A in Subjects with Crohn's Disease - SHIELD 3	Principal/Senior	2014
	\$2,839.46	A Double-blind, Randomized, Placebo-controlled, Dose-ranging Study to Evaluate the Efficacy and Safety of PF-04236921 in Subjects with Crohn's Disease who are anti-TNF Inadequate Responders (ANDANTE)	Principal/Senior	2014
	\$2,139.30	A Multicenter Open-label Extension Study for Subjects who Participated in Study B0151003 (ANDANTE II)	Principal/Senior	2014
	\$1,701.50	A Phase 2A Randomized, Double-blind, Sponso Unblinded, Placebo-Controlled, Multiple Dose Study to Evaluate the Pharmacodynamics, Pharmacokinetics and Safety of Anrukizumab in Patients with Active Ulcerative Colitis	Principal/Senior	2014
	\$10,719.00	A Phase IIb Randomized, Placebo-Controlled Study to Evaluate the Clinical Efficacy and Safety of Induction and Maintenance Therapy with BMS-936557 in Subjects with Active Ulcerative Colitis (UC)	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$4,578.80	A Phase 3, Open Label Study to Determine the Long-term Safety and Efficacy of MLN0002 in Patients with Ulcerative Colitis and Crohn's Disease	Principal/Senior	2014
	\$1,339.40	A Phase 3, Randomized, Placebo-controlled, Blinded, Multicenter Study of the Induction of Clinical Response and Remission by Vedolizumab in Patients with Moderate to Severe Crohn's Disease	Principal/Senior	2014
	\$2,175.00	A Multicenter, Randomized, Double-blind, Placebo-Controlled Study To Evaluate the Safety, Tolerability, and Efficacy of Avonex (Reg. Trademark) in Subjects with Moderate to Severe Ulcerative Colitis	Principal/Senior	2014
	\$2,554.80	A Phase 2b Multicenter, Randomized, Double-blind, Placebo-controlled, Parallel-group Study to Evaluate the Efficacy and Safety of Ustekinumab Therapy in Subjects with Moderately to Severely Active Crohn's Disease Previously Treated with TNF Antagonist Therapy	Principal/Senior	2014
	\$2,823.86	A Phase I Multicenter, Randomized, Placebo-Controlled, Double-Blind Study to Assess the Safety, Pharmacokinetics, Pharmacodynamics, and Immunogenicity of Intravenous and Subcutaneous rhuMAb Beta7 Administered in a Single-Dose, Dose-Escalation Stage Followed by a Multidose, Parallel-Treatment Stage in Patients with Ulcerative Colitis	Principal/Senior	2014
<b>Sum</b>	<b>\$83,364.97</b>			
<b>Richard Leigh</b>				
	\$3,500.00	Alberta Sepsis Network	Co-investigator	2014
	\$50,000.00	Rhinovirus induced exacerbations of asthma and COPD	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$100,000.00	Do rhinovirus infections contribute to airway remodeling in asthma?	Principal/Senior	2014
	\$25,000.00	Airway inflammation and airway remodeling	Co-PI	2014
	\$41,666.67	How does management of Chronic Obstructive Pulmonary Disease hospitalizations affect patient-centred health outcomes and cerebrovascular risk?	Co-investigator	2014
	\$61,714.29	Development and validation of a novel rescue therapy for severe asthma	Co-PI	2014
	\$5,208.33	ED-directed interventions to improve outcomes after asthma exacerbations	Co-investigator	2014
	\$10,000.00	Difficult Asthma Program	Principal/Senior	2014
	\$15,000.00	Allergy, Genes and Environment	Principal/Senior	2014
	\$64,658.18	A Double-Blind, Placebo-controlled, Three-way Crossover Study to Compare the Safety and Efficacy of 8 Days of Therapy with ONO-6950 versus Placebo and Montelukast (Singulair) on Asthmatic Responses and Airway Hypersensitivity Following Allergen Challenge in Patients with Asthma	Principal/Senior	2014
	\$4,661.02	The Canadian Respiratory Research Network: Origin and Progression of Airway Disease	Co-investigator	2014
	\$961.54	Engaging Patients in the Design of a Clinical Discharge Pathway and Evidence Lay Summaries for Acute Exacerbations of Chronic Obstructive Pulmonary Disease.	Co-PI	2014
	\$6,250.00	Differences in Emergency Department Visits for Asthma: Does Sex Matter?	Co-PI	2014
<b>Sum</b>	<b>\$388,620.02</b>			

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Robert Cowie</b>				
	\$32,500.00	Canadian Chronic Obstructive Lung Disease Cohort Study	Site/Local PI	2014
	\$15,000.00	Understanding of TB infection and treatment among people living with HIV in KwaZulu-Natal	Co-investigator	2014
<b>Sum</b>	<b>\$47,500.00</b>			
<b>Robert Herman</b>				
	\$525,000.00		Principal/Senior	2014
	\$17,976.00	Observation of Blood Pressure Responses to Pharmacy Switches Between Formulary Approved Nifedipine Preparations	Co-investigator	2014
	\$1,153.85	Novel Application of Spectral Domain Optical Coherence Tomography (SD-OCT) Retinal Scanning Technology for the Early Assessment of Post Chemotherapy Cognitive Impairment (PCCI) in Breast Cancer Patients	Co-PI	2014
	\$3,683.40	Novel Application of SD-OCT for Assessment of the Retinal Microcirculation: Normal Pregnancy vs Pregnancy with Hypertensive Disorders Including Pre-existing Hypertension, Gestational Hypertension and Preeclampsia	Principal/Senior	2014
<b>Sum</b>	<b>\$547,813.25</b>			
<b>Robert Hilsden</b>				
	\$135,000.00	A research program for the rapid evaluation of novel non-invasive colon cancer screening tests	* Investigator - Salary	2014
	\$81,081.08	Faculty of Medicine Emerging Team Grant	Principal/Senior	2014
<b>Sum</b>	<b>\$216,081.08</b>			



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
<b>Robert Myers</b>	\$32,788.89	Randomized, Observational Study of Entecavir to Assess Long-term Outcomes Associated with Nucleoside/Nucleotide Monotherapy for Patients with Chronic HBV Infection: The REALM Study	Site/Local PI	2014
	\$11,666.67	Feasibility and yield of birth cohort screening for hepatitis C in a colorectal cancer screening population	Principal/Senior	2014
	\$4,762.53	A phase III randomised, partially double-blind and placebo-controlled study of BI 207127 in combination with faldaprevir and ribavirin for chronic genotype 1 hepatitis C infection in an extended population of treatment naïve patients that includes those ineligible to receive peginterferon.	Co-PI	2014
	\$643.60	A Long Term Follow-up Registry Study of Subjects Who Did Not Achieve Loss of S Antigen (HBsAg) and Sustained HBV Viral Load Reduction below the Limit of Quantitation (BLQ) in Gilead-Sponsored Trials of GS-9620 in Subjects with Chronic Hepatitis B	Co-PI	2014
	\$4,341.67	A Randomized, Double-blind, Placebo-controlled Study to Evaluate the Efficacy and Safety of ABT-450/Ritonavir/ABT-267 (ABT-450/r/ABT-267) and ABT-333 Co-administered with Ribavirin (RBV) in Treatment-Experienced Adults with Genotype 1 Chronic Hepatitis C Virus (HCV) Infection (SAPPHIRE-II). Clinical Study	Co-PI	2014

Name	Prorated Amount	Title	Role	Year
	\$3,655.00	A Randomized, Open-label Study to Evaluate the Safety and Efficacy of ABT-450/Ritonavir/ABT-267 (ABT-450/r/ ABT 267) and ABT-333 Coadministered with Ribavirin (RBV) in Adults with Genotype 1 Chronic Hepatitis C Virus (HCV) Infection and Human Cirrhosis (TURQUOISE-II)	Co-PI	2014
	\$8,272.00	A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Tenofovir Alafenamide (TAF) 25 mg QD versus Tenofovir Disoproxil Fumarate (TDF) 300 mg QD for the Treatment of HBeAg-Negative, Chronic Hepatitis B.	Co-PI	2014
	\$8,272.00	A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Tenofovir Alafenamide (TAF) 25 mg QD versus Tenofovir Disoproxil Fumarate (TDF) 300 mg QD for the Treatment of HBeAg-Positive, Chronic Hepatitis B.	Co-PI	2014
<b>Sum</b>	<b>\$74,402.36</b>			
<b>Robert Quinn</b>				
	\$83,404.87	AHFMR Team Improving the Efficient and Equitable Delivery of Health Care for Chronic Medical Conditions	Co-investigator	2014
	\$3,500,000.00	Canadian Network for Observational Drug Effect Studies (cNODES)	Co-investigator	2014
	\$157,775.02	ICES Kidney, Dialysis and Transplantation Research Program	Co-investigator	2014
	\$33,333.33	Reducing the risk of serious adverse events and improving quality of life for patients with kidney disease: the role of arteriovenous fistula creation in hemodialysis patients	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$32,000.00	Reducing the risk of serious adverse events and improving quality of life for patients with kidney disease: the role of arteriovenous fistula creation in hemodialysis patients	Principal/Senior	2014
	\$516,326.00	The New Ontario Health systems research program and kidney, Dialysis and transplantation: Knowledge user decision support.	Co-investigator	2014
	\$5,987.00	Predicting the need for community care for chronic kidney disease following hospitalization with acute kidney injury	Co-investigator	2014
	\$25,000.00	Biofeedback a randomized cross-over trial of Blood volume controlled biofeedback in HD patients with intradialytic hypotension	Co-investigator	2014
	\$10,000.00	Biofeedback a randomized cross-over trial of Blood volume controlled biofeedback in HD patients with intradialytic hypotension	Co-investigator	2014
<b>Sum</b>	<b>\$4,363,826.22</b>			
<b>Ron Sigal</b>				
	\$75,000.00	Action to Control Cardiovascular Risk in Diabetes—International Ongoing Study (ACCORDION)	Site/Local PI	2014
	\$64,271.19	EXSCEL trial - Calgary Clinical Site	Site/Local PI	2014
	\$7,142.86	Exercise Interventions in Individuals With or At Risk of Diabetes-Research allowance	Principal/Senior	2014
	\$155,000.00	Exercise Interventions in Individuals With or At Risk of Diabetes-Health Senior Scholar Award	Principal/Senior	2014
	\$71,489.36	PERL: A Multicenter Clinical Trial of Allopurinol to Prevent GFR Loss in T1D--Calgary Site	Site/Local PI	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$38,461.54	Evaluation of an Improved Home-based Alternative to Traditional Weight Training in People with Type 2 Diabetes	Principal/Senior	2014
	\$300,000.00	Behavioral Health Programs for Diabetes	Co-investigator	2014
	\$110,432.75	Heat Stress in Older Adults and Individuals with Type 2 Diabetes	Co-investigator	2014
<b>Sum</b>	<b>\$821,797.69</b>			
<b>Ronald Bridges</b>				
	\$75,000.00	Optimizing Colorectal Cancer Screening	Co-investigator	2014
<b>Sum</b>	<b>\$75,000.00</b>			
<b>Sachin Pendharkar</b>				
	\$25,524.95	Improving Access to Pulmonary Consultation and Testing	Principal/Senior	2014
	\$134,136.00	An Evaluation of the Organizational Process of Developing a Provincial Acute Care Discharge Model in Alberta Hospitals	Principal/Senior	2014
	\$114,425.31	Alberta Lung Cancer Screening Program	Co-investigator	2014
	\$7,500.00	Evaluation of a "Fast Track" Respiratory Therapy Clinic for Patients with Suspected Severe Sleep Disordered Breathing	Principal/Senior	2014
<b>Sum</b>	<b>\$281,586.26</b>			
<b>Samuel Lee</b>				
	\$11,760.00	King Saud University collaborative research grant	Principal/Senior	2014
<b>Sum</b>	<b>\$11,760.00</b>			

Name	Prorated Amount	Title	Role	Year
Saumya Jayakumar	\$7,799.49	A Randomized, Open-Label, Multicentre Study to Evaluate the Antiviral Activity, Safety and Pharmacokinetics of ABT-450 with Ritonavir in Combination with ABT-267 and/or ABT-333 With and Without Ribavirin for 8, 12, or 24 Weeks in Treatment-Naïve and Null Responder Subjects with Genotype 1 Hepatitis C Virus Infection	Site/Local PI	2014
	\$5,920.45	A Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of ABT-450.Ritonavir.ABT-267 and ABT-333 Co-Administered with Ribavirin in Treatment-Experienced Adults with Genotype 1 Chronic Hepatitis C Infection (SAPPHIRE – II)	Site/Local PI	2014
	\$6,808.67	A Phase 2b, Dose-Ranging, Randomized, Double-Blind, Placebo-Controlled Trial Evaluating the Safety and Efficacy of GS-6624, a Monoclonal Antibody Against Lysyl-Oxidase-Like 2 (LOXL-2) in Subjects with Advanced Liver Fibrosis but not Cirrhosis Secondary to Non-Alcoholic Steatohepatitis (NASH	Site/Local PI	2014
	\$7,437.36	A Randomized, Double-Blind, Controlled Evaluation of Tenofovir DF versus Adefovir Dipivoxil for the Treatment of Presumed Pre core Mutant Chronic Hepatitis B	Site-investigator	2014
	\$9,837.21	A Randomized, Double-Blind, Controlled Evaluation of Tenofovir DF versus Adefovir Dipivoxil for the Treatment of HBeAg Positive Chronic Hepatitis B	Site-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$20,972.65	A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled Study to Investigate the Efficacy and Safety of GS-7977 + Ribavirin for 12 Weeks in Subjects with Chronic Genotype 2 or 3 HCV Infection who are Interferon Intolerant, Interferon Ineligible or Unwilling to Take Interferon	Site-investigator	2014
	\$18,673.04	A 2-Part, Open Label Study of Telaprevir in Combination With Peginterferon Alfa-2a (Pegasys®) and Ribavirin (Copegus®) in Subjects Chronically Infected with Genotype 1 Hepatitis C Virus Following Liver Transplantation	Site-investigator	2014
	\$1,508.10	Prospective, Observational, Post-Marketing Renal Safety Surveillance Registry in Patients with Chronic Hepatitis B (HBV) Infection with Decompensated Liver Disease Receiving Nucleotide/side Therapy on the Orthotopic Liver Transplant (OLT) List	Site-investigator	2014
	\$8,480.31	An Open-Label Study of GS-7977+ Ribavirin for 12 Weeks in Subjects with Chronic HCV Infection who participated in prior studies evaluating GS-7977	Site-investigator	2014
	\$1,945.95	A multi-centre 3-year follow-up study to assess the durability of sustained virologic response in Alisporivir-treated chronic Hepatitis C patients.	Site-investigator	2014
	\$7,429.03	A Phase 2b, Dose-Ranging, Randomized, Double-Blind, Placebo-Controlled Trial Evaluating the Safety and Efficacy of GS-6624, a Monoclonal Antibody Against Lysyl Oxidase Like 2 (LOXL2) in Subjects with Primary Sclerosing Cholangitis (PSC)	Site-investigator	2014

Name	Prorated Amount	Title	Role	Year
<b>Sum</b>	<b>\$96,812.26</b>			
<b>Sharon LeClercq</b>				
	\$8,485.71	Canadian Scleroderma Research Group: National Registry and Data Base	Site/Local PI	2014
	\$6,853.94	A Randomized Open-Label Phase II/III Multicenter Study of High Dose Immunosuppressive Therapy Using Total Body Irradiation, Cyclophosphamide, ATGAM, and Autologous Transplantation with Auto-CD43+HPC versus Intravenous Pulse Cyclophosphamide for the Treatment of Severe Systemic Sclerosis	Co-investigator	2014
<b>Sum</b>	<b>\$15,339.65</b>			
<b>Sofia Ahmed</b>				
	\$15,666.67	Vitamin D supplementation and cardiac autonomic tone in hemodialysis patients: a double-blind randomized controlled trial	Principal/Senior	2014
<b>Sum</b>	<b>\$15,666.67</b>			
<b>Stephen Field</b>				
	\$9,920.00	Asthma diagnosis study	Site/Local PI	2014
	\$4,077.94	A randomized, double blind, parallel group study to assess the efficacy and safety of 52 weeks of once daily treatment of orally inhaled tiotropium plus olodaterol fixed dose combination delivered by the respimat inhaler in patients with COPD TONADO 1	Site/Local PI	2014
	\$18,108.00	Combination of glycopyrronium and indacaterol in COPD	Site/Local PI	2014
<b>Sum</b>	<b>\$32,105.94</b>			
<b>Stephen Vaughan</b>				
	\$16,071.43	Spectrum Calgary	Co-investigator	2014
	\$9,230.77	Geosentinel	Principal/Senior	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$6,923.08	Malaria prescribing patterns (QI)	Principal/Senior	2014
	\$4,153.85	Strongyloides Testing in Heme Oncology (QI)	Principal/Senior	2014
	\$34,615.38	Alberta Sepsis Network. Spectrum Calgary: Development of an iphone App for the Implementation of Antimicrobial Stewardship in ICU	Co-investigator	2014
	\$9,230.77	Communicable Disease Center/ Public Health Agency of Canada. GeoSentinel Travel Medicine surveillance of returning travelers to Calgary	Co-investigator	2014
	\$4,153.85	University of Calgary Department of Medicine Quality Improvement award. Improving patient safety by screening Hematologic malignancy patients at risk for Disseminated Strongyloidiasis	Co-investigator	2014
<b>Sum</b>	<b>\$84,379.12</b>			
<b>Steven Heitman</b>				
	\$12,500.00	Optimizing population-based colorectal cancer screening	Co-investigator	2014
	\$9,127.08	University of Calgary Medical Group (UCMG) bridge funding for New CIHR OOGP grant in March 2014 competition	Principal/Senior	2014
	\$147,763.96	N.B. Hershfield Professorship in Therapeutic Endoscopy	Principal/Senior	2014
	\$5,000.00	University of Calgary/Department of Medicine, Research and Development Fund	Principal/Senior	2014
<b>Sum</b>	<b>\$174,391.04</b>			
<b>Subrata Ghosh</b>				
	\$17,704.92	AHFMR Interdisciplinary Team Grant: Tier 1 and Tier 2 of Alberta IBD Consortium	* Executive Committee	2014
	\$23,571.43	Tobacco Cessation for Crohn's Patients	Co-investigator	2014



<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$250,000.00	Reassessment of Clinical Practices for Patient Presenting to the Emergency Department with Upper Gastrointestinal Bleeding	Co-PI	2014
	\$488,700.00	A Multidisciplinary Approach To Target Chronic Inflammation Of The Gut, Liver And Joint	Co-investigator	2014
	\$110,000.00	Does Point-of-Care Abdominal Ultrasound Improve Outcomes in Inflammatory Bowel Disease Patients?	Co-investigator	2014
	\$180,000.00	Inflammatory Bowel Diseases	Co-PI	2014
<b>Sum</b>	<b>\$1,069,976.35</b>			
<b>Tarisha Hawkins</b>				
	\$6,979.59	Utilization of LMWH for Prevention and Treatment of Venous Thrombosis During Pregnancy	Co-investigator	2014
	\$7,200.00	Real-Time Clinical Audit for the Medical Disorders in Pregnancy Program Clinical Database.	Co-investigator	2014
	\$1,617.84	Real-Time Clinical Audit for the Medical Disorders in Pregnancy Program: Clinical Database. Hardware and Software Requirements.	Co-investigator	2014
	\$566.04	CHIPS-CHILD-Testing the Developmental Origins Hypothesis	Site/Local PI	2014
<b>Sum</b>	<b>\$16,363.47</b>			
<b>Ward Flemons</b>				
	\$13,541.67	Health Quality Council of Alberta contract with the Faculty of Medicine	* Grant Holder	2014
	\$53,886.00	Improving Access to Pulmonary Consultation and Testing. Alberta Health Services	Co-investigator	2014
	\$89,424.00	An Evaluation of the Organizational Process of Developing a Provincial Acute Care Discharge Model in Alberta Hospitals.	Co-investigator	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$123,750.00	Health Quality Council of Alberta contract with the Faculty of Medicine	* Grant Holder	2014
<b>Sum</b>	<b>\$280,601.67</b>			
<b>Warren Davidson</b>				
	\$1,666.67	Unrestricted Educational Grant	Principal/Senior	2014
	\$1,666.67	Unrestricted Educational Grant	Principal/Senior	2014
<b>Sum</b>	<b>\$3,333.33</b>			
<b>William Ghali</b>				
	\$87,739.00	Efficacy of a web-based seamless discharge communication tool: a randomized controlled trial	Principal/Senior	2014
	\$460,500.75	POISE-2 Clinical Trial	Co-investigator	2014
	\$940,000.00	W21C: Interdisciplinary Research and Innovation for Health System Quality and Safety. CRIO Team Grant.	Principal/Senior	2014
	\$32,625.00	An Evaluation of the Organizational Process of Developing a Provincial Acute Care Discharge Model in Alberta Hospitals	Co-investigator	2014
	\$11,360.77	Developing an Electronic Decision Support and Communication Tool for Intensive Care Unit Discharge	Co-PI	2014
	\$10,000.00	A prognostic tool to inform management of acute coronary syndrome in people with kidney disease.	Co-investigator	2014
	\$19,500.00	Optimizing physician training in motivational communication skills for health behavior change.	Co-investigator	2014
	\$7,000.00	Meeting and Network Planning Grant for the WHO Quality and Safety Topic Advisory Group. (October 2014 – December 2015)	Co-PI	2014
	\$262,500.00	The W21C Research Program	Co-PI	2014

<b>Name</b>	<b>Prorated Amount</b>	<b>Title</b>	<b>Role</b>	<b>Year</b>
	\$6,428.57	Funding support for the WHO Quality and Safety Topic Advisory Group	Co-PI	2014
	\$19,475.00	Iterative development of a patient-centred care planning e-tool. (January 2014 – December 2014)	Co-investigator	2014
	\$20,792.00	Improving efficiency and access in diabetes care through e-communication.	Co-investigator	2014
<b>Sum</b>	<b>\$1,877,921.09</b>			
<b>Yvette Leung</b>				
	\$9,692.31	Basal cortisol as a measure of psychological distress in pregnant women with inflammatory bowel disease	Co-investigator	2014
	\$18,750.00	Future Leaders in IBD - Study: Monitoring for Subclinical Inflammation in Crohn's Disease	Principal/Senior	2014
<b>Sum</b>	<b>\$28,442.31</b>			
<b>Grand Total</b>		<b>\$59,530,436.76</b>		