

**ONTARIO
SUPERIOR COURT OF JUSTICE**

B E T W E E N :

ONTARIO HEALTH COALITION AND ADVOCACY CENTRE FOR THE ELDERLY

Applicants

- and -

HIS MAJESTY THE KING IN IN RIGHT OF ONTARIO AS REPRESENTED BY
THE ATTORNEY GENERAL OF ONTARIO, THE MINISTER OF HEALTH, and
THE MINISTER OF LONG-TERM CARE

Respondents

**AFFIDAVIT OF DR. GEORGE HECKMAN
(Sworn March 3rd, 2023)**

1. I, Dr. George Heckman, of the Township of Blandford-Blenheim in the Province of Ontario, Make Oath and Say as follows:

A. QUALIFICATIONS AND EXPERIENCE

2. After completing a Bachelor of Engineering Physics at Laval University and a Master of Mathematics at the University of Waterloo, I attended medical school at the University of Toronto, graduating in 1995. I trained in Internal Medicine at the University of Toronto and in Geriatric Medicine at McMaster University. I am certified by the Royal College of Physicians and Surgeons of Canada in Internal Medicine and Geriatric Medicine.

3. I have been working as a physician in hospitals since 2000, when I began my independent practice. I have worked in geriatric assessment units and as a geriatric medicine consultant on

medical and surgical floors. I have also worked on Clinical Teaching Units in Hamilton as a General Internist.

4. I currently work as a geriatric medicine consultant at both Grand River and St. Mary's General Hospitals in Kitchener. I am a consultant at the St. Mary's General Hospital heart function clinic. I support a primary care based shared care geriatric practice in a family health team, a model that has reduced emergency room visits by 50%. I am on the receiving end of older persons discharged from hospitals as a medical director in a Waterloo retirement home, and a consultant in a Waterloo long-term care home.

5. I am also a researcher, and as such 60% of my work is focussed on health system research with 30% of my work being clinical, the rest being administrative and teaching.

6. I have studied and written extensively on the issues dealt with in this affidavit. This has included several op-eds that I have published on issues around the treatment and hospitalization of older patients.

- a. An op-ed in the Toronto Star, co-written with Dr. Jenny Basran and Dr. Andrea Gruneir, titled "How to make hospitals right for seniors," and dated September 30, 2022, is attached as hereto **Exhibit A**;
- b. My op-ed in the Conversation titled "Preventing delirium protects seniors in hospital, but could also ease overcrowding and emergency room backlogs," dated August 24, 2022, is attached hereto as **Exhibit B**; and

- c. An op-ed in Policy Options, co-written with Dr. Paul Hébert, titled “Hospitals are needlessly risky for frail seniors,” and dated December 13, 2018, is attached hereto as **Exhibit C**.

7. A copy of my *curriculum vitae* is attached hereto as **Exhibit D**.

B. MANDATE

8. I have been retained by the Ontario Health Coalition and the Advocacy Centre for the Elderly to give evidence in the above-noted proceeding. In particular, I have been asked to assess and, where pertinent, to provide my opinion with respect to the nature, effects and impacts of the *More Beds, Better Care Act*, which amends the *Fixing Long-Term Care Act*, and the *Health Care Consent Act*, and the regulations enacted pursuant to those amendments, which I refer to collectively as “Bill 7”. In particular, I have been asked to address the following issues:

- a. the characteristics of older patients, including those who are designated as needing “alternate level of care” (ALC), and how they are often affected by admission to hospital;
 - b. the evidence concerning effective treatment of older patients in hospital and the prevention of geriatric syndromes;
 - c. the means by which clinicians and health care providers obtain consent to treatment and the anticipated effect of the Bill 7 approach on that process;
 - d. the effect of transfers from one place to another place on the health of older patients;
- and

- e. available alternatives to the transfer of ALC patients in hospitals to long-term care homes.

C. THE CHARACTERISTICS OF OLDER AND ALTERNATIVE LEVEL OF CARE PATIENTS IN HOSPITALS

9. The majority of older adults who are currently hospitalized have multi-morbidity, which means that they have multiple chronic diseases. By definition, chronic diseases are not curable, though with modern treatment people can live much longer with multiple chronic diseases. Examples of chronic diseases include diabetes, heart failure and emphysema.

10. For older person with chronic diseases, the primary goal is to control those diseases, although over time their condition will deteriorate as these affected persons age. These older persons will consequently begin to acquire disability from having continuously suffered from chronic illnesses.

11. Added to the effects of chronic illnesses is the onset of geriatric syndromes, such as propensity to fall, dizziness, delirium, sensory impairment, cognitive impairment, dementia, urinary incontinence, functional decline, and sarcopenia (defined as age-related loss in muscle mass). Essentially, these geriatric syndromes are manifestations of the fact that these older persons have accumulated conditions in so many areas that they become more susceptible to suffering harm. This, in essence, is what is referred to as frailty. Frailty is the accumulation with age of health deficits across multiple physiological systems, and which renders an affected individual at

increased risk from adverse health consequences when faced by a health stressor. Geriatric syndromes can accumulate and are related to one another and to frailty.¹

12. Delirium is a common geriatric syndrome from which a frail older person would suffer. Delirium is an acquired, and usually reversible, state of cognitive impairment characterized by a variable level of consciousness, disordered thinking, and a fluctuating course. It most often occurs in the setting of illness but is often triggered as a side-effect from a stressor, specifically care that is not “senior friendly”. Delirium commonly develops in older persons coming into hospital, usually those with a pre-existing cognitive impairment, who are acutely ill and often dehydrated. In this state, it takes a relatively minor stressor to ‘tip them over’ and trigger delirium. Stressors include the noisy, excessively lit hospital environment, the lack of sleep, poor nutrition and hydration, excessive use of catheters and intravenous lines, and general lack of attention in a hospital setting.² Up to 25% of hospitalized older adults acquire delirium in hospital.

¹ JM Flacker, “What is a geriatric syndrome anyway?” (April 2003) 51:4 *J Am Geriatr Soc* 574
ME Tinetti & C Kumar, “The patient who falls: ‘It’s always a trade-off’” (January 2010) 303(3) *JAMA* 258;

GA Heckman & K Rockwood, “Frailty, Risk, and Heart Failure Care: Commission or Omission?” (September 2022) 80(12) *J Am Coll Cardiol* 1144;

DB Rolfson, GA Heckman, SM Bagshaw, D Robertson & JP Hirdes, “Implementing Frailty Measures in the Canadian Healthcare System” (2018) 7(4) *J Frailty Aging* 208;

DL Vetrano, AD Foebel, A Marengoni, V Brandi, A Collamati, GA Heckman, J Hirdes, R Bernabei & G Onder, “Chronic diseases and geriatric syndromes: The different weight of comorbidity” (January 2016) 27 *Eur J Intern Med* 62.

² SK Inouye, CM Viscoli, RI Horwitz, LD Hurst & ME Tinetti, “A predictive model for delirium in hospitalized elderly medical patients based on admission characteristics” (September 1993) 119(6) *Ann Intern Med* 474;

13. Delirium can cause a frail and older person to become confused and sometimes psychotic. They may see things that don't exist or become terrified of a nurse or other healthcare providers. They can resist treatment or care, which can lead them to being subjected to restraints (physical or chemical), which usually exacerbate the delirium further.³

14. Patients who acquire delirium in this manner are likely to have a longer stay in hospital, to suffer functional decline and disability, and as a result be designated ALC, and/or to be institutionalized, re-hospitalized or die.⁴

D. PREVENTING GERIATRIC SYNDROMES AND SENIOR-FRIENDLY HOSPITALS

15. Frailty and other geriatric syndromes can be managed, and hospital-acquired delirium is preventable. The evidence demonstrates that if one targets an older person with markers of frailty

SK Inouye & PA Charpentier, "Precipitating factors for delirium in hospitalized elderly persons. Predictive model and interrelationship with baseline vulnerability" (March 1996) 275(11) *JAMA* 852;

CH Ormseth, SC LaHue, MA Oldham, SA Josephson, E Whitaker & VC Douglas, "Predisposing and Precipitating Factors Associated With Delirium: A Systematic Review" (2023) 6(1) *JAMA Netw Open*.

³ SK Inouye, "Delirium in older persons" (March 2006) 354(11) *N Engl J Med* 1157, erratum in (April 2006) 354(15) *N Engl J Med* 1655.

⁴ P Pompei, M Foreman, MA Rudberg, SK Inouye, V Braund & CK Cassel, "Delirium in hospitalized older persons: outcomes and predictors" (August 1994) 42(8) *J Am Geriatr Soc* 809; SK Inouye, JT Rushing, MD Foreman, RM Palmer & P Pompei, "Does delirium contribute to poor hospital outcomes? A three-site epidemiologic study" (April 1998) 13(4) *J Gen Intern Med* 234;

MG Cole, FJ Primeau & LM Elie, "Delirium: prevention, treatment, and outcome studies" (Fall 1998) 11(3) *J Geriatr Psychiatry Neurol* 126, discussion 157-8.

Marcantonio ER, Kiely DK, Simon SE, John Orav E, Jones RN, Murphy KM, Bergmann MA. Outcomes of older people admitted to postacute facilities with delirium. *J Am Geriatr Soc*. 2005 Jun;53(6):963-9.

and approach their care in a manner that makes it less likely for them to become delirious, they are equally less likely to become more disabled and more likely to go home. Indeed, in many cases the reason why a person is designated as ALC and requires a transfer to rehabilitation, to a long-term care home or to palliative care, is because they have deteriorated while in hospital.

16. The most effective evidence that this deterioration can be prevented comes from evaluations of the Hospital Elder Life Program (HELP). The HELP program focusses on reducing the stressors that trigger delirium in hospitalized older adults by promoting mobility, stimulating cognition, ensuring proper nutrition and hydration, optimizing vision and hearing, and reducing sleep disruption. HELP has been the subject of a recent systematic review that demonstrated that it decreases delirium by 47%, decreases falls by 48%, reduces sedative use, and reduces hospital and long-term care costs.⁵

17. Similarly, a recent trial demonstrated that when older people in hospital were given weights and instructed to do progressive muscular resistance training, their length of stay was decreased.⁶

18. If money was spent in providing more senior-friendly care, this would be far less expensive than dealing with the ALC ‘problem’ caused by neglecting senior-friendly care practices in

⁵ TT Hsieh, T Yang, SL Gartaganis, J Yue & SK Inouye, “Hospital Elder Life Program: Systematic Review and Meta-analysis of Effectiveness” (October 2018) 26(10) *Am J Geriatr Psychiatry* 1015;

SK Inouye, ST Bogardus Jr, PA Charpentier, L Leo-Summers, D Acampora, TR Holford, & LM Cooney Jr, “A multicomponent intervention to prevent delirium in hospitalized older patients” (March 199) 340(9) *N Engl J Med* 669.

⁶ N Martínez-Velilla, et al, “Effect of Exercise Intervention on Functional Decline in Very Elderly Patients During Acute Hospitalization: A Randomized Clinical Trial” (1 January 2019) 179(1) *JAMA Intern Med* 28.

hospitals. Better senior-friendly hospital care would free up money that could support home care, primary care, and long-term care.

19. There are 10 senior-friendly hospitals in Ontario. However, often an issue arises from the failure to track the outcomes of these hospitals. In the absence of this tracking data, funding for these units is susceptible to being reduced during fiscal cuts.

20. It would be preferable if accreditation of hospitals included formal measurement of rates of hospital-acquired delirium and functional decline. Some of the best hospitals in the United States that implement the HELP program have hospital-acquired delirium rates around 5%,⁷ whereas the literature suggests that it is around 20-25% more broadly. We do not know what these rates are in Canada or in Ontario, as the data is not tracked on a systematic basis. Given the high prevalence of cognitive impairment prior to hospitalization among ALC patients, and based on my experience as a geriatrician, delirium rates in Canada and Ontario are likely high overall.

21. To a large degree, there is an assumption that it is normal for an older person to deteriorate in the hospital. This justifies the failure to provide senior-friendly care or to provide supports that would allow for a better clinical outcome. Yet 30-50% of older persons experience functional decline during hospitalization, driven by complications of delirium and by lack of physical activity and mobilization. Of those who decline, only half regain function 3 months after discharge. This

⁷ Based on personal communication from Dr. SK Inouye.

further prolongs hospitalization, increases the risk of hospital acquired complications, and increases discharges to long-term care.⁸

22. Implementing senior-friendly hospitals requires system change, active support from the Ministry of Health and hospital CEOs, administrators willing and able to implement it, and support for staff in making this change. Moreover, electronic medical records must be reconfigured to make relevant information, such as pre-existing cognitive and physical function and risk factors for delirium and functional decline, more accessible to the care team in order that they may take appropriate measures to target high-risk individuals, prevent these complications and optimize the chances for the older person to return to their home.⁹

E. OBTAINING CONSENT FOR MEDICAL TREATMENT

23. Whenever a decision on treatment or admission to a long-term care home needs to be made, the first step is to approach the person to obtain consent. Consent must be freely obtained and at the time when a specific care decision has to be made. There cannot be blanket consent to treatment.

⁸ SK Inouye, DR Wagner, D Acampora, RI Horwitz, LM Cooney Jr & ME Tinetti, "A controlled trial of a nursing-centered intervention in hospitalized elderly medical patients: the Yale Geriatric Care Program" (December 1993) 41(12) *J Am Geriatr Soc* 1353;

K Hansen, J Mahoney & M Palta, "Risk Factors for Lack of Recovery of ADL Independence After Hospital Discharge" (1999) 47:3 *J Am Geriatr Soc* 360;

K Covinsky, et al, "Loss of Independence in Activities of Daily Living in Older Adults Hospitalized with Medical Illnesses: Increased Vulnerability with Age" (March 2003) 51:4 *J Am Geriatr Soc* 451;

SC Lim, V Doshi, B Castasus, JKH Lim & K Mamun, "Factors Causing Delay in Discharge of Elderly Patients in an Acute Care Hospital" (January 2006), 35:1 *Ann Acad Med Singapore* 27.

⁹ G Dhaliwal & AS Detsky, "The evolution of the master diagnostician" (August 2013) 310(6) *JAMA* 579.

24. There equally cannot be a blanket determination of the capacity of a patient to consent. A patient could have mild to moderate dementia and still be capable of consenting to an influenza vaccination, but may not be able to understand the implications of chemotherapy. Similarly, if a person indicates that they refuse to consent to a transfer to a long-term care home, but they are inconsistent in their response or they cannot articulate a reason for this refusal in a logical way, there may be reason to question the capacity of that person.

25. When a person is deemed to be incapable to make a specific decision, we will look to a substitute decision-maker (SDM) to make the decision. The SDM is either designated by the person, or if none is specifically designated, Ontario law prescribes a hierarchy of SDMs. This process of determining whether a person can give consent and, if not, approaching the SDM for consent, is required for each decision. For example, if a person requests an influenza vaccination, and this request is consistent with prior wishes, then it will likely be considered as valid consent (though SDMs are usually informed out of courtesy). I have worked with older persons who have asked to go to LTC and provided logical and consistent reasons for doing so. In those cases, I had to explain to the care team that there was no need for capacity determination despite a diagnosis of moderate Alzheimer's disease.

26. In order to get informed consent, one must present all of the information regarding the decision to be made, including consequences and the pros and the cons, and allow the person to make a decision. If I, as a physician, prescribed a medication after consent had been refused, I would be committing malpractice: it is very fundamental that we should not override someone's informed decisions about care.

27. There equally cannot be any coercion when consent is obtained. A fee of \$400 per day is a significant amount of money to an older couple on a pension, since a pension payment is typically around \$1,200 per month. A \$400 daily fee would, in my view, constitute a significant amount of pressure, and thus coercion, to an older person in hospital.

F. EFFECT OF TRANSFERS ON THE HEALTH OF OLDER PATIENTS

28. When an older adult, particularly one who is frail and may already have delirium or cognitive impairment, is moved from one place to another unfamiliar one, there is a high likelihood that they will become delirious or that any ongoing delirium will become worse.¹⁰

29. This worsening in condition causes significant harm. Delirium is associated with a mortality rate of up to 25%. When a person is moved to a nursing home that only provides 2.75 hours of care per day, instead of the more than 4 hours that they actually need, the occurrence of delirium may overwhelm the ability of the home to support that person. The literature supports the view that the more nursing care is provided, the less likely antipsychotics are to be prescribed. Similarly, experience and research show that the more staff that are available to assist people with dementia, and the more experienced they are, the better the outcomes.¹¹

¹⁰ A Goldberg, SE Straus, JS Hamid, CL Wong, “Room transfers and the risk of delirium incidence amongst hospitalized elderly medical patients: a case-control study” (2015) 15:69 *BMC Geriatr*;

CH Ormseth, SC LaHue, MA Oldham, SA Josephson, E Whitaker & VC Douglas, “Predisposing and Precipitating Factors Associated With Delirium: A Systematic Review” (2023) 6(1) *JAMA Netw Open*.

¹¹ JM Yoon, AM Trinkoff, E Galik, CL Storr, NB Lerner, N Brandt & S Zhu, “Nurse staffing and deficiency of care for inappropriate psychotropic medication use in nursing home residents with dementia” (Nov 2022) 54(6) *J Nurs Scholarsh* 728;

30. The harm caused by the transfer of older adults with chronic conditions is made worse where they are transferred far away from home, particularly if their spouse is frail and cannot visit the person on a regular basis. This situation is harmful to both the patient being transferred and the spouse, and can be worsened when there are further health events in the long-term care home and there are not enough staff to deal with them. Similarly, the person may be harmed by the resulting separation from members of their extended social network.

31. As a result, in my experience, I have seen transitions where older people arrive in a retirement home or long-term care and they are too sick to be adequately supported in the destination setting, and are quickly returned to the hospital, where some have died.

G. ALTERNATIVES TO TRANSFERS OF ALC PATIENTS

32. In the case of ALC patients, there are several alternatives to transferring them to a long-term care home that they did not choose.

33. The first option is for the ALC patient to stay where they are in the hospital. This has the consequence of tying up a hospital bed, but avoids a transfer or multiple transfers of the person.

34. A second option is waiting for the long-term care home that the person wants, which would be feasible if there was sufficient funding and hiring of staff.

35. Third, the person can pay out of pocket for extensive care at home and return home. Typically, the needs of ALC patients exceed the amount of care that is available through publicly-

S. Clemens, W. Wodchis, K. McGilton, K. McGrail, M. McMahon, "The relationship between quality and staffing in long-term care: A systematic review of the literature 2008-2020" (Oct 2021) 122 *Int J Nurs Stud*.

funded home care. Even where home care might allocate a maximum of 40 hours per week, it is very difficult to get those 40 hours, and requires that the patient or their family advocate for additional hours. Research suggests that if barriers to accessing home care were addressed, 1 in 9 long-term care residents could be cared for at home.¹² If home care hours were increased to 50 or 60 hours per week, this would allow many ALC patients to return home.¹³

36. In the case of those ALC patients who are likely to pass away within a few months, a more flexible approach to care opportunities may provide better options. For instance, an ALC patient might be able to return home with a combination of increased home care and palliative care support. However, the system is not designed in a way that considers alternative ways of meeting the needs of a particular ALC patient, but rather looks to move ALC patients out of hospitals, typically into long-term care. In the context of the inertia of the health care system, it is difficult for individual health care workers to find alternative options for placing an ALC patient.

37. The most appropriate and effective up-stream approach is to prevent ALC in the first place by mandating senior friendly hospital practices in all hospitals. Similarly, better support for

¹² Canadian Institute for Health Information, *1 in 9 new long-term care residents potentially could have been cared for at home* (5 August 2020), online: <https://www.cihi.ca/en/1-in-9-new-long-term-care-residents-potentially-could-have-been-cared-for-at-home> (accessed 28 December 2022).

¹³ Canadian Healthcare Association, *Home Care in Canada: From the Margins to the Mainstream* (Ottawa: Canadian Healthcare Association, 2009), online: http://www.healthcarecan.ca/wp-content/themes/camyno/assets/document/PolicyDocs/2009/External/EN/HomeCareCanada_MarginsMainstream_EN.pdf

G Hermus, C Stonebridge, L Theriault, F Bounajm, *Home and Community Care in Canada: An Economic Footprint* (Ottawa: Conference Board of Canada, May 2012), online: https://www.conferenceboard.ca/temp/281063dd-460b-469b-b8e8-5fd048bf2b99/12-306_HomeandCommunityCare_PRT.pdf (accessed 28 December 2022).

primary care to prevent hospitalizations in the first place is essential: a person cannot become ALC if they are not hospitalized in the first place.

H. CONCLUSION

38. When these considerations are taken together, it is clear that the process under Bill 7 will cause serious and unnecessary harm to older persons. The problem that Bill 7 is trying to fix is caused by flaws in the current treatment of older persons in the health system that can readily be addressed. Taking even some of the measures I have highlighted above would allow the Province to improve the situation of older persons in hospitals and waiting for long-term care in a way that is more person-centered, effective and cost-effective, respectful and humane.

AFFIRMED BEFORE ME by Dr. George Heckman of the Township of Blandford-Blenheim, in the Province of Ontario on March 3, 2023 in accordance with O. Reg. 431/20 Administering Oath or Declaration Remotely.



Commissioner for taking affidavits

Amanda Marie O'Brien, a Commissioner etc.
Province of Ontario, for Goldblatt Partners
LLP, Barristers & Solicitors
Expires November 15, 2024

}



DR. GEORGE HECKMAN

Court File No. _____

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THE ATTORNEY GENERAL OF ONTARIO, THE MINISTER OF HEALTH, and
THE MINISTER OF LONG-TERM CARE

Respondents

ACKNOWLEDGMENT OF EXPERT'S DUTY

39. My name is Dr. George Heckman. I live in the Township of Blandford Blenheim, in the Province of Ontario.

40. I have been engaged by or on behalf of the Lawyers for the Applicants to provide evidence in relation to the above-noted court proceeding.

41. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:

- a. to provide opinion evidence that is fair, objective and non-partisan;
- b. to provide opinion evidence that is related only to matters that are within my area of expertise; and
- c. to provide such additional assistance as the court may reasonably require, to determine a matter in issue.

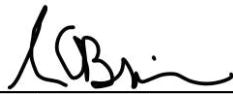
42. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

March 3, 2023



DR. GEORGE HECKMAN

This is **Exhibit “A”** referred to in the Affidavit of **Dr. George Heckman**, sworn this 3 day of March, 2023, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.



A Commissioner for taking Affidavits etc. (*or as may be*) (pursuant to O. Reg 431/20)

Amanda Marie O'Brien, a Commissioner etc.
Province of Ontario, for Goldblatt Partners
LLP, Barristers & Solicitors
Expires November 15, 2024

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CONTRIBUTORS

OPINION

How to make hospitals right for seniors

The health care system, in particular acute care, as we know it now, is not organized to meet the needs of the current population — but it could be.

By **Jenny Basran** Contributor

Andrea Gruneir

George Heckman

Thu., Sept. 29, 2022 | 3 min. read

Article was updated Sep. 30, 2022

A lot has been written about the Ontario government's decision to discharge older adults to long-term care homes against their wishes but much of it fails to acknowledge the complex underlying issues that have created this crisis and the real solutions required to address it.

The health care system, in particular acute care, as we know it now, is not organized to meet the needs of the current population — but it could be.

Persons over 65 years of age are major users of acute care, often for serious cardiovascular and respiratory conditions and hip fractures. Many of these patients are medically complex, frail, and frequently affected by chronic diseases and cognitive impairment. They are especially vulnerable to hospital-acquired complications, such as delirium and functional decline, which in turn, lead to the label alternate level of care (ALC).

It is critical to understand that ALC is an administrative designation: it is not a diagnosis or a clinical state. The ALC designation is applied to patients when the health problem that brought them to hospital is deemed resolved. Yet, those patients still have chronic health problems, now compounded by hospital-acquired delirium and functional decline, that remain incompletely addressed.

ALC reflects a system that leaves patient needs unmet. ALC is not inevitable and it is not addressed by discharging patients without consideration of their post-hospital needs.

The solution is to make hospitals right for older persons. Senior friendly hospital measures have been shown to prevent delirium, in-hospital falls, functional decline, LTC admission, and to lower health care costs; yet only a handful of hospitals across Canada have implemented these.

Early consideration of rehabilitation, either in hospital, dedicated programs in LTC homes, or intermediate settings, is essential, particularly for older persons who often require more time to recover. Thus, senior friendly hospital practices must be mandated, and a robust federal quality assurance system, tied to accreditation and with public reporting, implemented.

More fundamentally, a person cannot become ALC if they are not hospitalized in the first place. As noted above, the leading acute care admission diagnoses for older persons are fractures and exacerbations of chronic heart and lung diseases, a large proportion of

which are preventable. When cared for in interprofessional primary care settings, patients with chronic conditions are less likely to be hospitalized.

A recent evaluation, funded by the Ontario Ministry of Health, showed that primary care-based memory clinics can reduce hospitalizations, delay LTC admission, and save \$26,000 per patient per year; yet 80 per cent of Ontarians have no access to these. Furthermore, enhancing home care and community services, including senior-friendly rehabilitation, and ensuring that these are better integrated with primary care will further reduce pressures on acute care and LTC homes.

Alternate level of care is not an inevitable consequence of aging but the product of a health care system that fails to sufficiently address the complex care needs common among the population. Any government serious about addressing the health care crisis needs to invest in integrated community and primary care services, supported by specialized geriatric services, to reduce the likelihood of hospitalization.

This needs to be complemented with senior-friendly acute care measures to prevent hospital-acquired complications and the necessary reablement services to support recovery and reintegration into the community. Of course, this all rests on having a sufficiently trained and compensated health care workforce.

Hospitals, as we know them now, are not right for older persons and this has consequences for everyone who needs care. This can be fixed.

Dr. Jenny Basran is an associate professor, division of geriatric medicine, University of Saskatchewan. Dr. Andrea Gruneir is an associate professor, department of family medicine, University of Alberta. Dr. George Heckman is the Schlegel Research Chair in geriatric medicine, associate professor, University of Waterloo, assistant clinical professor, McMaster University.

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This is **Exhibit “B”** referred to in the Affidavit of **Dr. George Heckman**, sworn this 3 day of March, 2023, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.



A Commissioner for taking Affidavits etc. (*or as may be*) (pursuant to O. Reg 431/20)

Amanda Marie O'Brien, a Commissioner etc.
Province of Ontario, for Goldblatt Partners
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Expires November 15, 2024

THE CONVERSATION

Academic rigour, journalistic flair



Delirium is a preventable condition often caused by hospital practices. (Shutterstock)

Preventing delirium protects seniors in hospital, but could also ease overcrowding and emergency room backlogs

Published: August 24, 2022 12:19pm EDT

George A Heckman

Schlegel Research Chair in Geriatric Medicine, Associate Professor, University of Waterloo



Listen To The Article



 AD AURIS

Imagine a health condition that leads to the death of up to one-quarter of those hospitalized with it.

It's a condition that can convert a independent older person into one stuck in hospital awaiting a bed in a long-term care home. A condition that affects up to 25 per cent of older persons presenting to hospital, and is acquired by a further 25 per cent while in hospital. A condition that prolongs hospital stays, ties up beds and backs up emergency rooms.

The costs of this condition exceeded \$160 billion in the United States alone in 2011. Finally, consider how this condition occurs in almost every hospital around the world, essentially making it a pandemic.

No, this is not COVID-19, monkeypox or influenza.

This is delirium. A condition we've known about for decades. A condition that often goes unrecognized. A condition often caused by hospital practices. A condition that we can prevent, but usually don't.

Delirium in hospitals

Delirium usually occurs during an acute illness and causes a rapid decline in cognition. Older persons, particularly those with pre-existing changes in cognition, are at risk.

Delirium is often triggered in hospital by enforced bed rest, misplaced or lost hearing and visual aids, sleep disruption from noisy and brightly lit wards at night, over-prescription of unnecessary and often sedating medications or overuse of "tethers" like bladder tubes or intravenous lines.



The downstream effects of delirium on the health-care system include high 'alternate level of care' rates, hospital overcrowding and emergency room backlogs. THE CANADIAN PRESS/Graham Hughes

People with delirium can experience disorientation, agitation or paranoia, and may become a risk to themselves or to others. As a result, many are restrained physically or chemically with drugs such as antipsychotics, which can cause injury, reduced mobility or death.

Delirium often leaves patients too disabled or confused to return home. Some eventually do so after a period of rehabilitation, but many others never fully regain their independence and are placed on wait lists for long-term care homes. Adding insult to injury, because these patients are stable enough to not require acute hospital care, they are designated "alternate level of care (ALC)" and are charged a daily co-payment.

Downstream complications

An emerging and dangerous infectious disease, a drug with unacceptable side-effects or a faulty medical device would trigger a major public outcry and prompt regulatory action. Yet, something as widespread and harmful as delirium — an injury clearly linked to hospital practices — rarely comes to attention.

Instead, we focus on its downstream complications: high ALC rates, hospital overcrowding and emergency room backlogs. In what amounts to systemic gas-lighting, blame is directed at those elderly “bed-blockers” and pressure builds on governments to act. Pundits and politicians debate the merits of private health care but ultimately, the same solution — one that does nothing to make hospitals safer for older persons — is reapplied: more long-term care.

Read more: Enabling better aging: The 4 things seniors need, and the 4 things that need to change

More long-term care homes are then built, into which ALC patients are “decanted” (a system planning term). ALC rates come down, challenges with “access and flow” (another system planning term) are reduced and hospital pressures eased. The issue goes away — at least, until the long-term care homes become full again and the entire cycle is repeated, like a bad sequel to the movie *Groundhog Day*.

Preventing delirium and its downstream effects

Delirium can be prevented. The Hospital Elder Life Program (HELP) was developed in the 1990s and has been shown to substantially reduce the odds of hospital-acquired delirium by over 50 per cent, reduce in-hospital falls by 42 per cent, prevent hospital-acquired disability, and reduce costs, both in-hospital and by avoiding long-term care.



An older man lies in a hospital bed with an older woman standing by his side, and two health-care workers

The Hospital Elder Life Program is characterized as a (Shutterstock)

Characterized as a “low-tech and high-touch” intervention and supported by specialized staff and volunteers, HELP identifies older adults at risk of delirium upon hospital admission and immediately implements an array of senior-friendly measures.

These measures include regular exercise; elimination of unnecessary tethers; cognitive stimulation; attention to vision, hearing and hydration needs; and sleep protocols such as noise reduction (no more jarring “CODE BLUE!” blasting over the intercom at 3 a.m.), back rubs, relaxation tapes and music, and herbal tea or warm milk. It’s low-tech. And it works.

Yet, over two decades after the publication of a landmark clinical trial, and despite ample supporting evidence, the implementation of HELP remains the exception, rather than the rule. Hospitals in Canada are simply not mandated to provide senior-friendly care. It is time they were.

Hospitals must also be required to measure and publicly report on rates of hospital-acquired delirium and functional decline. This type of mandatory, standardized and publicly available information collection is how long-term care homes in Canada were able to compare their performance, learn from one another and reduce unnecessary antipsychotic use.

Rather than remaining stuck in this *Groundhog Day* scenario, it is only through structured and mandatory senior-friendly quality improvement that our health-care system will eventually escape an ALC loop that ultimately affects us all.

This is **Exhibit “C”** referred to in the Affidavit of **Dr. George Heckman**, sworn this 3 day of March, 2023, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.



A Commissioner for taking Affidavits etc. (*or as may be*) (pursuant to O. Reg 431/20)

Amanda Marie O'Brien, a Commissioner etc.
Province of Ontario, for Goldblatt Partners
LLP, Barristers & Solicitors
Expires November 15, 2024

Hospitals are needlessly risky for frail seniors

The downside to living longer is chronic illness, something hospitals weren't made for. Identifying vulnerable patients early is vital, and there is a way.

[Dr. George Heckman, Dr. Paul Hébert](#)

December 13, 2018

(This article has been translated [into French](#).)

Canadians are living longer. Unfortunately, our hospitals aren't ready for them. Canadians older than 65 [use over 40 percent of hospital services](#), a demand that continues to rise. As they age, Canadians hope to stay at home as long as possible. If hospitalization is required, they should expect to go home quickly and safely afterwards. Yet many spend weeks to months in a hospital bed, acquiring new health problems and disabilities only to find themselves among the [more than 300,000 Canadians living in nursing homes](#).

If hospitals are meant for getting well, why does this happen?

Our health-care system was designed in the 1950s, and focused on hospitals. Back then, its purpose was to handle emergencies, such as pneumonia or injuries. Conditions like heart attacks had few beneficial treatments, so most patients did not survive very long.

Today, advances in medical science and public health mean more people survive with conditions that would have killed their grandparents. Conditions that can be treated but not cured are called chronic diseases. The biggest risk factor for chronic diseases is aging. As Canadians get older, they usually acquire not just one but many chronic diseases.

Many older Canadians also develop other age-related problems such as dementia, making simple everyday tasks more difficult. Many lose muscle strength, becoming less active and more disabled.

Over time, the burden of these problems grows, and affected persons become increasingly vulnerable. Simple health challenges like influenza, nothing more than a nuisance to young people, will incapacitate or kill a vulnerable older person. This vulnerability is called [frailty](#).

The problem is that hospitals remain better suited to care for healthy surgical patients and acute illnesses like pneumonia. Most are not geared to helping frail [seniors](#) cope with acute illnesses or flare-ups of chronic conditions. Frailty is why so many do poorly in senior-unfriendly hospital environments, [often becoming more confused and disabled](#), often irreversibly.

So what can be done?

First, hospitals need to identify vulnerable patients with complex needs so that they can quickly address and minimize complications. Detection requires that the right information be collected efficiently and reliably at the right time.

Ideally, information about complex needs and frailty should be identified early in all health-care settings, using a common approach. Doing so would mean that important information could be gathered and acted upon even before a hospitalization. Most of the pieces for this approach are in place in Canada, but not in hospitals. Existing hospital documentation systems are bloated and inefficient, collecting some information repetitively but missing other important data.

Yet knowing who's at risk ensures that patients with mobility issues do not stay bedridden a minute longer than needed. It means that patients with dementia are regularly oriented to place and time and maintained on a stable daily routine. It means aggressive deprescribing programs to get rid of harmful or useless medications. It also means a more efficient health-care system.

An [international not-for-profit group of researchers](#) called interRAI has carefully designed and studied instruments for just this purpose. Its assessment tools are already used in home care, nursing homes and mental-health settings across Canada. Unfortunately, they are not used yet in primary care and hospitals, where measuring frailty is typically an afterthought if done at all.

Along with our colleagues, [we recently studied](#) the interRAI Hospital Suite – a set of assessment tools – in 10 Canadian hospitals on more than 5,000 older adults, supported by the Canadian Frailty Network. The instruments were easy to use and were able to reliably predict, within 24 hours of hospitalization, which older patients would develop complications in hospital, which ones were at risk of a long hospital stay and which ones were at risk of ending up in a nursing home.

Efforts are already under way to make our hospitals senior-friendly, but the lack of systematic assessment in the system overall leaves us all vulnerable as we age. By the time frail patients need

hospital care, it is often too late to address their complex needs.

Reliable information is a fundamental requirement to make our health-care system and especially our hospitals senior-friendly, allowing better targeting of programs to respond to needs along the entire trajectory of life.

Photo: Shutterstock, by Pressmaster

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[Dr. George Heckman, Dr. Paul Hébert](#)

December 13, 2018

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This is **Exhibit “D”** referred to in the Affidavit of **Dr. George Heckman**, sworn this 3 day of March, 2023, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.



A Commissioner for taking Affidavits etc. (*or as may be*) (pursuant to O. Reg 431/20)

Amanda Marie O'Brien, a Commissioner etc.
Province of Ontario, for Goldblatt Partners
LLP, Barristers & Solicitors
Expires November 15, 2024

Faculty of Health- VITAE FORMAT

George A. W. Heckman, MD MSc FRCP (C)

Associate Professor, School of Public Health and Health Systems, University of Waterloo

Degrees Received

<u>Degree</u>	<u>Institution</u>	<u>Years</u>
Master of Science, Health Research Methodology	McMaster University, Hamilton, Ontario	2000-2006
Post-graduate Trainee, Geriatric Medicine	McMaster University, Hamilton, Ontario	1998-2000
Post-graduate Trainee in Core Internal Medicine	University of Toronto, Toronto, Ontario	1995-1998
Licentiate of The Medical Council of Canada		1996
Doctor of Medicine (with Honours)	University of Toronto, Toronto, Ontario	1991-1995
Master of Mathematics, Department of Computer Science	University of Waterloo, Waterloo, Ontario	1988-1991
Honours Bachelor of Applied Science, Engineering Physics (Systems and Physics)	Université Laval, Québec	1984-1988
Diplôme d'Etudes Collégiales	St.Lawrence Campus, Champlain College, Québec	1982-1984

Employment History*Academic*

Date	Position	Institution
January 1, 2010 – present	Schlegel Research Chair in Geriatric Medicine, Associate Professor, School of Public Health and Health Systems (renewed for a third term until 2015)	University of Waterloo, Waterloo, Ontario
January 1, 2010 – present	Assistant Clinical Professor of Medicine	McMaster University, Hamilton, Ontario

November 1, 2007- June 30, 2012	Associate Member of the Department of Clinical Epidemiology and Biostatistics	McMaster University, Hamilton, Ontario
July 2006 - December 2009	Assistant Professor, Divisions of Geriatrics and Cardiology, Department of Medicine	McMaster University, Hamilton, Ontario
October 2004 - June 2006	Assistant Clinical Professor, Division of Geriatrics, Department of Medicine	McMaster University, Hamilton, Ontario
September 2004 - September 2005	Director, Clinical Teaching Unit	Freeport Health Centre, Kitchener, Ontario
October 2000 - October 2004	Clinical scholar, Division of Geriatrics, Department of Medicine, Hamilton Health Sciences	McMaster University

Medical Consultant

Date	Position	Institution
August 2020-current	Medical Director	University Gates Retirement Home
October 2015-current	Consultant geriatrician	University Gates Long Term Care Facility
January 2010-current	Consultant geriatrician	New Vision Family Health Team, Kitchener, Ontario
January 2010-current	Consultant geriatrician	St. Mary's General Hospital Heart Function Clinic
January 2010-January 2016 and December 2021-current	Consultant geriatrician	Grand River Hospital, Freeport Health Centre, St. Mary's General Hospital, Kitchener, Ontario
January 2010-2018	Consultant geriatrician	Centre for Family Medicine, Kitchener, Ontario
January 2010-December 2012	Consultant geriatrician	Nithview Long Term Care Facility, New Hamburg, Ontario
October 2005-December 2009	Consultant geriatrician	Hamilton Health Sciences, Hamilton, Ontario
October 2005-December 2009	Consultant geriatrician	St. Joseph's Healthcare, Hamilton, Ontario

October 2005- December 2009	Consultant geriatrician	Heart Function Clinic, Hamilton Health Sciences, Hamilton, Ontario
October 2000-October 2005	Consultant geriatrician	Freeport Hospital, Grand River Hospital and St-Mary's Hospital, Kitchener, Ontario
October 2000-October 2005	Consultant geriatrician	St. Joseph's Community Health Centre, Hamilton, Ontario
October 2000-October 2005	Consultant, Geriatric and Internal Medicine	Hamilton Health Sciences, Hamilton, Ontario

Other

Date	Position	Institution
February 2016 – current	Consultant Physician, Research and Knowledge Translation	RIA-WWLHIN
January 1, 2010 - January 2016	Lead Geriatrician	WW LHIN
January 1, 2011 - Mar 31, 2017	Medical Director	Freeport Health Centre- Grand River Hospital
Summer 1993	Software Tester and Programmer	IAP project group, ISG Technologies, Mississauga, Ontario
Summer 1992	Research Assistant	Institute of Biomedical Engineering, University of Toronto, Ontario
Summer 1991	Research Assistant	Scientific Computation Group, University of Waterloo, Waterloo, Ontario
Summer 1988	Research Assistant	Maurice Lamontagne Institute Department of Fisheries and Oceans, Mont- Joli, Québec
Summer 1987	Research Assistant	Centre d'Optique, de Photonique et Laser, Université Laval, Québec
Summer 1986	Research Assistant	Laboratoire Van de Graaff, Université Laval, Québec

Academic Awards and Distinctions

- April 2022 Outstanding Performance Award (OPA). Awarded for excellence across all dimensions of performance, excellent reviews of teaching, outstanding contributions in research, and meaningful contributions to the community, including critical public health leadership as a geriatrician during the pandemic. University of Waterloo. \$4,172.
- Sept 2018 Oxford Textbook of Geriatric Medicine received a High Commendation in the Medicine by British Medical Association Book Awards. Chapter: Heckman G, Jónsson, PV. Comprehensive Geriatric Assessment: The Specific Assessment Technology of InterRAI. Oxford Textbook of Geriatric Medicine, 3rd Ed. 2017.
- Sept 2018 Canadian Frailty Network Innovation Showcase (September 20): Top 30 Frailty Innovations in Canada: *Enhancing Knowledge for Interprofessional Care in Heart Failure* (with Schlegel Villages).
- May 2014 Rehab Award of Excellence in recognition of contributions to the Waterloo Wellington Rehabilitative Care System
- 2006-2009 E.J. Moran Campbell Internal Career Research Award, Department of Medicine, McMaster University. Amount: \$30000.00 a year for three years. Title & purpose: *Management of heart failure in long-term care*. Supervisor: Dr. Robert McKelvie
- 2001-2004 Research Fellowship, Heart and Stroke Foundation, July 2001-June 2004. Amount: \$45000.00 during the first 2 years, and \$47500.00 in the third year. Salary Support. Title and purpose: *Development and evaluation of a CHF care-map for long-term care*. Supervisor: Dr. Robert McKelvie
- 2000 Specialist Certificate, Geriatric Medicine, Royal College of Physicians and Surgeons of Canada
- 1999 Specialist Certificate, Internal Medicine, Royal College of Physicians and Surgeons of Canada
- 1997 Saul Baker Award for Research and Education in Geriatric Medicine, Toronto Hospital
- 1996-97 Aminul Haq Award for Excellence in Teaching (Resident), Department of Medicine, Toronto Hospital
- 1995 Irving Heward Cameron Undergraduate Scholarship in Surgery Gold Medal, Faculty of Medicine, University of Toronto
- 1995 Alpha Omega Alpha Honour Medical Society
- 1994 Walter F. Watkins Scholarship, Faculty of Medicine, University of Toronto
- 1992 Summer scholarship, Institute of Biomedical Engineering, University of Toronto
- 1991/92 Morrin College Bursary, Québec
- 1989/90 NSERC Postgraduate scholarships (PGS1 and PGS2)

- 1988-90 Department of Computer Science Fellowship, University of Waterloo
- 1988 Prix d'Excellence de l'Ordre des Ingénieurs du Québec, Université Laval
- 1987 NSERC undergraduate summer research scholarship
- 1984 Third-highest academic standing, St. Lawrence Campus, Champlain College

Professional memberships

- Canadian Medical Association (2020-current)
- Ontario Medical Association: Member (1995-current)
- Royal College of Physicians and Surgeons of Canada: Fellow (1999-current)
- College of Physicians and Surgeons of Ontario (1999-present)
- Canadian Geriatrics Society (2005-2018)
- Associate: American College of Physicians: Associate (1996-2000), Member (2001-2016)
- Society of Geriatric Cardiology: Fellowship (2008)
- International Psychogeriatric Association: Member (2001-2005)
- American Geriatrics Society: Member (1999-2005)

Scholarly and Professional Activities:

Steering committee:

- Co-chair, Provincial Geriatrics Leadership Office Advisory Group on the Covid-19 Pandemic Response (March 2020-ongoing)
- Co-chair and Organizing committee member: Reflecting on the COVID-19 Pandemic: Themes from Long Term Care – An International Virtual Town Hall, September 25, 2020 (see recording: <https://youtu.be/DQS2hk0-ld8>)

Steering committee

- Steering Committee member: HS&DR Project: NIHR127234 - Developing research resources And minimum data set for Care Homes' Adoption and use (the DACHA study) UK (ongoing)

Canadian Cardiovascular Society (CCS)

- Primary Panelist, CCS Consensus Conference on Heart Failure (2005 – December 2021)
- Heart Failure Roundtable 2021: Achieving Equity in Access to Heart Failure Care and Services in Canada. Roundtable member. June 11, 2021.
- Chair, CCS HF Guidelines National Workshop Initiative: 2012 – 2014
- Vice Chair, Quality Indicator Heart Failure Working Group. 2012 – 2018
- Contributed to CCS Submission to the Standing Committee on Finance: Recommendation 68 in CULTIVATING COMPETITIVENESS: HELPING CANADIANS SUCCEED; Report of the Standing Committee on Finance, Hon. Wayne Easter Chair, DECEMBER 2018, 42nd PARLIAMENT, 1st SESSION

- Lead, Quality Indicators Heart Failure Sub-theme group for Palliative Care/End of Life Planning 2011 – 2012
- Member, Theme Working Group 6 (Cardiac Rehabilitation and End-of-Life care), Canadian Heart Health Strategy and Action Plan (2006 - 2008)
- Secondary Advisory Panelist, CCS Consensus Conference 2002: Management of Heart Disease in the Elderly Patient. Contributed to Heart Failure section (Fall 2002)

Panelist, CorHealth Ontario Cardiac Leadership Council, 2018 – current

- Advisor to Hub-Spoke-Node Community Heart Failure Care model for Southwest LHIN, Kitchener Waterloo and Guelph-Wellington
- Cardiac Care Network of Ontario, Heart Failure Management Working Group, 2011 – 2018
- CorHealth Ontario Cardiac Leadership Council, 2018-current

Health Quality Ontario and Ministry of Health and Long Term Care of Ontario

- Levels of Care Expert panel (2016-2017): Committee developed recommendations on how to better allocate support to home care clients.
- Health Quality Ontario
 - Community Home Care and Patient Functionality Committee (2014)
 - Expert Advisory Panel on Post-Acute, Community-Based Care for CHF Patients (December 2013)
 - Ontario Quality Standards for Community Heart Failure Care: Fall 2017-ongoing).

Canadian Frailty Network Research Management Committee

- Theme Lead (Optimization of Community & Residential Care), September 2015 to September 2018
- Grant Review September 2015 to September 2018

interRAI

- Member of the Instrument Standards and Development Committee: April 2019-ongoing
- Member of the interRAI Check Up development and evaluation committee (2020-ongoing)
- Member of the iCARE (interRAI Clinical Application of Research Evidence) committee to promote and support clinical applications of interRAI instruments
- Fellow: 2011-ongoing
- Consultant to the Senior Quality Leap Initiative (2020-ongoing): a collaborative of anglophone LTC facilities in North America.
- Consultant to New Brunswick Les Visionnaires: Collaborative to share Quality Indicators and best practices among Francophone nursing homes across Canada.
- Affiliated Networks
 - iCARE: Canadian interRAI fellows aiming to increase the clinical use of interRAI instruments in the community
 - iNAC: Network of Acute Care (May 2011-present)

- iNICA: Network of Integrated Care & Aging (2014-present)
- Co-Chair, interRAI International Network of Excellence in Acute Care (iNEAC) Symposium, Waterloo, Ontario, Aug 14-16, 2012

Advisor, KW4 Ontario Health Team (OHT)

- KW4 OHT Frail Elderly Reference Group (biweekly meetings) to develop a primary care based integrated system of care for older persons
- KW4 OHT Quality and Continuous Improvement Working Group Collaborative Quality Improvement Plan (cQIP) Engagement Session (ALC Friday December 10th.
- West Region Access and Flow Regional Recovery Advisory Group (December 2021-ongoing)
- Knowledge translation support to Ontario Health Teams related to health systems research and use of interRAI instruments

Waterloo Wellington Local Health Integration Network/Research Institute for Aging

- Ad hoc consultation:
 - Use of intravenous diuretics for palliation of heart failure in long term care homes
 - WWLHIN Dementia strategy proposal (March 24, 2019)
 - Application for Behavioural Unit at St. Joseph's Health Care, Guelph (Feb 2019)
- Advisory Panel, Guelph-Wellington Heart Failure System Development (2016-ongoing)
- Advisor, eCenter for Excellence, Heart Failure Electronic Medical Record Template (2017 – ongoing)
- Physician Lead, Research and Knowledge Translation, RIA-WWLHIN collaborative (2016 - ongoing)
- Advisor, Older Adults Strategy for Waterloo Wellington (2018 – ongoing)
- Lead Geriatrician: 2010 – 2016
- Waterloo Wellington Dementia Strategy Steering Committee (2015 - 2016)
- Co-Chair, WW LHIN committee of Frail Elderly and Medically Complex Steering Committee: 2012 – 2015

Regional Health Care Services Consultant and Program development

- Panelist: McMaster Health Forum: Improving Hospital-to-home Transitions for Older Adults with Complex Health and Social Needs in Ontario (9-10 December, 2020)
 - Gauvin FP, Waddell K, Ganann R, Heald-Taylor G, Markle-Reid M, McAiney C, Lavis JN. Evidence brief: Improving hospital-to-home transitions for older adults with complex health and social needs in Ontario. Hamilton: McMaster Health Forum, 9 & 10 December 2020. panelist
- Panelist: McMaster Health Forum: Improving access to care and outcomes for heart failure in Ontario, January 31, 2019.
- New Vision Family Health Team: Heart Failure Management program, complex patient management program, and quality assurance (2010 – ongoing)
- Falls and Syncope Unit Business Case Development (with Dr. Richard Hughson)

George Heckman – Curriculum Vitae**Oct 13, 2022**

- Co-chair Cerebral Perfusion Summit at the Schlegel-UW Research Institute for Aging (April 4 to 6, 2018)
- Site visit in Dublin with Dr. Hughson (November 4th to 8th)
- Ongoing engagement with regional stakeholders to develop a business case.

Other

- Vice Chair, Ontario Medical Association Section on Geriatrics: July 2012 - April 2015
- Alzheimer & Dementia Scholarship Steering Committee: July 2013 - January 2014
- Ontario Vascular Health Implementation Steering Committee: November 2012 - Fall 2013
- Chair, Geriatric Resident Research Day, Hamilton Ontario: June 18, 2008
- Chair, Geriatric Resident Research Day, Cambridge Ontario: June 20, 2012
- Chair, Four City Geriatric Research Day, Waterloo, Ontario: June 22, 2016
- Consultant /external consultant for CBR Pharma (GBI Group) Report on Geriatric Medicine Development; Carving out New Opportunities to Treat Age-related Disease

Society Positions: N/A**Editorial boards**

- Editorial Board, Canadian Journal of Cardiology, October 2020 - ongoing
- Editorial Board, Canadian Journal of Cardiology Open, October 2018 – ongoing
- Associate editor, Health Sciences, Canadian Journal on Aging, 2015 - 2017
- Member of the Advisory Board for the Journal of Geriatric Care, 2002 - 2002
- Co-editor (with Dr. Irene D. Turpie), Aging Issues in Cardiology, Kluwer Academic Publishers, Boston 2003

Refereeing duties (number of papers, referred year for specific journals)

- **2021 (25):** BMC Geriatrics (3); Canadian Journal of Cardiology (8); Canadian Journal of Cardiology Open (3); Canadian Medical Association Journal (2 – one recognized as exceptional); McMaster Evidence-Based Medicine Case Report Journal (1); Internal and Emergency Medicine Journal (1); Journal of the American Geriatrics Society (1 – recognized as exceptional); Journal of the American Medical Directors Association (1); Journal of Nutrition, Health and Aging (1); JAMA Network Open (1); Canadian Journal on Aging (1).
- **2020 (13):** Canadian Journal of Cardiology (6); Canadian Journal of Cardiology Open (4); CMAJ (2); BMC Geriatrics (1).
- **2019 (21):** BMC Geriatrics (1); Canadian Journal of Cardiology (7); Canadian Journal of Cardiology Open (4); CMAJ (2); Journal of the American Medical Directors Association (2); Journal of the American College of Cardiology (3); Journal of Older Person Nursing (1); Canadian Journal of Aging (1)
- External reviewer: Evidence Brief: Scaling Up Shared Decision-making in Home and Community Care in Canada, 12 December 2019. For McMaster Health Forum.

- **2018 (10):** Canadian Journal of Cardiology (5); Canadian Journal of Cardiology Open (1); Canadian Journal on Aging (1); CMAJ (1); Journal of Cardiac Failure (1); Journal of the American Medical Directors Association (1);
- **2017 (17):** Age and Ageing (1); American Journal of Alzheimer’s Disease & Other Dementias (1), BMC Geriatrics (1); BMJ Open (1); Canadian Journal of Cardiology (6); Canadian Journal on Aging (6); Journal of Gerontology (1);
- **2016 (15):** Age and Ageing (1); BMC Geriatrics (2); Canadian Journal of Cardiology (6); Canadian Journal on Aging (3); Clinical Interventions in Aging (1); International Journal of Cardiology (1); Journal of the American College of Cardiology (1);
- **2015 (13):** Canadian Geriatrics Society Journal of CME (1); Canadian Journal of Cardiology (4); Canadian Journal of Diabetes (2); CMAJ (3); Journal of Geriatrics (1); Journal of Palliative Care (1); Journal of the American College of Cardiology (1);
- **2014 (5):** Circulation (1); CMAJ (1); Drugs and Aging (1); European Geriatric Medicine (1); Social Science and Medicine (1);
- **2013 (5):** Canadian Geriatric Journal (1); Canadian Journal of Cardiology (1); Journal of Environmental and Public Health (1); Journal of the American College of Cardiology (1); Social Science and Medicine (1);
- **2012 (3):** BMC Medicine (1); Epidemiologic Reviews (1); Journal of the American Geriatrics Society (1);
- **2011 (2):** Canadian Journal of Cardiology (1); CMAJ (1);
- **2009 (1):** Journal of the American Geriatrics Society (1);
- **2008 (6):** CMAJ (3); Journal of the American College of Cardiology (1); Journal of the American Geriatrics Society (2);
- **2007 (2):** CMAJ (2);
- **2006 (2):** CMAJ (1); PLOS Medicine (1);
- **2004 (3):** Journal of the American College of Cardiology (1); Journal of the American Geriatrics Society (2);
- **2002 (1):** Journal of Geriatric Care (1);

Grant & personnel committees

- Peer Review Grants- Canadian Frailty Network Catalyst Grant Competition: 2016 to 2018.
- Grant Review for the Health Services and Population (Scotland) January 2013
- Grant Review for the PA Research Foundation: 2013 PA Research Scheme Grant (Australia) November 2012
- Member, Committee VII-Heart and Stroke Foundation of Canada Scientific Review Committee (Fall 2011)

Executive positions

- Medical Director: The Village at University Gates Retirement Home, August 2020 – ongoing

George Heckman – Curriculum Vitae**Oct 13, 2022**

- Physician Lead, Research and Knowledge Translation, RIA-WWLHIN: January 2016 - current
- Lead Geriatrician, Waterloo Wellington Local Health Integration Network: January 2010 – January 2016
- Medical Director, Freeport Health Centre of Grand River Hospital, Kitchener: January 2011 - March 31, 2017
- HNHB-LHIN Assess/Restore Bed Steering Committee: March 2009 - November 2009
- Alternate Funding Plan Financial Management Committee, McMaster University, October 2008 - December 2009
- Geriatric Residency Program Committee. McMaster University: 2008-2011
- Residency research director, Division of Geriatric Medicine, McMaster University: July 2007 - 2011

External grant reviews

N/A

Publications: Total: 374**a) Referred Journals**

Lifetime publications (indicates papers by graduate / medical students whom I supervised / co-supervised; ** indicates non-first author papers for which I was principal investigator or senior author)*

1. Turcotte L, **Heckman G**, Hébert P, Weir J, Mulla R, Hirdes JP. « Qualité des soins dans les établissements de soins de longue durée canadiens accueillant différents groupes linguistiques », Santé Publique, vol. 34, no. 3, 2022, pp. 359-369.
2. *Franco BB, Boscart VM, Elliott J, Dupuis S, Loiselle L, Lee L, **Heckman GA**. "I Hope That the People Caring for Me Know About Me": Exploring Person-Centred Care and the Quality of Dementia Care. *Can Geriatr J.* 2022 Dec 1;25(4):336-346. doi: 10.5770/cgj.25.597. PMID: 36505910; PMCID: PMC9684023.
3. Mowbray FI, Jones A, Strum RP, Turcotte L, Foroutan F, de Wit K, Worster A, Griffith LE, Hébert P, **Heckman G**, Ko DT, Schumacher C, Gayowsky A, Costa AP. Prognosis of cardiac arrest in home care clients and nursing home residents: A population-level retrospective cohort study. *Resusc Plus.* 2022 Nov 17;12:100328. doi: 10.1016/j.resplu.2022.100328. PMID: 36425451; PMCID: PMC9678982.
4. Mowbray, F.I., Ellis, B., Schumacher, C., **Heckman, G.**, de Wit, K., Strum, R.P., Correia, R.H., Mercier, E., Jones, A., & Costa, A.P. The Association Between Frailty and a Nurse-Identified Need for Comprehensive Geriatric Assessment Referral from the Emergency Department. (2023). *Canadian Journal of Nursing Research.*
5. Aryal K, Mowbray FI, Strum RP, Dash D, Tanuseputro P, **Heckman G**, Costa AP, Jones A. Examining the "Potentially Preventable Emergency Department Transfer" Indicator Among Nursing Home Residents. *J Am Med Dir Assoc.* 2022 Nov 12:S1525-8610(22)00788-5. doi: 10.1016/j.jamda.2022.10.006. Epub ahead of print. PMID: 36379265.
6. Kajdacsy-Balla Amaral AC, Hill AD, Pinto R, Fu L, Morinville A, **Heckman G**, Hébert P, Hirdes J. The effects of acute care hospitalization on health and cost trajectories for nursing home residents: A matched cohort study. *Medicine (Baltimore).* 2022 Oct 14;101(41):e31021. doi: 10.1097/MD.00000000000031021. PMID: 36254032; PMCID: PMC9575775.
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b) Refereed Conference Proceedings / Abstracts:

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1. Northwood, M., Saari, M., Gerantonis, P., & **Heckman, G.** (2023, April). Compassionate community of digital health care: An action plan for integrated care. Submitted for presentation at 22nd Biennial Canadian Gerontological Nursing Association Conference, Niagara Falls, Ontario, April 20-22, 2023.

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1. Vucea-Tirabassi, V., McAiney, C., Berry, C., Gill, N., Wheeldon, K., **Heckman, G.** A comprehensive and holistic approach to dementia surveillance in Canada: Project overview. . Poster to be presented at the 51st Annual Scientific Meeting of the Canadian Association on Gerontology, Regina, Saskatchewan. October 20-22, 2022.
2. Gill, N., **Heckman, G.**, Wheeldon K., Vucea-Tirabassi, V., McAiney, C. A comprehensive and holistic approach to dementia surveillance in Canada: Understanding the diversity of experience. Poster to be presented at the 51st Annual Scientific Meeting of the Canadian Association on Gerontology, Regina, Saskatchewan. October 20-22, 2022.
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7. Wei C, Lengyel C, Gaspar P, **Heckman G**, Martin L, Mentes J, Namasivayam-MacDonald A, Slaughter SE, Syed S, Yoon MN, Keller H. Feasible and acceptable hydration strategies for long-term care [abstract]. In: Canadian Association on Gerontology (CAG) 2021 Conference: Looking Back for a Vision Forward in Gerontology, 50th Annual Scientific and Educational Meeting; 2021 Oct 20-23; Virtual Conference.
8. Namasivayam-MacDonald A, Wei C, Slaughter SE, Yoon MN, **Heckman G**, Gaspar P, Lengyel C, Martin L, Mentes J, Syed S, Keller H. Barriers and facilitators to hydration of long-term care residents during COVID-19 and beyond. Canadian Association on Gerontology (CAG) 2021 Conference: Looking Back for a Vision Forward in Gerontology, 50th Annual Scientific and Educational Meeting; Oct 20-23, 2021; Virtual Conference.
9. *Northwood M, Didyk N, Hogeveen S, Nova A, **Heckman G**. Standardized Self-Report Tools in Geriatric Medicine Practice: A Quality Improvement Study. Poster presentation at Gerontological Society of America (virtual), Phoenix, Arizona, November 10-13, 2021. *Innovation in Aging*, Volume 5, Issue Supplement 1, 2021, Page 634, <https://doi.org/10.1093/geroni/igab046.2397>; Published: 17 December 2021
10. *Rodrigues IB, Wang E, Keller H, **Heckman G**, Giangregorio LM. PERSPECTIVES ON IMPACT EXERCISES AND STRENGTH TRAINING AMONG PEOPLE WITH OSTEOPOROSIS. *Changing Health Policy and Audit*. Fragility Fracture Network 2021.
11. Giosa JL, Saari M, Holyoke P, Hirdes J, **Heckman G**. Long-term life care at home: a bottom up, community-driven model for long-term care reform in Canada. 1st North American Conference on Integrated Care (NACIC), Virtual Conference, Oct 2021.

12. Perruccio AV, Zahid S, Yip C, Power JD, Canizares M, Heckman GG, Badley EM. The relationship between single-joint and multi-joint osteoarthritis and heart disease risk profile. OARSI World Congress on Osteoarthritis, April 29-May 1, 2021. *Osteoarthritis and Cartilage* 2021; 29(S1):S258-59.
13. Perruccio AV, Zahid S, Yip C, Power JD, Canizares M, Heckman GG, Badley EM. Sex differences in the relationship between heart disease risk profile and osteoarthritis. OARSI World Congress on Osteoarthritis, April 29-May 1, 2021, *Osteoarthritis and Cartilage* 2021; 29(S1):S257-58.
14. Giosa J, Saari M, Holyoke P, Hirdes J, **Heckman G**. Long-term life care: research to drive needs-based home care [Abstract]. Canadian Association for Health Services and Policy Research, Virtual Conference, May 2021.
15. *Northwood M, Saari M, Holyoke P, **Heckman G**. Integration of comprehensive, client-centred assessment and care-planning process into hospital-to-home care programs: The design of a virtual curriculum. Accepted for oral presentation at Canadian Gerontological Nursing Association Virtual Conference, April 2021.
16. *Kalles E, *Northwood M, Harrington C, **Heckman G**. Leveraging Community Support Services in Proactive COVID-19 Surveillance: An Embedded Approach to a Mixed Methods Research Study CAHSPR May 2021
17. Schindel Martin L, Guruge S, Tadeo J, Sidani S, Dupuis S., Boscart V, **Heckman G**, McGilton K, Leung E. Strategies for relational best practices involving older persons in long-term care settings during COVID-19: Emerging perspectives of family and professional caregivers in Ontario, Canada. Poster presentation at the Aging and Social change conference. Virtual conference Sep. 23-24, 2021.
18. Lengyel C, Keller H, Gaspar P, **Heckman G**, Martin L, Mentés J, Namasivayam-MacDonald A, Slaughter S, Syed S, Wei C, Yoon MN. Strategies to Improve Hydration Practices in Residential Care during COVID-19. Dietitians of Canada Virtual National Conference, May 12, 2021, Lightning Round Presentation.
19. Syed S, Wei C, Keller H, Gaspar P, Heckman G, Lengyel C, Martin L, Mentés J, Namasivayam-MacDonald A, Slaughter S, Yoon MN. Socialization, COVID-19 and Hydration in Residential Care: Potential for Dehydration? Dietitians of Canada Virtual National Conference, May 19, 2021, Canadian Foundation for Dietetic Research Early Bird Poster Presentation.
20. Perruccio AV, Zahid S, Yip C, Power JD, Canizares M, Heckman G, Badley EM. The Relationship Between Heart Disease Risk Profile and Osteoarthritis, Overall and by Multi-/Single-Joint Involvement. Annual Scientific Meeting of the American College of Rheumatology 2020, *Arthritis and Rheumatology* 2020; 72(S10):1136-37

21. Martin-Khan M, Wood S, **Heckman G**, Boscart, V, Wellens N. National Perspectives on Acute Care Utilization. World interRAI Conference, Leuven, Belgium, Feb 3-5, 2020.
22. Boscart V, Sheiban Taucar L, Heyer M, Kellendonk T, Johnson K, Davey M, Peel N, **Heckman G**, Hirdes J. The interRAI Acute Care Instrument for Seniors in Canadian Hospitals: Findings of an Inter-Rater Reliability Pilot Study. World interRAI Conference, Leuven, Belgium, Feb 3-5, 2020.
23. **Heckman GA**, Hirdes JP, Hébert PC, Costa A, McKelvie, RS. Predicting health transitions among newly admitted home care recipients with heart failure. World interRAI Conference, Leuven, Belgium, Feb 3-5, 2020.
24. *Morrison JM, **Heckman GA**, Keller HH. Towards an understanding of how religious/ethnic expectations can promote comfort feeding at the end of life for persons living with dementia. Poster presentation; Canadian Association on Gerontology 48th Annual Scientific and Educational Meeting. Moncton, NB; Oct 25, 2019.
25. **Heckman G**, Garland A, Bains I, Boscart VM, Choi N, Heyer M, Keller H, King S, Oshchepkova T, Quail P, Ramsey C, Steer J, Vucea V. Navigating the gaps: Shared challenges towards person-centered advance care planning in long-term care homes. Results of a Canadian interprovincial workshop. Poster presentation; Canadian Association on Gerontology 48th Annual Scientific and Educational Meeting. Moncton, NB; Oct 26, 2019
26. Boscart V, Sidani S, Dupuis S, **Heckman G**, Ploeg J, d’Avernas J, Luh Kim J, Brown P. Neighbourhood team development to promote resident centred approached in nursing homes: A protocol for a multi-component intervention. Canadian Association on Gerontology 48th Annual Scientific and Educational Meeting. Moncton, NB, October 24-26, 2019.
27. Boscart V, Crutchlow L, Sheiban Taucar L, Johnson K, Heyer M, Davey M, Costa A, **Heckman G**. Chronic disease management models and best practices in nursing homes: A scoping review. Canadian Association on Gerontology 48th Annual Scientific and Educational Meeting. Moncton, NB, October 24-26, 2019.
28. Acakpo G, Maranda-Pelletier G, Elliott J, Costa A, Theou O, Stolee P, **Heckman G**, Sirois M-J, McPhedran P, Rockwood K, Kernaghan A, Giguere AMC. Study of the factors influencing implementation of four frailty-screening tools in family medicine clinics in Canada. Canadian Frailty Network National Conference, Toronto, September 26-27, 2019.
29. Boscart V, Davey M, Ploeg J, **Heckman G**, Dupuis S, Sheiban L, Luh Kim J, Sidani S. Psychometric evaluation of the team member perspectives of person-centered care survey for long-term care homes. Gerontological Society of America Annual Scientific Meeting, Boston, Massachusetts, November 14-18, 2018.

30. Boscart V, **Heckman G**, Crutchlow L, Sheiban L, Johnson K, Heyer M. Evidence for chronic disease management models, and evidence informed best practices in long-term care. 2018 Ottawa Quality & Patient Safety Conference, Ottawa, Ontario, October 30, 2018.
31. Boscart V, Davey M, Ploeg J, **Heckman G**, Dupuis S, Sheiban L, Luh Kim J, Sidani S. Psychometric Evaluation of the Team Member Perspectives of Person-Centered Care (TM-PCC) Survey for Long-term care homes. Canadian Association of Gerontology, Vancouver, British Columbia, October 19, 2018.
32. **Heckman G**, Hirdes J, Jantzi M, Hébert P, Morrinville A. Understanding care transitions for frail seniors with heart failure in Canadian home care and long-term care: how to apply the interRAI CHES scale. *The Journal of Nursing Home Research Sciences*, Volume 4 (S4), 2018. Nursing Home Research Conference, Rome, Italy, September 2018.
33. *Afzal A, Stolee P, Heckman G, Boscart V. The role of unregulated care providers in Canada. International Federation on Ageing Conference, Toronto, Ontario, August 8-10, 2018.
34. *Kadu M, Perlman C, **Heckman G**, Stolee P. Predictors of Hospitalization in Long-Term Care Residents Living with Heart Failure in Ontario: A Retrospective Cohort Study. Canadian Association for Health Services and Policy Research. Montreal, QC. May 28-31, 2018. Submitted as a Poster Presentation.
35. *Zarrin A., Nazari R., Ibrahim Nur T, Neiterman E, **Heckman G**. The Role of Community Centers in Enhancing Older Iranians' Social Engagement in South-Western Ontario: A Qualitative Analysis. Podium presentation at Symposium of Aging Research April 2018, Waterloo, ON.
36. *Randle JM, *Franco B, Heckman GA, Boscart V, Costa A. Push and Pull Factors to Supportive housing and resident characteristics: A Scoping Review. Webinar. QUILT Network Monthly Meeting, June 2018.
37. *Randle JM, **Heckman GA**, Oremus M, Ho J. Antipsychotic Medication, Pro Re Nata Use, and Mortality in Older Adults: A Scoping Review Regarding the Current State of the Evidence. Poster Presentation Waterloo-Wellington Clinical Research & Quality Improvement Symposium, McMaster University Waterloo Regional Campus, Kitchener ON, May 2018.
38. *Zarrin A. Nazari R, Nur T, Neiterman, E, **Heckman G**. The Implications of Language Barriers Among Iranian Older Adults in South-Western Ontario: A Qualitative Analysis. Canadian Association for Health Services and Policy Research. Montreal, QC. May 28-31, 2018. Oral Presentation.

39. Elliott J, Stolee P, **Heckman G**, Boscart V, SHARP Group. Improving Patient-Provider Partnerships across the Healthcare System. 18th International Conference on Integrated Care, Utrecht, Netherlands, May 23-25, 2018. Poster Presentation.
40. Boscart V, Sidani S, Poss J, Davey M, d’Avernas J, Brown P, Dupuis S, **Heckman G**, Ploeg J, Costa A. Associations Between Staffing Hours and Quality of Care Indicators in Long-Term Care. Eden Alternative International Conference. Atlanta, Georgia. May 3-5, 2018.
41. *Marrone E, Hébert P, **Heckman GA**, Karanofsky M, Hirdes J, Morinville A, Nugus P, Andersen K, Wilchesky M. Clinical Information Needs in Geriatric Long-Term Care: Protocol of a Canadian National Assessment Study. Canadian Geriatrics Society 38th Annual Scientific Meeting. Montreal, QC. April 20-21, 2018. Poster Presentation.
42. *Randle J, **Heckman G**, Oremus M, Ho J. Intermittent Antipsychotic Medication, and Mortality in Older Adults: A Scoping Review Regarding the Current State of the Evidence. Canadian Geriatrics Society 38th Annual Scientific Meeting. Montreal, QC. April 20-21, 2018. Poster Presentation.
43. *Hinton S, *Guekers K, **Heckman G**, McKelvie R, Harkness K, Suskin N, Hartley T, Lonn E. The “Hub and Spoke” Model of Heart Function Care Achieves Quality Index Markers. EPI Lifestyle 2018 Scientific Sessions. Epidemiology and Prevention- Lifestyle and Cardiometabolic Health. New Orleans, Louisiana. March 20-23, 2018.
44. *Afzal A, Stolee P, **Heckman G**, Boscart V, Sanyal C, The Role of Unregulated Care Providers in Canada. Peer Reviewed Abstract. 46th Annual Scientific and Educational Meeting of the Canadian Association of Gerontology. Winnipeg, Manitoba. Oct 21, 2017.
45. Boscart V, Sidani S, Ploeg J, Costa A, **Heckman G**, Davey M, d’Avernas J, Poss J. Associations between staffing hours and quality of care indicators in long-term care: Results from a cross-sectional cohort survey. 46th Annual Scientific and Educational Meeting of the Canadian Association of Gerontology. Winnipeg, Manitoba. Oct 21, 2017. Oral presentation
46. **Boscart V, **Heckman G**, McKelvie R, Huson K. Improving the Knowledge and Interprofessional Care for Heart Failure in Nursing Homes: A Pilot Study. IAGG World Congress of Gerontology and Geriatrics. San Francisco, California. July 25, 2017. Poster presentation.
47. Costa AP, Haughton D, **Heckman G**, Bronskill S, Sinha S, McKelvie R. The Divert- Care Catalyst Trial: Targeted Chronic-Disease Management for Home Care Clients. IAGG World Congress July 23-25 2017. San Francisco, California. Innovation in Aging, Volume 1, Issue suppl_1, 1 July 2017, Pages 322–323, <https://doi.org/10.1093/geroni/igx004.1190>
48. Boscart V, Heyer M, **Heckman G**, Hirdes J. The ASILA Program: Improved Care in Nursing Homes for Frail Seniors. IAGG World Congress of Gerontology and Geriatrics. San Francisco, California. July 24, 2017. Poster presentation.

49. *Randle JM, *Franco BB, Heckman GA. Who’s living in retirement homes? A scoping review and proposed framework for understanding service integrated housing for the elderly. Podium Presentation, Annual Combined City Geriatric Research Day, Elm Hurst Inn and SPA, Ingersoll, ON, June 2017.
50. Boscart V, Zehr M, Heyer M, **Heckman G**, Hirdes J. The ASILA Program: Improved Resident Outcomes in Long-Term Care. 19th Biennial Conference of the Canadian Gerontological Nursing Association. May 2017. Poster presentation
51. Boscart V, Sidani S, Poss J, Davey M, d’Avernas J, Brown P, Dupuis S, **Heckman G**, Ploeg J, Costa A. Associations Between Staffing Hours and Quality of Care Indicators in Long-Term Care. Waterloo-Wellington Clinical Research and Quality Improvement Symposium. May 31, 2017.
52. *Franco BB, **Heckman GA**, Dupuis S, Loisel L, Boscart V, Lee L. “I would hope the people looking after me know about me”: Perspectives of Persons Living with Dementia and Their Caregivers on Person-Centred Care and Quality of Care. Canadian Geriatrics Society Annual Scientific Meeting. April 2017. Oral presentation.
53. **Heckman G**, Costa A, Turcotte L. Leveraging Standardized Assessments in Care Process Design: The Example of Heart Failure (HF). Canadian Geriatrics Society. Annual Scientific Meeting. April 2017.
54. *Elliot J, Stolee P, **Heckman G**. Implementing and Evaluating a model of care coordination for older adults in primary care. Four City Geriatric Research Day. Waterloo, ON. June 22nd, 2016. Oral Presentation.
55. *Geukers K, **Heckman GA**, N Suskin N, Hartley T, Harkness K, Unsworth K, McKelvie RS. Quality of care in a primary care heart function clinic (PCHFC). Canadian Cardiovascular Congress. Montreal, Quebec. May 4th, 2016.
56. Watne LO, MacLulich A, D, Wyller, TB **Heckman G**, Hirdes J. Delirium has a strong negative impact on cognitive trajectories in nursing home residents with normal cognition or mild cognitive impairment. American Delirium Society. Nashville, Tennessee. June 1-3, 2016.
57. Gibbs JC, McArthur C, Milligan J, Clemson L, Lee L, Boscart V, **Heckman G**, Rojas-Fernandez C, Stolee P, Giangregorio LM. Screening-to-recruitment data from a pilot feasibility study of a group lifestyle exercise intervention delivered in primary care for older adults. Applied Physiology, Nutrition and Metabolism. 2015. 40(9), S24. Canadian Society for Exercise Physiology 2015 Annual Meeting. Hamilton, ON. Oct 15th, 2015.
58. *Huson K, **Heckman G**, Stolee P, Pearce N. Examining the Hospital Elder Life Program in a Rehabilitation Setting: A Mixed Methods Evaluation. Accepted for an oral presentation at the

- 44th Annual Scientific Educational Meeting of the CAG. Calgary, Alberta. October 24th, 2015.
59. Boscart V, **Heckman G**, Hirdes J, Heyer M, Eckel L, Zehr M. Improving Outcomes for Frail Seniors: Impact of the ASILA Program for Long-Term Care Staff. Accepted at the 44th Annual Scientific Educational Meeting of the Canadian Association on Gerontology (CAG). Calgary, Alberta. October 24th, 2015.
60. Boscart V, **Heckman G**. Improving Outcomes for Frail Seniors: Impact of the ASILA Program for Long-Term Care Staff. Poster presentation at the Nursing Home Research International Working Group. Toulouse, France. December 2-3, 2015.
61. Asgar A, Hassan A, Quraishi A, **Heckman G**, Wyse G, Cox J, Abel J, Lambert L, McKelvie R. Quality of cardiovascular care across Canadian hospitals according to the new Canadian Cardiovascular Society national quality indicators: Who should receive the results, what should they do with it? Canadian Cardiovascular Congress , Toronto, October 26, 2015.
62. *Chetram V, **Heckman G**, Boscart V, McKelvie R, Costa A. An Investigation of a non-invasive jugular venous pressure point of care device to diagnose and assess heart failure in long term and primary care: a mixed method approach. Canadian Cardiovascular Congress (CCC) in Toronto, October 24-27, 2015. Oral Presentation.
63. *Hinton S, Boscart V, McKelvie R, Harkness K, **Heckman G**. The role of registered nurses and nurse practitioners within heart failure clinic teams in Ontario. Canadian Cardiovascular Congress. Toronto, ON. Oct 25th, 2015. Oral presentation.
64. **Heckman G**, Boscart V, Hillier L, Lee L, Molnar F, Seitz D, Stolee P. Towards Consensus on Quality Assurance Indicators for Primary Care Memory Clinics. Oral Presentation Waterloo-Wellington Clinical Research and Quality Improvement Symposium. Kitchener, ON. May 27th, 2015.
65. **Heckman G**, Boscart V, Hillier L, Lee L, Molnar F, Seitz D, Stolee P. Quality assurance in the diagnosis of dementia: Essential physical examination components. Poster Presentation at the Waterloo-Wellington Clinical Research and Quality Improvement Symposium. Kitchener, ON. May 27th, 2015.
66. **Brohman L, Franco L, Huson K, Boscart V, McKelvie R, Hirdes JP, **Heckman G**, Stolee P. Core Heart Teams: Improving Interprofessional Communication for Heart Failure Management in Long- Term Care. Canadian Cardiovascular Congress. Toronto, ON. Oct 26th, 2015. Published in the Canadian journal of cardiology. 10/2015; 31(10):S274. DOI: 10.1016/j.cjca.2015.07.569 Oral Presentation.
67. **Huson K, Boscart V, McKelvie R, Hirdes JP, Stolee P, **Heckman G**. Interprofessional Care Processes to Manage Residents with Heart Failure in Long- Term Care. Canadian

- Cardiovascular Congress. Toronto, ON. Oct 25th, 2015. Published in The Canadian journal of cardiology 10/2015; 31(10):S128. DOI:10.1016/j.cjca.2015.07.282 Poster Presentation.
68. **Heckman G**, Boscart V, Hillier L, Lee L, Molnar F, Seitz D, Stolee P. Towards Consensus on Quality Assurance Indicators for Primary Care Memory Clinics. Canadian Geriatrics Society 2015 Conference Abstract. Montreal, QC. April 16th, 2015. Poster Presentation.
69. **Heckman G**, Boscart V, Hillier L, Lee L, Molnar F, Seitz D, Stolee P. Quality assurance in the diagnosis of dementia: Essential physical examination components. Canadian Geriatrics Society 2015 Conference. Montreal, QC. April 16th, 2015. Poster Presentation.
70. Boscart V, Sidani S, Ploeg J, **Heckman G**, Dupuis S, d'Avernas J, Brown S, Sheiban L. Culture change in Canada: The implementation and evaluation of the Neighbourhood Team Development Model. The Gerontological Society of America's 68th Annual Scientific Meeting. Orlando, Florida. November 2015.
71. Harkness K, Chan M, Haddad H, Mielniczuk L, **Heckman GA**. A CHFS Workshop- Heart Failure Treatment in the older adult: Strategies for effective patient-centered management. Accepted for Presentation. Canadian Cardiovascular Congress (CCC). Vancouver, BC. October 26, 2014.
72. *Pfisterer, KJ, Keller H, **Heckman G**, Sharratt M. Current vitamin B12 testing and treatment policies in Ontario Long-Term Care homes. Poster Presentation at the 43rd Annual Scientific and Educational Meeting of the CAG. Niagara Falls, ON. Oct 17, 2014.
73. **Strachan P, Kaasalainen S, *Horton A, *Jarman H, McKelvie R, **Heckman G**. Towards guideline informed long term care for residents with heart failure: Influences on the nurse's role. Canadian Council of Cardiovascular Nurses (CCCN) Annual General Meeting and Scientific Sessions. October 2014. Oral Presentation.
74. Boscart V, **Heckman G**, Eckel L, Heyer M, Hirdes J. Developing the Applied simulated and Integrated Learning Approach (ASILA) Program. 2nd Annual TVN Conference on Improving Care for the Frail Elderly. Toronto, ON, September 23rd, 2014.
75. Maxwell CJ, Leah J, Bronskill SE, Hogan DB, Jetté N, Patten SB, Jantzi M, **Heckman G**, Hirdes JP. The burden and correlates of persistent depressive symptoms among older home care clients with dementia. Poster presentation, Alzheimer's Association International Conference, Copenhagen, Denmark, July 12-17, 2014. Abstract published in *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* 2014 Vol. 10, Issue 4, Supplement, Page P602.
76. *Fraser KS, **Heckman GA**, *Robertson AD, Hughson RL. Impact of impaired cardiac output on upright cerebral perfusion. International Society for Gravitational Physiology. Waterloo, ON. June 17, 2014. (Oral) Student Award.

77. *Fraser KS, **Heckman GA**, Hughson RL. Cerebral hypoperfusion is exaggerated with an upright posture in heart failure. 34th Annual Scientific Meeting of the Canadian Geriatrics Society. Edmonton, AB. April 11th, 2014.
78. *Pfisterer KJ, Keller H, **Heckman G**, Sharratt M. Current vitamin B12 testing and treatment policies across a random sample of Ontario LTC homes. Poster session presented at the Annual Ontario Long-Term Care Association Applied Research Education Day, Toronto, ON. Feb 25, 2014.
79. Lee L, **Heckman G**, McKelvie R, Jong P, D'Elia T. Expanding a Unique Primary Care Model to Manage Complex Chronic Diseases. Family Medicine Forum Pre-Conference Research Day. Vancouver, BC. November 6, 2013. Presenter (Oral). Abstract published: Canadian Family Physician. 2014;60(Suppl1):S8.
80. Maxwell CJ, Vu M, Hogan DB, Patten S, Jette N, Bronskill SE, Kergoat MJ, **Heckman G**, Hirdes JP. Correlates of neuropsychiatric symptoms among older women and men with dementia across continuing care settings. Abstract (poster). Canadian Conference on Dementia. Vancouver, BC. October 3-5, 2013.
81. ***Fraser KS**, *Robertson AD, Heckman GA, Hughson RL. Upright cerebral hemodynamics in heart failure patients. Canadian Society for Exercise Physiology, Toronto, Ontario October 17th, 2013. Presenter (Oral). Abstract published: *Appl Physiol Nutr Metab* 38(10):1039, 2013.
82. Harkness K, **Heckman G**, Jewett L, McKelvie R. Self-Care in Heart Failure Index- Do scores change over time? Accepted for oral abstract presentation at the CCCN's Annual General Meeting and Scientific Sessions. Montreal, Quebec. October 17-20, 2013.
83. Rojas-Fernandez C, Hartwick J, Kallonen B, **Heckman G**, Boscart V. An interdisciplinary approach to designing a sustainable, pragmatic, interdisciplinary program for assessment and management of behavioural and psychological symptoms of dementia in nursing homes. Canadian Association on Gerontology's 42nd Annual Scientific and Educational Meeting, Halifax, Nova Scotia, Oct 18, 2013.
84. Demers C, Harkness K, McKelvie RS, **Heckman G**, Prior P, Thabane L, Pizzacalla A, Foster G, Teo KK, Bocti C, Patterson C. Altered Executive Function in Older Heart Failure Patients at Hospital Discharge: New Data from the Montreal Cognitive Assessment Tool. Poster presentation at the 17th Annual Scientific meeting of the Heart Failure Society of America. Orlando, FL. Sept 22-25, 2013.
85. Maxwell CJ, Zehr M, Vu M, Hogan DB, Patten SB, Jettè N, Bronskill SE, Kergoat MJ, **Heckman G**, Danilla OM, Hirdes JP. Neuropsychiatric symptoms in dementia: Variation by care setting and gender. Poster presentation, Alzheimer's Association International Conference, Boston MA, July 15-18, 2013. Abstract published in *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* Vol. 9, Issue 4, Supplement, Page P758.

86. Brar I, *Robertson AD, Fernandes MA, Tyas SL, Roy EA, **Heckman GAW**, Hughson RL. Exploring the link between cerebrovascular endothelial function and cognitive performance in healthy seniors. 6th International Society of Vascular, Cognitive and Behavioural Disorders Congress. Toronto, ON. June 25-28, 2013.
87. *Robertson AD, Fernandes MA, Tyas SL, Roy EA, **Heckman GAW**, Hughson RL. Cardiovascular frailty is associated with impaired psychomotor speed. Presented at the 6th International Society of Vascular, Cognitive and Behavioural Disorders Congress, Toronto, Canada. June 25-28, 2013.
88. Fernandes MA, Soncin S, *Robertson AD, Tyas SL, Roy EA, **Heckman GAW**, Hughson RL. Impact of cardiovascular health and depressive symptoms on cognitive ability in healthy aging. International Conference on Aging and Cognition, Dortmund, Germany: April 25-27, 2013.
89. *Osman O, Zahedi A, **Heckman G**. Diabetes management in long-term care: setting appropriate targets for the frail elderly. 4th Annual LTC Applied Research Education Day. Toronto, Ontario. February 13th, 2013. Poster Presentation.
90. **Heckman G**, Boscart V. Barriers to heart failure management in Ontario long term care homes. 4th Annual LTC Applied Research Education Day. February 13th, 2013. Oral Presentation.
91. Demers C, Bocti C, Prior P, Harkness K, **Heckman GA**, Thabane L, McKelvie RS, Pizzacalla A, Foster G, Dafoe N, Virk S, Morris C, Teo KK, Patterson C. Altered Executive Function in Older Heart Failure Patients at Hospital Discharge: New Data from the Montreal Cognitive Assessment Test. American Heart Association. J Card Fail 2012;19(8):S83-4:241. American Heart Association Meeting 2012, United States, California, Los November 2012.
92. Demers C, Patterson C, Harkness K, **Heckman G**, Prior P, Foster G, Thabane L, Pizzacalla A, Dafoe N, Virk S, Teo KK, Morris C, McKelvie R. Cognitive Impairment in Older Heart Failure Patients at Hospital Discharge and Its Impact on Self Care: Results of a Prospective Study. Cardiovascular Congress (CCC) in Toronto. October 30th, 2012.
93. *Akerman JP, **Heckman GA**, McKelvie RS, Howlett JG, Ezekowitz JA, Moe GW, Pullen C. Evaluating awareness and knowledge of the Canadian Cardiovascular Society's guidelines for the diagnosis and management of heart failure among residents in general internal and family medicine: a pilot study. Canadian Cardiovascular Congress (CCC) in Toronto. October 30th, 2012. Can J Cardiol, 2012;28(5S):S343. Poster.
94. Harkness K, **Heckman G**, Demers C, McKelvie R. The Association Between Cognitive Function and Self-Care in Older Patients with Heart Failure. Canadian Cardiovascular Congress. Cardiovascular Congress (CCC) in Toronto. October 30th, 2012. Published in Can J Cardiol, 2012;28(5S):S347. Oral presentation.

95. Harkness K, **Heckman G**, Demers C, McKelvie R. New Insight into Predictors of Self-Care Confidence in Older Patients with Heart Failure Canadian Council of Cardiovascular Nurses. October 27, 2012. Oral presentation. Published in Can J Cardiol, 2012;28(5S)S422.
96. Santi SM, *Manderson B, Byrne K, Sims-Gould J, **Heckman G**. A Consultation on Community-Based Primary Health Care for Older Persons with Chronic Illness. Canadian Association on Gerontology 41st Annual Scientific Meeting, Canada, British Columbia, Vancouver. October 19th 2012.
97. Maxwell C, Hogan D, Patten S, Leah J, Bronskill S, Jette N, **Heckman G**, Jantzi M, Hirdes J. The course of depressive symptoms and associated factors among older home care clients with selected neurological conditions. Joint CCSMH / CAGP Conference. Paper presentation. Sept 21, 2012. Banff, Alberta.
98. Vu M, Maxwell C, Hirdes J, Jette N, Hogan D, **Heckman G**, Patten S, Bronskill S, Chen J. A Population-Based Study of Home Care Clients with Dementia in Ontario. Joint CCSMH / CAGP Conference. Poster presentation. Sept 21, 2012. Banff, Alberta.
99. Lee L, Hillier H, **Heckman G**, Gagnon M. Improving the system of care for older adults with dementia: Building capacity at the primary care level. Vancouver British Columbia, July 2012. In: Alzheimer's and Dementia: The Journal of the Alzheimer's Association. 2012 July: 8(4):443.
100. Alrashed A, **Heckman G**, Crowson J. Rapidly Progressive Dementia: Developing Recommendations Based on a Systematic Evidence Review. The 32nd Annual Scientific Meeting of the Canadian Geriatrics Society. Quebec, Quebec. Canadian Geriatrics Journal 2012;15(2):59.
101. Lee L, Gagnon M, **Heckman G**. Improving the system of care for older adults with dementia: Building capacity at the primary care level. Trillium Primary Health Care Research Day. June 6, 2012.
102. Harkness K, MacKenzie G, MacLean E, **Heckman G**, Sahlas DJ, Oczkowski W, McKelvie R. Cognitive Function in Older Heart Failure Patients Is Similar to Older Patients Following Stroke. 16th Annual Scientific meeting of the Heart Failure Society of America. Washington State Convention Center, Seattle, WA. September 9-12, 2012.
103. *Piraino E, **Heckman G**, Glenny C, Stolee P. Investigating the efficacy of transitional care models that target frail older patients: A systematic literature review. University of Toronto Medical Journal 2012; 89: S28.
104. Fernandes MA, *Robertson AD, Tyas SL, Roy EA, **Heckman GAW**, Hughson R. Non-invasive measure of blood flow to the brain is associated with poorer strategic retrieval and

output monitoring in healthy older adults. Annual Cognitive Neuroscience Society Meeting, Chicago, IL, March 31–April 3, 2012.

105. Demers C, Patterson C, Harkness K, **Heckman GA**, Prior P, Thabane L, Foster G, Pizzacalla A, Dafoe N, Virk S, Morris C, Teo KK, McKelvie RS. Mild Cognitive Impairment in Older Heart Failure Patients at Hospital Discharge and its impact on Self-Care. Canadian Geriatrics Society 32nd Annual Scientific Meeting. Quebec City. April 19-21, 2012. Presented Abstract.
106. **Kaasalainen Sharon, Strachan Patricia, **Heckman George**. Living with Heart Failure in Long Term care: Experiences of Residents and Their Family Members. The Gerontological Society of America's 64th Annual Scientific Meeting. Boston, MA. November 18, 2011.
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3. Morris JN, Berg K, Bjorkgren M, Costa AP, Declercq A, Finne-Soveri Ulla Harriet, Fries BE, Frijters D, Gray L, Head MJ, **Heckman G**, Henrard JC, Hirdes JP, James ML, Ljunggren G, Meehan B, Stewart SL, Szczerbinska K, Topinkova E. interRAI Long-Term Care Facilities (LTCF) Assessment Form and User's Manual. Version 10.0. interRAI. 2020.
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5. Gray L, Ariño-Blasco S, Berg K, Fries BE, **Heckman G**, Jónsson PV, Kergoat MJ, Morris JN, Peel NM, Sinha S, Sjöstrand F, Steel K, Wellens NIH. interRAI Acute Care for Comprehensive Geriatric Assessment (AC-CGA) Form and User's Manual, Version 9.3. Washington, DC: interRAI 2017.
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8. **Heckman G**, Forman D, Cheng S. Vascular Aging and Atherosclerosis. Hazzard's Geriatric Medicine and Gerontology, 7th edition. McGraw-Hill 2016.
9. **Heckman G**, Jónsson, PV. Comprehensive Geriatric Assessment: The Specific Assessment Technology of InterRAI. Oxford Textbook of Geriatric Medicine, 3rd Edition 2017.

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11. Harkness K, McKelvie R, **Heckman G**. Co-morbid Disease in Heart Failure-Cognitive dysfunction/dementia. McGraw Hill Medical. Section IX. May 2013.
12. *Akerman J, **Heckman GA**, McKelvie RS. "Aerobic Capacity and Aging." *Encyclopedia of Lifestyle Medicine and Health*. Ed. James M. Rippe, MD. Thousand Oaks, CA: SAGE, 2012. 56-64. *SAGE Reference Online*. Web. 29 Feb. 2012.
13. **Heckman GA**, Rockwood K. Chapter 42: The frail Elderly Patient with Heart Disease. In Brocklehurst's Textbook of Geriatrics and Clinical Gerontology, 7th Edition. Elsevier Health Sciences, 2010-05-10.
14. Turpie ID, **Heckman GA**. Aging and Heart Disease. In *Aging Issues in Cardiology*, Turpie ID, Heckman GA, Eds. Kluwer Academic Publishers, Boston, 2003.
15. **Heckman GA**, McKelvie RS, Turpie ID. Heart Failure in the Frail Elderly. In *Aging Issues in Cardiology*, Turpie ID, Heckman GA, Eds. Kluwer Academic Publishers, Boston, 2003.

d) Technical and Consulting Reports:

1. *Hogeveen SE, Marchewka MM, Hirdes JP, Milne K, **Heckman G**. Informing decision-making for referrals to specialized geriatric service for seniors in home care. Prepared for the RGPs of Ontario. March 2019.
2. Heart Failure a conversation guide to help people with heart failure receive high-quality care (Draft for feedback). Health Quality Ontario. September 2018.
<https://www.hqontario.ca/Portals/0/documents/evidence/quality-standards/qs-heart-failure-patient-conversation-guide-1810-en.pdf> (expert panel member).
3. Quality Standards Heart Failure Care in the Community for Adults (Draft for feedback). Health Quality Ontario. September 2018.
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4. Cardiac Care Network: Implantable Cardioverter Defibrillator Deactivation: A Guide for Health Care Professionals. 2017.
<https://www.corhealthontario.ca/Implantable-Cardioverter-Defibrillator-Deactivation-A-Guide-for-Health-Care-Professionals.pdf> (Reviewer).
5. Thriving at Home: A Levels of Care Framework to Improve the Quality and Consistency of Home and Community Care for Ontarians. Levels of care expert panel, Ministry of Health and Long Term Care of Ontario. 2017.
http://health.gov.on.ca/en/public/programs/lhin/docs/loc_report_2017.pdf (expert panel member).
6. Canadian Institute for Health Information. *A Snapshot of Advance Directives in Long-Term Care: How Often Is “Do Not” Done?*. Ottawa, ON: CIHI; 2016. (Contributor)
7. Cardiac Care Network: [Strategy for Community Management of Heart Failure in Ontario](#). February 13, 2014 (Writing committee)
8. Doran D, Blais R, Harrison M, Hirdes J, Baker GR, Lang A, MacDonald M, Dill D, Donaldson S, Droppo L, Easty AC, **Heckman G**, Lacroix H, Mansell L, Mitchell L, Morrissey T, O'Beirne M, Sears N, Stevenson L, Storch J, White N. Safety at Home: A Pan-Canadian Home Care Study. July 9, 2013.
9. **Heckman G**, McKinnon-Wilson J, Hillier LM, Manderson B. Developing an Integrated System of Care for Frail Seniors in Waterloo-Wellington: Results of a Consultation Process to Identify System Strengths and Gaps, Submitted to the Waterloo Wellington Local Health Integration Network, October 20 2011.
10. Arnold M, Arvantis J, Droppo L, Epstein T, **Heckman G**, MacIver J, Martin A, Mohamed S, Scarborough P, Sherwood C, Smith S, Strachan P, Ward D, Hodgson C, Lewis M. Heart

and Stroke Foundation of Ontario. End of Life Planning and Care for Heart Failure Patients. Summary for the Heart Failure-End-of-Life Planning and Care Task Group. February 2010.

e) Other Publications:

1. **Heckman GA.** Geriatric outcomes and longitudinal decline in nursing home residents with heart failure: a design thesis. Master of Science Thesis, Clinical Epidemiology and Biostatistics, McMaster University, July 2006.
2. **Heckman GA,** Hogan DB, Demers C, McKelvie RS. Heart Failure in Elderly Patients. Team for Individualizing Pharmacotherapy in Primary Care for Seniors (TIPPS project). (*monograph*) 2007.
3. **Heckman GA.** Implementation and Evaluation of a Video Compression System Based on the CCITT standard Recommendation H.261. Master's Essay, Department of Computer Science, University of Waterloo, August 1991.

f) Media releases, interviews, appearances:

1. Got a loved one in long-term care in Waterloo region? They could be on antipsychotics without a diagnosis. September 14, 2022. <https://www.cbc.ca/news/canada/kitchener-waterloo/antipsychotic-drugs-ltc-long-term-quality-of-care-seniors-residents-1.6581068>
2. Des inquiétudes en Ontario quant au transfert de patients francophones dans les CHSLD. August 31, 2022. <https://www.ledevoir.com/politique/canada/750978/des-inquietudes-en-ontario-quant-au-transfert-de-patients-francophones-dans-les-chsld>
3. The Afternoon Edition - Sask with Garth Materie: Delirium costs the health care system more than you could ever imagine. August 26, 2022. <https://www.cbc.ca/listen/live-radio/1-103-the-afternoon-edition-sask/clip/15932945-delirium-costs-health-care-system-ever-imagine>.
4. BABEL Advance Care Planning. Global Television News. <https://globalnews.ca/video/8789512/edmonton-health-matters-tuesday-april-26/>
5. THE PANDEMIC REVEALED THIS MASSIVE BLIND SPOT IN ELDER CARE. Future of Good. December 14 2020. <https://futureofgood.co/blind-spot-in-elder-care/>
6. Dementia patients take up Ontario psychiatric beds ill-suited to their care: experts. Kitchener Today. December 9, 2020. <https://www.kitchenertoday.com/local-news/dementia-patients-take-up-ontario-psychiatric-beds-ill-suited-to-their-care-experts-3167469>

7. Forest Heights crisis highlights gap between hospitals and long-term care, expert says. CBC Kitchener-Waterloo, April 24, 2020. <https://www.cbc.ca/news/canada/kitchener-waterloo/forest-heights-crisis-highlights-gap-between-hospitals-and-long-term-care-expert-says-1.5543212>
8. How to manage a COVID-19 hotspot at home. Expert tips for containing an infection in your home. <https://www.toronto.com/news-story/9941341-how-to-manage-a-covid-19-hotspot-at-home/>
9. New research study gives voice to elderly long-term care residents. Hospital News. <https://hospitalnews.com/new-research-study-gives-voice-to-elderly-long-term-care-residents/>
10. Changes to Provincial Health Care System. University of Waterloo Imprint. March 13, 2019. <http://uwimprint.ca/publications/march-2019-imprint-issues/>
11. HEART FAILURE AWARENESS CAN MAKE THE DIFFERENCE. Feb 14 2019; <https://the-ria.ca/news/heart-failure-awareness-can-make-the-difference/>
12. How possible amalgamation of LHINs may impact local health care services. January 23, 2019. <https://www.cbc.ca/listen/shows/the-morning-edition-k-w/episode/15665542>
13. Assessments could reduce end-of-life hospital stays for seniors. January 8, 2019. <https://impact.meltwater.com/reports/j5ymyOJtwHTP>
https://www.eurekalert.org/pub_releases/2019-01/uow-acr010819.php
<http://www.exchangemagazine.com/2019/week2/Thursday/19011015.htm>
<https://educationnewscanada.com/article/education/category/research/100/741446/assessments-could-reduce-end-of-life-hospital-stays-for-seniors.html>
<https://medicalxpress.com/news/2019-01-end-of-life-hospital-seniors.html>
14. Butterfly Model of care raising red flags for dementia experts. October 21, 2018. <https://www.cbc.ca/news/canada/kitchener-waterloo/butterfly-model-of-care-raising-red-flags-for-dementia-experts-1.4870344>
15. 'Throwing money' at home care doesn't solve crisis, says geriatrician. January 25, 2018. <https://www.cbc.ca/news/canada/kitchener-waterloo/waterloo-professor-home-care-solution-1.4503297>
16. Is it safe? 5 questions when looking for long term care. June 29 2018. <https://www.cbc.ca/news/canada/kitchener-waterloo/5-questions-assess-long-term-care-wettlaufer-inquiry-1.4727909>
17. Canadian seniors less satisfied with quality of health care in international survey. February 8, 2018. <https://www.cbc.ca/news/health/seniors-satisfaction-cihi-1.4525303>

18. Algorithm identifies vulnerable people during natural disasters. February 2, 2018. <https://www.sciencedaily.com/releases/2018/02/180202153213.htm>
19. New guidelines may reduce heart failure complications in long-term care homes. January 19, 2017. <https://uwaterloo.ca/news/news/new-guidelines-may-reduce-heart-failure-complications-long>
20. Parkinson's patients are over-prescribed antipsychotics: study. February 9 2017. <https://www.therecord.com/news-story/7112901-parkinson-s-patients-are-over-prescribed-antipsychotics-study/>
21. Shortage of geriatricians in Canada creating perfect storm. December 18 2013. <https://uwaterloo.ca/news/news/shortage-geriatricians-canada-creating-perfect-storm>
22. LHIN official wants memory clinics in Guelph. January 27, 2010. <https://www.guelphmercury.com/news-story/2757282-lhin-official-wants-memory-clinics-in-guelph/>
23. Frail seniors' needs in ER missed. August 20, 2013. <https://www.cbc.ca/news/health/frail-seniors-needs-in-er-missed-1.1396019>
24. Good health best way to reduce risk of Alzheimer's. January 9, 2011. <https://www.therecord.com/news-story/2570494-good-health-best-way-to-reduce-risk-of-alzheimer-s/>
25. Workshop offered advice on staying healthy in twilight years. September 28, 2010. <https://www.therecord.com/living-story/2561653-workshop-offered-advice-on-staying-healthy-in-twilight-years/>
26. Meet health needs of seniors. June 10, 2013. <https://www.therecord.com/opinion-story/3413349-meet-health-needs-of-seniors/>
27. **Heckman G.** Geriatrics in Crisis. CARP Action, October/November 2004.
28. **Heckman G.** Specialists for frail seniors. Hamilton Spectator, May 22, 2004.
29. \$5.3M Geriatrics fee plan a key 'first step'. Medical Post 2004;40(17).
30. **Heckman G.** Ontario isn't doing enough for geriatricians. March 27, 2004.
31. **Heckman G.** Geriatric Care is weak. The Record. November 11 2003.
32. **Heckman G.** Taking care of the elderly is becoming more difficult. The Record. August 7 2003.

Presentations to Scholarly Groups:**Invited - Scholarly Groups**

1. Hypertension in Older Adults: The Truth is Out There. CAMH Academic Rounds. October 17, 2022.
2. UPDATES IN HYPERTENSION IN THE ELDERLY. Canadian Geriatrics Society CME Day (Virtual rounds), April 7, 2022.
3. Person-Centered Advance Care Planning and LTC Resident Outcomes: Results from the BABEL Trial, Research Rounds, Schlegel University of Waterloo Research Institute for Aging, April 8, 2022.
4. Results from the Better tArgeting, Better outcomes for frail ELderly patients Advance Care Planning Cluster Randomized Trial, CFN Webinar, March 10, 2022 (<https://youtu.be/eyDXkX9itSg>).
5. Heart failure. Academic Half Day. Geriatric Medicine Residents. Western University, Geriatric Medicine Residency Academic Half Day, November 16, 2021.
6. Cardiology in Older Adults, Academic Half-Day, Geriatric Medicine Residents, University of Toronto. Sept 20, 2021.
7. HF Update, Assessment of Frailty. Canadian Heart Failure Society Meeting (virtual), April 18, 2020.
8. Transitions in care for frail Heart Failure Patients. 9th Annual Update in Geriatrics- Transitions in care: A Journey Through Later Life. Hamilton, ON. Nov 20th, 2019.
9. Heart failure in long term care. Geriatric medicine rounds. McMaster University, Hamilton, ON. June 10th, 2019.
10. Heart Failure management in nursing homes: standardization and sustainability matters. Quilt Collaborative (University of Ottawa, University of Toronto, University of Waterloo). April 16 2019.
11. Utilisation des systèmes InterRAI en pratique clinique. New Brunswick Seniors Quality Leap Initiative Inaugural Meeting, Moncton, New Brunswick, March 4 2019.
12. Care of acutely ill older persons living with frailty: Making health care work like a system (with John Hirdes). CFN Webinar, February 28, 2019.

13. Cardiovascular Disease in Older Adults. Academic Half Day (Geriatric Medicine). University of Toronto. Videoconference, February 25, 2019.
14. Identifying High-Risk Patients for Personalized Care Plans (with John Hirdes). iNICA meeting, Sandestin, Florida, December 2, 2018.
15. Heart Failure in Older People, or is it the Other Way Around? Cardiovascular Grand Rounds, Western University, October 29, 2018.
16. Identifying High-Risk Patients for Personalized Care Plans (with John Hirdes). Canadian Frailty Network Annual Conference. Toronto, Canada, September 20 2018.
17. Understanding care transitions for frail seniors with heart failure in Canadian home care and long-term care: how to apply the interRAI CHES scale. Nursing Home Research Conference, Rome, Italy, September 2018.
18. Heart Failure management in nursing homes: standardization and sustainability matters. Geriatric Medicine rounds. Università Cattolica del Sacro Cuore, Rome, Italy, September 12, 2018.
19. A Multi-province Pilot of interRAI's Acute Hospital Instruments. Canadian interRAI Conference Calgary Alberta, May 16 2018.
20. Why the interRAI Hospital Suite Makes Sense NOW. Canadian interRAI Conference, Calgary Alberta, May 15 2018.
21. Trends in Care of the Elderly. Hypertension in the Elderly: A Moving Target? Kitchener, ON. May 2, 2018.
22. Weak, dizzy, fallers? Same difference? (with Helen Janzen). Cerebral Hypoperfusion Summit April 4th and 5th 2018. Schlegel-UW Research Institute for Aging, Waterloo, Ontario. April 4th 2018.
23. Schlegel UW Research Institute for Aging. Chronic Disease Management in Long-Term Care Homes. Webinar. Waterloo, ON Feb 27th, 2018.
24. Home Care Assistance Waterloo & Highview Residence. Preventative Solutions for Older Adults' Health Issues. Guelph, ON. Jan 11, 2018.
25. Canadian Society of Internal Medicine. Perioperative Medicine: Preoperative Frailty. (Extended Workshop). Toronto, ON. November 1st, 2017.
26. Ontario Long-Term Care Clinicians. Heart Failure & Long-Term Care. Toronto, ON. Oct 21, 2017.

27. Home Care Assistance Waterloo & Luther Village on the Park. Preventive Solutions for Older Adults. Waterloo, ON. June 27, 2017.
28. Canadian Cardiovascular Society. Guidelines for Heart Failure Management: 2017 Update. Co-Speakers: Michael McDonald & Gordon Moe. Toronto-Ottawa Heart Summit 2017. June 17th, 2017.
29. Chronic Disease Management and Geriatrics. Academic Half Day (Geriatric Medicine), McMaster University. June 5, 2017.
30. Heart Failure: The Perfect Storm in an Aging Society. Canadian Longitudinal Study on Aging (CLSA). Webinar. April 27, 2017.
31. Geriatrics and Cardiology Focus on Heart Failure. Academic Half Day (Geriatric Medicine). University of Toronto. OTN April 10th, 2017.
32. Using Powerful Data from MDS-RAI to Support Care & Research. Seniors Quality Leap Initiative. Waterloo, ON. Sept 29th, 2016.
33. Frailty, functional decline, and system redesign considerations. Workshops on Pathways, Contributors and Correlates of Functional Impairment across Specialties. Washington, DC. Aug 25, 2016.
34. InterRAI Conference. Separating the concepts of “Frailty” and “Risk” with the interRAI ED Assessment System. Toronto, ON. April 14th, 2016.
35. InterRAI Conference. Geriatric Emergency Management in the Emergency Department: The interRAI Emergency Department Assessment System (Symposium). Co-presenters: Andrew Costa, Melinda-Martin Khan. Toronto, ON. April 14th, 2016.
36. InterRAI Conference. TVN Research on Frail Older Persons Using interRAI Assessments (Symposium). Co-Presenters: Paul Herbert, John Hirdes, Andrew Costa. Toronto, ON. April 12, 2016.
37. InterRAI Conference. Ripple Effect: anticipating the system impact of a one-minute App. Co-Presenter: Veronique Boscart. Toronto, ON. April 12th, 2016.
38. American College of Cardiology. Managing the Challenging Older Patient with SIDH: What’s Age Got To Do With It? Co Speakers: Susan Ziemann, Daniel Forman, Matthew Maurer. Chicago, IL. April 2nd, 2016.
39. Institute for Life Course and Aging. Redesigning care processes to manage complex seniors; experiences in primary and long-term care. Toronto, ON. March 31, 2016

40. Interdisciplinary Palliative Education. Implementing a palliative approach to care (earlier) for persons living with chronic heart failure. Co-Speaker: Veronique Boscart. Kitchener, ON. March 24th, 2016.
41. Hôpital Maisonneuve-Rosemont. Frailty, multimorbidity or risk: Sorting it out with standardized assessment. Montreal, Quebec. Jan 14th, 2016.
42. Cardiac Services BC. Provincial Heart Failure Steering Committee Meeting. Improving Interprofessional Communication for Heart Failure Management in Long Term Care. Teleconference: December 15, 2015.
43. Ontario Long Term Care Physicians Canadian Medical Directors Joint Meeting, Leadership in Long Term Care. Congestive Heart Failure in Long Term Care. Toronto, ON. Oct 24, 2015.
44. Memory Clinic Booster Day 2015. Top 5 Tips for Memory Clinics. Cambridge, ON. Oct 19, 2015.
45. McMaster University Medicine Grand Rounds. Frailty, multimorbidity or risk: What's with those seniors anyway? Hamilton, ON. Oct 8, 2015.
46. Interdisciplinary Grand Rounds. The Centre for Cognitive Vitality and Brain Health. Don't Let Humpty-Dumpty Fall off in the First Place: A Proactive Approach to Geriatric Care. London, ON. Sept 18th, 2015.
47. Medicine Grand Rounds. Don't Let Humpty-Dumpty Fall off in the First Place: A Proactive Approach to Geriatric Care. London, ON. Sept 18th, 2015.
48. 5th Annual Schlegel Villages CME Day. Care of the Elderly: A Long-Term Care Perspective. Interprofessional Heart Failure Assessment and Care. Brampton, ON. Sept 11th, 2015.
49. Ontario Geriatric Steering Committee. Heart Failure in Older Persons (OTN). Waterloo, ON. Aug 17th, 2015.
50. Specialized Mental Health Journal Club. Addressing Health Care Needs for Frail Seniors Using InterRAI Tools. Kitchener, ON. July 28th, 2015.
51. Geriatric Medicine Academic Grand Rounds. Heart Failure in Long- Term Care: Towards Disease Management. Ottawa, ON. June 11, 2015.
52. The 2015 Geriatric Medicine Primary Care Continuing Professional Development. Geriatrics in Primary Care. Managing CHF in the Elderly (workshop). The Ottawa Hospital. Ottawa, ON. June 12th, 2015.

53. McMaster University 6th Annual Care of the Elderly. Making the RAIght use of the MDS. Hamilton, ON. May 27th, 2015. (Keynote Speaker).
54. Stratford Grand Rounds. *Managing the Frail Elderly with Complex Multimorbidity*. Stratford, ON. May 22nd, 2015.
55. CFHI Reducing Antipsychotic Medication in Long Term Care webinar: Creating Visuals to Communicate Data & Using MDS to Inform Care Planning. Addressing Health Care Needs for Frail Seniors Using interRAI Tools. May 1st, 2015.
56. Canadian Geriatrics Society. *Human Resources in Geriatrics (Manpower in Canada)*. Montreal, QC. April 17th, 2015.
57. North East Geriatric Refresher Day. *Multimorbidity and Frailty*. Sault Ste. Marie. Oct 23, 2014.
58. RGP of Toronto. Specialized Geriatric Services Institute 2014. *Risk stratification of seniors in the ED: How? When? By whom? And what for?* Toronto, ON. Oct 20th, 2014.
59. Memory Clinic Booster Day 2014. *Top 5 Tips for Memory Clinics*. Cambridge, ON. Oct 6 & 10, 2014.
60. Primary Care Workshop. *Towards an Integrated Learning Health System*. Cambridge, ON. Oct 3, 2014.
61. 10th Annual Geriatric Emergency Management Nursing Network Conference. *Risk stratification of seniors in the ED: How? When? By whom? And what for?* Toronto, ON. September 16th, 2014.
62. Canadian Academy of Geriatric Psychiatry. National Review Course in Geriatric Psychiatry. *Delirium*. Toronto, ON. Sept 7th, 2014.
63. Canadian Academy of Geriatric Psychiatry. National Review Course in Geriatric Psychiatry. *Changes with Normal Aging*. Toronto, ON. Sept 8th, 2014.
64. Aging in Space for Life on Earth. *A geriatrician's perspective on relevant problems*. University of Waterloo. June 17, 2014.
65. Speaker on *System Integration and frail seniors*, CIHR Café Scientifique, Hosted by Dr. Paul Stolee. June 3 2014.
66. *L'insuffisance cardiaque chez les personnes âgées frêles*. Conférence midi du Centre de Recherche de l'Institut de Gériatrie de l'Université de Montréal. May 21, 2014.

67. 3rd Annual Cardiovascular Symposium. *Palliation and comfort care in heart failure*. Sudbury, ON. May 24, 2014.
68. Cardiovascular Respiratory Conference- Chronic Disease Management Across the Continuum. *Optimizing Heart Failure Outcomes: Back to Basics*. Co- Presenter with Maureen Leyser. Waterloo, ON. April 30th, 2014.
69. 10th Annual Healthy Heart Day. Congestive Heart Failure-*Saving Lives*. Cambridge, ON. April 26, 2014.
70. Canadian Geriatrics Society. *Managing Therapeutic Competition in older HF patients*. Co-Presenter: Dr. Cara Tannenbaum. April 11, 2014. Edmonton, Alb.
71. Rehabilitative Care Grand Rounds. *Wherefore CGA? Inside the Comprehensive Geriatric Assessment "Black Box"*. Grand River Hospital- Freeport. April 4th, 2014. Kitchener, ON.
72. Diabetes Management and Education in Older Adults: A network and consensus meeting. *The How and Why of Frailty*. Sheraton Hotel. Hamilton, ON. Jan 27, 2014.
73. Grand Rounds to the CELHIN Geriatric Assessment and Intervention Network. *Why InterRAI*. OTN at Guelph General Hospital. Jan 13, 2014.
74. McMaster University Geriatric Journal Club. *Desperately Seeking Reason: Should we search for cognitive impairment?* Burlington, ON. Dec 9th, 2013.
75. Baycrest Geriatric Medicine Rounds. *Heart Failure in Long-Term Care: Talk about Atypical!* Toronto, ON. Dec 5th, 2013.
76. The Waterloo/Wellington Regional Cardiology Journal Club. *Optimizing heart failure outcomes for Seniors*. Cambridge, ON. Nov 28th, 2013.
77. Canadian Institute for Health Information- Webinar. *Using interRAI instruments to identify and manage pain in vulnerable populations*. Co-Presenter: John Hirdes. Waterloo, ON. Nov 26, 2013.
78. 2013 Canadian interRAI Conference. *Inside the doctor's mind-engaging physicians in the use of interRAI assessment to care for the frail elderly*. Ottawa, ON. October 8th, 2013.
79. Pursuing Excellence in Geriatrics 2013. *Frailty, dementia, and chronic disease: A costly triad*. North Bay, ON. Sept 19, 2013.
80. InterRAI session. *Overview of interRAI scales and outcome measures*. Grand River Hospital- Freeport. Co-chair: John Hirdes. Kitchener, ON. August 21st, 2013.

81. LHIN Decision Support Day. *Health Systems Applications. Targeted Resource Allocation (DIVERT)*. Toronto, ON. June 26, 2013.
82. Geriatric Grand Rounds. *The Development of Integrated and Standardized Care Systems for Geriatrics*. Co-Presenter: Andrew Costa. Hamilton, ON. May 13th, 2013.
83. The Regional Geriatric Programs of Ontario: Education Day. Panel Presentation: *Primary Care, Geriatrics and Community*. Co-Presenters: Dr. Linda Lee and Dr. Dallas Seitz. May 1st, 2013. Toronto, ON.
84. interRAI International Network of Excellence in Acute Care (iNEAC) Conference. *Food for thought: Using the assessment urgency algorithm for consultant geriatrician resource planning*. April 23, 2013. Leuven, Belgium.
85. Senior Friendly Hospital Care: Evolving the Care of Older Adults. *Implementing HELP (Hospital Elder Life Program): Creating a Case for Multi-Organizational Implementation in Waterloo-Wellington*. Co-Presenters: Susan Gregoroff, Susan Edgar and Nancy Pearce. April 8, 2013.
86. Geriatric Academic Grand Rounds. *Pushing the envelope: Cardiac Surgery in Frail Seniors*. Halifax, NS. January 9th, 2013.
87. Family Medicine Forum. Workshop. *Heart Failure Management in 2012: An integrated approach for the family physician*. Toronto, ON. November 17th, 2012.
88. 2nd Annual Cardiovascular Symposium. *The Practical Management of Heart Failure in Complex Patients*. Sudbury, ON. November 10th, 2012.
89. 12th Annual Hospice Palliative Care Conference: Fitting the Pieces Together. *Heart Failure: Fitting a Square Peg into the Round hold of Palliative Care*. Ajax, ON. October 25th, 2012.
90. CCS HF Workshop: *The Practical Management of HF: 2012 Update*. Canadian Society of Internal Medicine Conference. Quebec City, Quebec. October 17th, 2012.
91. Regional Geriatric Program of Eastern Ontario. *Enhancing primary care for seniors with complex conditions: care process redesign and role of specialists*. Ottawa, Ontario. October 12, 2012.
92. Memory Clinic Booster Day 2012. *Top 5 Inappropriate Interventions for Persons with Dementia*. Waterloo Inn. Waterloo, Ontario. September 28, 2012
93. Engaging physicians and other clinicians to become consumers of interRAI assessment information. Inaugural inSPIRe Program. University of Waterloo. Aug 9, 2012.

94. Chaired & Presented: *The Many Different Faces of Heart Failure*. Shaping The Heart Failure Management in Canada. CCS 2012 National Workshop Initiative. The 15th Annual International Toronto Heart Summit. Toronto, Ontario. June 8, 2012.
95. ACE Inhibitors: Snake Oil That Works! Charcoal Steakhouse. Kitchener, Ontario. June 7, 2012.
96. Cardiology Grand Rounds. *CV Surgery in the Very Elderly: Are we pushing the envelope way too far?* St. Mary's General Hospital. Kitchener, Ontario. June 7, 2012.
97. 2012 Water-Wellington Cardiovascular Respiratory Meeting. *Managing the "Very Elderly" with Cardiac Disease: Are we pushing "envelope" too far?* Waterloo Inn. Waterloo, ON. April 18, 2012.
98. Is Heart Failure a Geriatric Syndrome? Internal Medicine Grand Rounds, McMaster University, St. Joseph's Hospital, Hamilton, Ontario. February 22, 2012.
99. Update in Geriatrics. Drugs and the Elderly: Too many or too few. *Cardiac Frail Elderly-Lipid Lowering*. Hamilton Convention Centre. Hamilton, ON. November 30, 2011.
100. Memory Clinic Booster Day. Two invited talks 1) Physical Examination in Dementia. 2) Centrally-acting Ace inhibitors. Trillium Health Centre. Mississauga, ON. November 18, 2011.
101. Freeport Physicians Day. Symposium on Complex Geriatric Problems: Controversies in Management. *Clinical Processes in the Management of Congestive Heart Failure*. Waterloo Inn and Conference Centre, Waterloo ON. November 2, 2011.
102. 2011 CCS Heart Failure Update: Palliative Care. Canadian Society of Internal Medicine. Halifax, Nova Scotia. October 12, 2011.
103. 1st Annual Sudbury Cardiovascular Symposium. *Management Strategies for Heart Failure*. Sudbury, Ontario. October 1, 2011.
104. 1st Annual Schlegel Villages CME Day. *Care of the Elderly: A Long-Term Care Perspective. Heart Failure in Long Term Care. A Primer*. Brampton, Ontario. September 9, 2011.
105. *2011 CCS HEART FAILURE UPDATE: Palliative Care*. Heart Failure summit of Toronto. June 10, 2011.
106. *Improving Heart Failure Outcomes among Frail Seniors: Focus on long-term care*. 2nd Annual Long Term Care Applied Research Education Day, OLTCA. November 23, 2010.

107. *Key aspects of medical management in advanced HF: focus on frail elderly.* Integrating Hospice Palliative Care and Heart Failure. A collaborative and Interactive Workshop. St. George's Hall. Waterloo, Ontario. November 10, 2010.
108. *An overview of developments in Geriatric Medicine.* 6th Annual Geriatric Emergency Management Conference. Toronto, Ontario. September 29, 2010.
109. *Transitioning Care from Acute Care to Community Settings.* Cardiac Care on Network. Heart Failure Summit 2010. St. Andrew's Club and Conference Centre. Toronto, Ontario. August 18, 2010.
110. OHA: ER/ALC/Aging at Home Strategies: Working to Improve Access to Care. *Frailty and its management: One root cause of the ALC problem?* Toronto, Ontario. June 11, 2010.
111. Freeport Physicians Annual Education Day. *THE AMAZING REVERSING SENIOR! Identifying reversible causes of decline in frail seniors.* Waterloo, Ontario. May 5, 2010.
112. 2010 Waterloo-Wellington Cardiovascular Respiratory Conference. *Management issues in the geriatric cardiorespiratory patient.* Waterloo Inn. Waterloo, Ontario. April 14, 2010.
113. 2nd McMaster University Review Course in INTERNAL MEDICINE. *How to assess frailty in an elderly patient?* Hamilton Convention Centre, Hamilton Ontario. March 26, 2010.
114. Heart and Stroke Foundation of Ontario Clinical Update 2009. Vascular interventions in the elderly: *How old is too old? Focus on CABG.* Metro Toronto convention center (repeated January 21, 2010 for Regional Cardiology Rounds, St-Mary's General Hospital, Kitchener, Ontario. December 11, 2009.
115. *An introduction to the MDS (Minimum Data Set) Assessment Instrument for Medical Directors.* Canadian Medical Directors Association Annual Meeting, Toronto, Ontario. November 7, 2009.
116. *Update on old hearts.* Dr. Ira Pollock Clinic Day and Wulf Grobin Memorial Lecture. Clinical Issues and Ethical Issues in Geriatric and Long-Term Care, Toronto, ON. June 5, 2009.
117. *Improving Discharge Outcomes in Seniors with Heart Failure: Transitional Care Programs.* Canadian Geriatrics Society. Toronto, Ontario. April 25, 2009.
118. *A Stitch in Time Saves Nine. Transition of Care for HF Patients.* Geriatric Rounds. McMaster University. April 17, 2009.

119. *Is this really delirium and how do we deal with it?* 1st McMaster University Review Course in Internal Medicine. Hamilton Convention Centre. April 3, 2009.
120. *Elder Friendly Strategies: Start In Hospital, and Keep Going After!* OHA HealthAchieve 2008. Metro Toronto Convention Centre. November 6, 2007.
121. *Executive Dysfunction in Medical Patients: Just Another Geriatric Wrinkle.* Presentation at the Annual Nurse Practitioner Association of Ontario. Hamilton. November 2, 2007.
122. *Heart Failure: Old Disease, Older Patients, a Fresh New Look.* Medical Grand Rounds, University Health Network. Toronto General Hospital. October 31, 2007.
123. *Cognitive impairment in heart failure patients.* HF-Network Teleconference. McMaster University. June 21, 2007.
124. *Heart Failure: A Cardiogeriatric Syndrome,* 21st Annual Refresher Day in Geriatric Medicine, University of Western Ontario. May 2, 2007.
125. *Canadian Cardiovascular Society Heart Failure Consensus Conference Program,* Annual Meeting of the Canadian Geriatrics Society. April 21, 2007.
126. *Executive dysfunction in medical patients: a concern, or just another geriatric wrinkle?* Geriatric Medical Grand Rounds, McMaster University. February 2, 2007.
127. *Rapidly progressive dementia - 2 cases and diagnostic considerations.* Neuroscience Rounds, Sunnybrook and Women's Hospital, Toronto. January 11, 2007.
128. *Vascular risk factors and dementia.* Family medicine CME, Simcoe. February 27, 2006.
129. *Heart failure in the frail elderly: making connections between frailty, cognition, and heart disease in long-term care.* Ontario Long-Term Care Physicians Annual Meeting, Toronto, ON. October 29, 2006.
130. *Heart failure and the frail elderly.* CCCN-CCS Workshop, Canadian Cardiovascular Congress, Vancouver. October 22, 2006.
131. *Executive dysfunction in medical patients: a concern, or just another geriatric wrinkle?* Medical Grand Rounds, Hamilton General Hospital October 17, 2006.
132. *Making the connection between Dementia and Heart Health.* Family Medicine Symposium: an interactive multi-therapeutic program for primary healthcare practitioners. Oakville. May 31, 2006.

133. *Cardiovascular disease and cognition: more to it than just cholinesterase inhibitors?* Presentation for the Alzheimer's Society of Niagara. September 28, 2005.
134. *Isolated Systolic Hypertension in the Elderly*, Heart and Stroke Clinical Update 2004, Toronto, Ontario. December 11, 2004.
135. *Rapidly progressive dementia*. Geriatric Grand Rounds, McMaster University. June 11, 2004.

Invited-Professional Non-Scholarly Group

1. Kitchener-Waterloo Academy of Medicine and McMaster University. Heart Failure Update. October 3, 2020.
2. Covid or Novid? Mitigating the impact of social distancing on frail seniors in the community through proactive screening. Gerontological Nursing Association Ontario Annual General Meeting, November 23, 2020
3. Congestive Heart Failure. ECHO Care of the Elderly Long-Term Care (ECHO COE LTC). December 3, 2019.
4. Heart Failure in Long Term Care. Heart Failure Clinical Annual Education Day. Waterloo, ON, November 13, 2019.
5. Keynote speaker: Heart Failure management in nursing homes: standardization and sustainability matters. Breaths Over Troubled Waters: CHF & COPD in Long Term Care conference of the CLHIN Seniors Care Network & Regional Geriatric Program of Toronto. March 7, 2019.
6. Heart failure and the geriatric patient. Project ECHO Rounds, Hosted by Ontario Centres for Learning Research and Innovation. February 5, 2019.
7. Home Care Assistance. Forgetful breathless fallers with a hint of sweetness: where do we start? Waterloo, ON. Aug 18th, 2016.
8. New Vision Family Health Team. Teaching Session. Everything you wanted to know about ARNI: A PARADIGM shift in the care of heart failure with reduced ejection fraction. Co-Presenter: Stephanie Girourd. Kitchener, ON. June 6, 2016.
9. Culture Change Exchange. Engaging LTC Physicians in Culture Change. Panel Presentation. Co-Presenter: Dr. Andrea Moser. May 11th, 2016. Waterloo, ON.

10. INSPRA National Expert Meeting. Elements for optimal complex chronic disease management in primary care. Toronto, ON. May 7th, 2016.
11. Geriatric Medicine Refresher Day. Breathless, Forgetful Fallers With a Touch of Sweetness. London, ON. May 4th, 2016.
12. Keynote Speaker. Raising Awareness! A Geriatric Education Day. Assessing Specialized Geriatric Services Through the Inter RAI Tool- How Triggers Could be Generated for Assessing Timely Services. b) Afternoon Concurrent Sessions. Addressing Health Care Needs for Frail Seniors Using the InterRAI Tool. Ottawa, ON. March 4th, 2015.
13. Montreal Heart Institute Cardiology Rounds. The challenges of treating heart failure in the elderly with CHD". Coronary heart disease? Did you mean CHF? Or HF? Montreal, QB. Feb 19th, 2015.
14. Queen's University Continuing Professional Development, Faculty of Health Sciences, Geriatrics. Managing the Frail Elderly with Complex Multimorbidity. Kingston, ON. February 4th, 2015.
15. Speaker at the Waterloo Wellington Primary Council Meeting. *The AUA at GRH ED: How? When? By whom? And what for?* Waterloo, ON. Sept 17th, 2014.
16. McMaster University Division of Geriatric Medicine Business Administration Retreat. How to be a Savvy New Specialist in Ontario. Co- present with Kate Borthwick and Dr. Gagan Sarkaria. St. Williams, ON. Sept 13, 2014.
17. Speaker at the CCN Provincial Heart Failure Strategy Forum. Toronto, ON. Feb 13, 2014.
18. CIHR Cafe Scientifique - Putting your heart into it: The science of vascular aging. Panelist Speaker. Hamilton, ON. Feb 6, 2014.
19. Getting It Right. A practical workshop enhancing the use of cognitive assessment tools for the elderly. *When Should We Use These Tests and Why?*. Royal Botanical Gardens. Burlington, ON. June 19th, 2013.
20. The Centre for Family Medicine- Family Medicine Health Team. KW & Area Family Medicine Conference Day. *An Overview of Heart Failure*. Kitchener, ON. February 9, 2013.
21. New Vision Family Health Centre. Lunch and Learn. *An Overview of Heart Failure*. Kitchener, ON. January 23, 2013.
22. St. Joseph's Guelph. Professional Advisory Committee. *Integrating care for seniors with complex conditions in the WWLHIN*. Guelph, ON. December 11th, 2012.

23. North East LHIN Meeting. *Improving care for seniors with complex conditions: system integration, care process redesign and role of specialists*. Sudbury, ON. November 9th, 2012.
24. LHIN Board Meeting. Developing An Integrated System of Care for Frail Seniors in the WW LHIN. WWLHIN. Kitchener, ON. December 5, 2011.
25. Talk LTC WW LHIN. *An Introduction to the MDS Assessment Instrument for Medical Directors*. CCAC Guelph. Guelph, ON. December 1, 2011.
26. *Primary Care Memory Clinics. An example of Senior Focused chronic disease management*. ALC and Specialty Populations Roundtables. Toronto, Ontario. April 28, 2011.
27. *Frailty and other geriatric syndromes*. Family Medicine Rounds. Family Health Centre. Kitchener, Ontario. April 25, 2011.
28. *Developing an Integrated Clinical Services Plan for Frail Seniors in the WW LHIN. Preliminary findings from focus group interviews*. Passport Day. St. George's Hall. Waterloo, Ontario. March 1, 2011.
29. *Getting it Right! A Practical Workshop Enhancing The Use of Cognitive Assessment Tools for the Elderly*. St. Peter's Hospital. Hamilton, Ontario. November 17, 2010.
30. *Frailty and other geriatric syndromes*. Gerontology Interest Group. Sunshine Centre Luther Village. Waterloo, Ontario. September 23, 2010.
31. McMaster Summer Institute on Gerontology. A Stitch in Time Saves Nine: Transitional Care for Older Heart Failure Patients. The Waterfront Conference Centre, Royal Hamilton Yacht Club, Hamilton, Ontario. June 15, 2009.
32. *Where's the bacon? Alzheimer's disease, Cholesterol, and Statins*. Geriatric Grand Rounds, McMaster University. May 12, 2006.
33. *Cardiovascular disease and cognition: more to it than just cholinesterase inhibitors?* Presentation for the Alzheimer's Society of Niagara. September 28, 2005.
34. If I've got high blood pressure, then why am I passing out? Supine hypertension and orthostatic hypotension. Geriatric Grand Rounds, McMaster University. April 8, 2005.
35. *A primer on delirium*. Department of Social Work, Grand River Hospital, Kitchener. April 7, 2004.

1. Geriatrics & Aging to the Royal Canadian Air Force Veterans. Waterloo, ON. Oct 15, 2015.
2. Living well with heart failure. 10th Annual Healthy Heart Day, Cambridge, Ontario. April 26, 2014.
3. MY Healthcare. Panelist Speaker. Why does the system need to focus on MY care? Guelph, ON. June 4, 2013.
4. Becoming an Age-Friendly Cambridge. Developing an integrated system of care for the WWLHIN. Cambridge City Hall. Cambridge, ON. April 26, 2012.
5. Dementia Update..The Value of Early Diagnosis, Treatment and Intervention. Alzheimer Society- Kitchener- Waterloo. January 18, 2011.
6. Safe Communities on the Grand: Seniors Fall Prevention Committee falls prevention workshop. Understanding Falls as a Manifestation of Frailty. Kitchener, Ontario. June 8, 2010.
7. Keeping the heart in mind. Successful Aging™ Speakers Series, St. Peter's Residence at Chedoke, Hamilton. October 26, 2006.
8. Overview of the dementias, Alzheimer's Awareness Month, Alzheimer's Society, Waterloo. January 5, 2005.
9. The Hazards of Hospitalization: Geriatric Medicine and the Care of the Older Patient. Workshop, Annual Meeting of the United Senior Citizens of Ontario, Burlington. August 9, 2004.
10. Differential Diagnosis of the Dementias, Family Council Meeting, Idlewyld Manor, Hamilton Ontario. October 4, 2004.

Research Grants and Contracts:

Funds Held

Researchers	Agency	\$Amount	Tenure	Short Title
As Principle Investigator (PI)/co-PI				
PI(s) Heckman G; McAiney C Co-investigators: d'Avernas, J., Stillman, M., Morton-Chang, F., Schlegel-UW Research Institute for Aging	Public Health Agency of Canada	987,866.	09/20- 03/24	A comprehensive and holistic approach to dementia surveillance in Canada.
Co-PIs: Hirdes J, Heckman G	New Frontiers in Research Fund – Global 2020 (NFRFG- 2020-00500)	500,000	June 1, 2021- May 31, 2025	Individualized CARE for Older Persons with Complex Chronic Conditions at home and in nursing homes
PI Heckman G Co-PI: Gimbel S Co-investigators Wilsie J, Mensah A, Segedi O, Mensink C, Arnel CA, Chvala K, Alarakhia M, Farwell S, Kelly S, Jarman H, Sullivan S, Leslie D, Elliot, J, Hirdes J, Gregg S	Canadian Foundation of Healthcare Improvement	63,650.00 \$242,846 (In-kind) Total: \$306,496	11/19- 09/21	Improving care for the older people with frailty and supporting their family/friend caregivers Enhanced Complex Patient Program
Co-PI/ Co-Leads Hebert P; Hirdes J, Garland A; Heckman G Co-investigators Bell C, Costa A, Sinha S, Ramsey C, Feeney D; While D, Keller H,	TVN/CFN Transformative Grant	1,888,556	04/17- 03/21	Better tArgetting, Better outcomes for frail ELderly patients (BABEL)

Downar J, Kotecha J, Lee L, Mitchell L, Emond M; Grinman M, Quail P, McKelvie R, Bronskill S				
<u>Co-PIs:</u> Heckman G, Boscart V <u>Co-investigators</u> McKelvie R, Hirdes J, Stolee P	Heart and Stroke Grant – Ontario Provincial Office Bridge Grant	\$70,000	07/14- 06/16	Implementing care processes to manage heart failure in LTC: A feasibility study
<u>PI:</u> Heckman G <u>Co-investigators</u> Lee L, Molnar F, Stolee P, Boscart V	Alzheimer Society Research Program	\$95,169	09/13- 06/16	Ensuring High Quality Care for Canadians with Alzheimer’s Disease and Related Disorders: Developing Quality Assurance and Standardized Care Processes for Primary Care Memory Clinics
<u>PI:</u> Heckman G <u>Co-investigators</u> Boscart V, *Chetram V, Mespere LifeSciences, Inc.	National Research Council Industry Research Assistance Program	\$15,363	09/14- 06/15	Usability and Acceptability of a point of care jugular venous pressure device to diagnose Heart Failure in Long Term and Primary Care
<u>Co-PI:</u> Boscart V, Heckman G <u>Co-investigators</u> Hirdes J, Raasok M, d’Avernas J, Kallonen B, Dykeman J.	Technology Evaluation in the Elderly Network (TVN) Catalyst Grant Program	\$99,375	05/14- 06/15	Improving outcomes for frail seniors: Impact of ASILA program for long- term staff
<u>PI:</u> Heckman G <u>Co-investigators</u> Hirdes J, Kaasalainen, S,	UW CIHR Incentive Fund	\$8,000	09/12- 02/13	Implementing and Evaluating Inter- professional Heart Failure Care

McAiney C, McKelvie R, Newhouse I, Stolee P				Processes in Ontario Long Term Care Homes; a Pilot Study
<u>Co-PIs</u> Heckman G, Jong P, McKelvie R, Lee L <u>Co-investigators</u> Ezekowitz J, Hogan D, Rojas-Fernandez C, Hughson R, Kasperski J, Smith S, Harkness K, Hirdes J	CIHR. Meetings, Planning and Dissemination Grant: Planning Grants	\$24,476	10/11-09/12	A primary care-based model of complex chronic disease management for seniors.
Heckman G <u>Co-investigators</u> Ezekowitz J, Hirdes J, Kaasalainen S, McKelvie R, Newhouse I.	CIHR. Team Grant: Chronic Disease Risk and Intervention Strategies	\$9,968	07/11-06/12	Implementing and Evaluating Multidisciplinary Heart Failure Care Processes in Canadian Long Term Care Homes
<u>Co-PIs</u> McKelvie R, Heckman G <u>Co-investigators</u> Ackerman J, Howlett J, Ezekowitz J, Moe G, Martin MJ, Pullen C	Canadian Cardiovascular Society	\$45,000	04/11-03/12	The Canadian Cardiovascular Society Research Project: Canadian Knowledge Survey for Heart Failure (CANKNOW-HF)
<u>PI: Heckman G</u> <u>Co-investigators</u> Kaasalainen S, Demers C, Tjam E, Kelley M, Strachan P, Habjan S, Stolee P, McKelvie R, van der Horst ML	Heart and Stroke Foundation	\$159,359	03/09-06/11	Adapting the Canadian Cardiovascular Society Recommendations on Heart Failure for Long-Term Care Homes: A consensus-based approach with stakeholder input
<u>PI: Heckman G</u> <u>Co-investigators</u>	HNHB LHIN (Aging at Home)	\$473,333	08/08-05/09	Transitional Care Team for Frail Seniors

Fell I, Harkness K, Burnett M, Jewell D	Strategy)			
PI: Heckman G Co-investigators McKelvie S, Turpie E.	CIHR Operating Grant	\$117,471 \$348,902 Total: \$466,373	10/03- 09/08 Renewed 03/05	The effect of congestive heart failure on functional and cognitive decline and neuro-psychiatric symptoms in residents of long-term care facilities

As Co-Investigator				
PI: Stumpf, A Co-Is: Heckman G, O'Connor S, Cadell S, Goligher E, Meschino L, Downar J	SSHRCC	\$177,733	Spring 22 for 5 years	Integrating Conceptual Analysis and Observational Studies to Improve End-of-Life Care in Canada
Co-PIs: Rouleau J-L, King M, Lynch A, Castle D, Jeewa A, Joseph PG, King A, Virani SA. Co-investigators: Heckman G, et 80 others	CIHR Team Grant: Heart Failure Research Network	\$996,037	Spring 22 for 5 years)	Canadian Heart Failure Transformation Alliance: A Network of Likeminded Canadians Committed to Improving the Lives of Persons Living with Heart Failure (HF)
PI: Hirdes JP Co-PI: Heckman G, Perlman C Partner PI: Geffen L Co-applicants: Gatobu S, Umubyeyi B, Bagaragaza E, Paraiso	University of Waterloo 2022 International Research Partnership interRAI	\$40,000	Apr 1 22 to Mar 31 24	Pan-African Utilization of Lay Assessment Systems (PAULAS) pilot project

M, Gishoma G, Egbujie B, Aderibigbe OO, Mulla R, Kroetsch B				
PI A.C. Laing Co-App: R. Hughson, G. Shaker, J Tung, G. Heckman, M. Kalra, C. Perlman, A. Costa, J. Killingbeck, T. Mah..	University of Waterloo, Centre for Bioengineering & Biotechnology seed grant program.	\$14,990	May 1 2022 – April 31, 2023.	A novel data repository for long term care – application to support targeted cerebrovascular and balance assessments in older adults at high risk of falls.
PI: Northwood M Co-investigator: Heckman G et al	AMS Healthcare	\$20,000	January 2022- Dec 2022	Creating a Compassionate Community of Digital Health Care for Older Adults and their Caregivers
PI: Hirdes JP Co PI: Turcotte, L Co-investigators: Heckman GA, McArthur C, Tran J, Costa AP, Poss J, Foebel A, Hillmer M.	CIHR	\$360,286	June 1, 2021- May 31, 2022	Identifying and responding to person and facility-level determination of COVID-19 outbreaks, mortality, and adverse quality of life outcomes in Long-Term Care.
PI: Boscart V; Co-investigators: Sinnes S; Fennessy B; Kelly B; Heckman G Fernandes A; Javier V; Barbato T; Lee L; Thompson G; Compton R; Meisner B.	Future Skills Centre Canada	\$1.2 million	May 2020- June 2022	Canadian Remote Access for Dementia Learning Experiences (CRADLE)
PI: Costa A, Bowdish D Co-investigators: Bramson J; Brown E;	Public Health Agency of Canada	\$4,999,200	01/21 – 03/22	COVID-19 Infection and Immunity in Residents of Long-term care Facilities

Brown K; Bulir, D; Denburg J; Heckman G; Hillmer M; Hirdes J; Jones A; Loeb M; McElhaney J; Nazy I; Raina P; Smieja M; Stall N; Stinson K; Von Schlegel A; Sweetman A; Verschoor C; Wright G				
PI: M. Northwood <u>Co-investigators:</u> G. Heckman, & C. Harrington.	MITACS Accelerate	\$15,000	2020	Leveraging Community Support Services to Support Integrated Health and Social System Response to COVID- 19.
PI: Northwood, M <u>Co-investigators:</u> G. Heckman, N. Didyk, S. Hogeveen, & A. Nova.	Specialized Geriatric Services Grants (RGP Central and Department of Medicine, Geriatric Medicine, McMaster University).	\$14,838	2020- 2021	Mobilizing Specialized Geriatric Services to Identify and Triage Older Adults at Risk due to COVID-19 Pandemic Social-Distancing Practices.
PI: Fox-Robichaud, A <u>Co-</u> <u>applicant:</u> Heckman G and others	Canadian Institutes of Health Research: Team Grant: Sepsis Research Network	6,749,630	12/19- 12/24 6,749,63 0	Canadian Sepsis Research Network: Improving Care Before, During and After Sepsis.
<u>PI:</u> Yu, A <u>Co-investigators:</u> Heckman G, Hughson R, Devries-Aboud M, Mourtzakis M, Peterson S, Yim E,	NSERC	1,650,000	04/19- 03/25	CREATE Program on Next-Generation Innovations in Ultrasonics (N- GENIUS)

Sivaloganathan S, Wong AKC				
PI: Perruccio AV, Badley EM Co-applicant: Heckman G	Canadian Institutes of Health Research	\$70,000	03/19 – 02/20	Profiling heart disease risk factors in osteoarthritis: multi- joint symptoms and sex
PI: Hughson R Co-investigators Heckman G, Au J, Amelard R, Roger J, Beltrame T, Boger J, Costa A, Boscart V, Duncan R, Giangregorio L, Greaves D, Ho J, House J, Keller H, Kuepfer J, Lee L, Middleton L, Yu A, Milligan J, Wood K	CIHR: Operating Grant: Understanding the Health Impact of Inactivity	\$200,000	04/19- 03/21	Bed rest in older adults accelerates "aging-like" changes
Co-PIs Sveistrup H, McGilton K, Boscart V Co-investigators Bronskill S, Heckman G, Walker P, Tanuseputro P, Wodchis W, Bethell J, Cameron J, Costa A, Dupuis S, El Bestawi M, Ghogomu E, Grinman M, Grunier A, Hirdes J, Hsu A, Jacobs J, Kobewka D, Manuel D, Maxwell C, Mitchell L, Patrick J, Ploeg J, Shea B, Sidani S, Welch V	Health System Research Fund	\$2,085,70 1	10/17- 03/20	Informing health system reform for community and long- term care

<p><u>PI:</u> Stolee P</p> <p><u>Co-investigators:</u> Giguère A, Theou O, Rockwood K, Sims-Gould J, Suter E, Boscart V, Costa A, Elliott J, Forbes D, Hanson, H, Heckman G, Holroyd-Leduc J, Kuspinar A, Meyer S, McMurray J, Witteman H, Hajizadeh M, Isaranuwachai W, Baker GR, Byrne K, Burns C, Grindrod K, Sirois MJ, Juneau L, Kröger E, Giosa J</p> <p><u>Collaborators:</u> Tinetti M, Pond D, Young J, Mitchel, G, Goodwin N, Rodney P, Han DW, Murray Cramm J, Afzal A, McPhedran P, Puchyr Ph, Puchyr P, Carson J</p>	<p>Canadian Frailty Network Transformative Grant Program</p>	<p>\$1,357,772 (UW portion) \$2,557,818 (Total all sites) + Partner cash and in-kind contributions of \$3,050,130</p>	<p>04/17-03/20</p>	<p>Transforming primary health care for frail elderly Canadians</p>
<p><u>PI:</u> Maxwell C</p> <p><u>Co-PI:</u> Nakhla N, Tadrous M</p> <p><u>Co-investigators</u> Hogan D, Joseph J Bronskill S, Heckman G, Guirguis L, Blackburn D</p>	<p>Canadian Frailty Network Transformative Grant Program 2017 Catalyst Grant</p>	<p>\$79,977</p>	<p>04/18-08/19</p>	<p>Assessing and understanding frailty and high-risk non prescription drug use in the community pharmacy practice</p>
<p><u>PI:</u> Costa A</p> <p><u>Co-investigators</u> Agarwal G, Bell C, Boscart V, Bronskill, S, Feeny D, Hebert P, Heckman G; Hirdes J, Lee L, McKelvie R, Mitchell L, Sinha S</p>	<p>CIHR Project Scheme: 2016 1st Live Pilot</p>	<p>\$688,051</p>	<p>07/16 – 06/19</p>	<p>The DIVERT-CARE (Collaboration Action Research & Evaluation) Study: A Multi-provincial Pragmatic Trial of Cardio-Respiratory Management in Home Care</p>

<p><u>Co-PI:</u> Stolee P, Giguere A, Sims-Gould J, Rockwood K</p> <p><u>Co-investigators</u> Baker GR, Boscart V, Burns C, Byrne K, Costa A, Elliot J, Forbes D, Giosa J, Grindrod K, Hajizadeh M, Hanson H, Heckman G, Holroyd-Leduc J, Isaranuwachai W, Juneau L, Kuspinar A, McMurray J, Meyer S, Theou O, Witteman H</p>	Canadian Frailty Network	\$100,000	07/16-06/17	Transforming Primary Health Care for Frail Elderly Canadians (Pilot Project)
<p><u>PI:</u> Stolee P</p> <p><u>Co-investigators</u> Heckman G, Elliot J</p>	Canadian Frailty Network Catalyst Grant Program	\$100,000	06/16-06/17	Developing patient-provider partnerships across the system
<p><u>PI:</u> Stolee P</p> <p><u>Co-investigators</u> Heckman G, Elliot J</p>	Technology Evaluation in the Elderly Network Implementation Study	\$100,000	06/15-06/16	Implementing a Risk Screening Tool in Primary Care For Older Frail Adults
<p><u>Co-PIs:</u> Hebert P, Hirdes J</p> <p><u>Co-investigators</u> Heckman G, Amaral A, Costa A, Bagshaw S, Verma A, Lee J, Razak F, Stelfox T</p>	Technology Evaluation in the Elderly Network (TVN)	\$900,000	06/15-03/17	Care of frail, acutely ill older persons: Making health care work like a system
<p><u>PI:</u> Costa A</p> <p><u>Co-investigators</u> Heckman G, Boscart V, Farrugia M</p>	Canadian Patient Safety Institute (CPSI)	\$50,000	05/15-04/16	The transition from the emergency department into home care (Trans-ED-HC) project: A mixed methods study of patterns of patient

				safety events and transition processes.
<p><u>PI:</u> Boscart V</p> <p><u>Co-investigators</u> Coiny, Heckman G, Ploeg J, Dupuis S, Sidani S</p> <p><u>Knowledge User</u> Harvey D, Neves P d'Avernas J</p>	Canadian Institutes of Health Research (CIHR)	\$469,695	10/14-10/17	The Neighbourhood Team Development Program: Promoting Resident Centeredness in Long-Term Care
<p><u>PI:</u> Stolee P</p> <p><u>Co-investigators</u> Heckman G, Elliott J, and GHS Research group</p>	Waterloo Wellington LHIN St. Joseph's Health Care Guelph Contract	\$84,364	04/14-03/17	Evaluation of the adoption of a risk screening tool the Assessment Urgency Algorithm in primary health care team settings in WWLHIN
<p><u>PI:</u> Keller H.</p> <p><u>Co-PI:</u> Steele C, Duizer L, Carrier N, Slaughter S, Lengyel C</p> <p><u>Co-investigators</u> Heckman G, Boscart V, Brown S, Chaudhury H, Duncan A, Yoon M, Villalon L</p>	CIHR Operating Grant	\$979,160	10/14-09/16	Making the Most of Mealtimes (M3): Determinants of food intake in long term care
<p><u>PI:</u> Stolee P</p> <p><u>Co-investigators</u> Boscart V Heckman G</p>	Technology Evaluation in the Elderly Knowledge Synthesis Grant	\$49,926	11/13-07/14	Choosing health care options by involving Canada's elderly: the CHOICE knowledge synthesis project
<p><u>PI:</u> Stolee P</p> <p><u>Co-investigators</u> Boscart V Chesworth B Heckman G</p>	CIHR Café Scientifique Program	\$2,831	09/13-08/14	Managing the Seams: Transitions in Health Care for Older Adults

<p><u>PI:</u> Stolee P</p> <p><u>Co-Investigators:</u> Elliott J, McNeil H, Heckman G</p>	University of Waterloo CIHR Research Incentive Fund	\$8,000	07/13- 06/14	An Integrated Primary Health Care-Centred Approach for Assessing and Managing Older Persons with Chronic Disease
<p><u>PI:</u> Sherifali D</p> <p><u>Co-investigators</u> Meneilly G, Clement M, Yu C, Grenier A, Hall P, Gerstein H, Heckman G</p>	CIHR	24,990	06/13- 06/14	Diabetes Management and Education in Older Adults: The development of a national network and consensus of key clinical and research priorities
<p><u>PI:</u> Giangregorio L</p> <p><u>Co-investigators</u> Rojas-Fernandez C, Keller H, Lee L, Stolee P, Boscart V, Heckman G</p>	Waterloo Chronic Disease Prevention Initiative: Seed Grant	\$5,000	05/13- 05/14	Prescribe exercise and nutrition team in primary care: A PENTuP need for chronic disease management in older adults
<p><u>PI:</u> Demers C</p> <p><u>Co-investigators</u> Archer N, Gwadry-Sridhar F, Keshavjee K, Patterson C, McKelvie R, Goeree R, Dobbins M, Thabane L, Heckman G</p>	AHSC AFP Innovation Fund 2011- 2012	\$193,843	04/12- 04/15	A Randomized Controlled Trial of Enhanced Caregiver Support versus Usual Care for Managing Older Heart Failure Patients at Hospital Discharge
<p><u>PI:</u> Lee L</p> <p><u>Co-investigators</u> Heckman G, McKelvie R, Jong P</p>	Primary Health Care Program, Knowledge User Applied Healthcare Research Question, Western Dep- artment of Family	\$9,951	10/12- 03/13	What are the barriers and facilitators to high-quality primary care for Heart Failure, falls, and Chronic Obstructive Pulmonary Disease?

	Medicine			
<u>PI:</u> Linda Lee <u>Co-Investigators:</u> Heckman G, Stolee P	CIHR: KTB – Knowledge Translation Supplement	\$61,469	07/12-06/13	Enhancing Dementia Care with Improved Family Physician Training and Comprehensive Practice Tools
<u>PI:</u> Costa A <u>Co-investigators</u> Heckman G , Hirdes J, Tjam E	CIHR. Planning Grants	\$25,000	01/12-01/13	Use of 3 rd generation comprehensive clinical assessments to improve acute geriatric care: Research and develop-ment with the interRAI Acute Care Suite
<u>PI:</u> McKelvie R <u>Co-investigators:</u> Akhtar-Danesh N, Arthur H, Thong, B, Heckman G , MacDonald M	Heart and Stroke Foundation	\$136,225	07/11-06/13	The Effects of Tai Chi in Older Patients with Cardiovascular Disease
<u>PI:</u> Ploeg J <u>Co-investigators</u> Markle-Reid M, Kaasalainen S, McAiney C, Gafni A, Patterson C, Akhtar-Danesh N, Emili A, Heckman G , Hirst S, Fraser K, Brookman C, Harvey D, Williams A	CIHR. Meetings, Planning and Dissemination Grant: Planning Grants.	\$24,500	10/11-09/12	Improving Primary Healthcare for Frail Older Persons and their Caregivers
<u>Co-PIs:</u> McKelvie R, Lee L <u>Co-investigators</u> Heckman G , Hirdes J, Harkness K, Kasperski J, Tjam E, Rojas-Fernandez C, Hughson R, Ezekowitz J, Hogan D	Department of Family Medicine Grant Writing Awards 2011/12	\$5,000	08/11-03/12	Evaluating the impact of a primary care-based model of complex chronic disease management on patient care and health system utilization in seniors

<p><u>PI:</u> Stolee P</p> <p><u>Co-investigators:</u> Berg K, Berta W, Byrne K, Chen H, Chesworth B, Conklin J, Forbes D, Grindrod K, Heckman G, Hirdes J, McAiney C, McGilton K, Orchard C.</p>	<p>CIHR: Meetings, Planning and Dissemination Grant</p>	\$23,923	07/11- 06/12	Planning Grants, Community-based Primary Healthcare.
<p><u>PI:</u> Stolee P</p> <p><u>Co-investigators:</u> Berg K, Heckman G, Chesworth B, Hirdes J, Cook R, Jaglal S, Egan M, Zhu M</p>	<p>CIHR. Meetings Planning and Dissemination Grant: Knowledge Translation Supplement</p>	\$90,373	06/11- 05/12	Building Capacity in Community Care by Leveraging the Value of Information Exchange
<p><u>Co-PI:</u> Dupuis S, McAiney C,</p> <p><u>Co-investigators:</u> Wiersma E, Lee L, Loiselle L, Harvey D, Le Clair JK, Heckman G, Rojas-Fernandez C</p>	<p>CIHR - Pfizer Operating Grant in Disease Prevention and Management</p>	\$155,387	04/11- 03/12	Enhancing Self- Management Support in Persons Newly Diagnosed with Dementia.
<p><u>PI:</u> Harkness K</p> <p><u>Co-Investigators:</u> Demers C, Heckman G, McKelvie R</p>	<p>Hamilton Health Sciences New Investigator Fund (NIF)</p>	\$31,000	01/11- 12/11	Cognitive Function and Self-Care in Stable Heart Failure Patients
<p><u>PI:</u> Hirdes J</p> <p><u>Co-PIs:</u> Maxwell C, Jette N</p> <p><u>Co-Investigators:</u> Berg K, Bronskill S, Mitchell L, Clarke B, Doran D, Colantonio A, Heckman G, Hogan D, Kergoat MJ, Marrie RA, Martin L, Patten S,</p>	<p>Public Health Agency of Canada</p>	\$1,470,69 6	11/10- 03/12	Innovations in Data, Evidence and Applications in Persons with Neurological Conditions (ideas PNC)

Postuma R, Zygun D, Pringsheim T				
<u>Co-PI:</u> Doran D, Blais R <u>Co-Investigators:</u> Baker R, Dill DM, Donaldson S, Easty A, Elliot KE, Gruneir A, Lang A, Harrison M, Heckman, G , Hirdes J, Lacrois, H, MacDonald M, Mitchell L, Sales AE, O’Beirne M, Sears NA, White NE, Stevenson RL, Storch JL	Canadian Patient Safety Institute (CPSI)	\$1,200,000	10/10-09/12	Safety at Home: A Pan-Canadian Home Care Safety Study
<u>PI:</u> Laing A <u>Co-investigators:</u> Heckman G , McIlroy W	CIHR Catalyst Grant: Pilot Projects in Aging	\$49,922	09/10-08/11	Compliant floors aimed at reducing fall-related injury risk - a bio-mechanical assessment of their influence on balance in older adults living in residential care settings.
<u>PI:</u> Lee L <u>Co-investigator</u> Heckman G	CIHR Catalyst Grant	\$99,646	03/10-02/11	Evaluating the Impact of Primary Care Memory Clinics on Patient Care and Health System Utilization among Patients with Cognitive Impairment and Dementia
<u>PI:</u> Hughson R <u>Co-investigators:</u> Heckman G , Fernandes M, Lipsitz L, Roy E, Tyas S	CIHR Operating Grant Mobility in Aging	\$136,569	03/09-03/12	The relationship of cardiovascular health indicators with frontal-executive cognitive and motor function with aging
<u>PI:</u> Demers C <u>Co-investigators:</u>	Heart and Stroke Foundation	\$296,658	03/09-03/11	The impact of mild cognitive deficits at hospital discharge on self-care in older HF

McKelvie R, Patterson C, Heckman G				patients
PI: Hirdes J Co-investigators: Heckman G	The Change Foundation	\$218,500	04/08-04/10	Chronic disease management in the frail elderly: the role of home care and informal caregivers

Funds Requested

Names of Researchers	Agency	\$ Amount	Tenure	Short Title
NPA: Naik S, Hirdes J, Tripp D, Grinspun D, Klazinga N Co-applicants: Squires J, Fearon T, Johnston D, Levin L, Boscart V, Poldrugovac M, Duncan D, Lavis J, Cherbel M, Heckman G, Wilson R, Medeiros C.	CIHR		2 years	Standardizing Care, Improving Outcomes: Resident-Centred Care in a Digital Era
NPA: Hebert P. PAs: Brouwers M, Dahrouge S, Denis JL, Isenberg S, Kaczorowski J, Nelson M Co-applicants Geerts J, Heckman G, Hirdes J, Mulligan K, Pilote B, Sonier-Ferguson B, Welch V	CIHR Project Grant: Fall 2021 and Spring 2022	960000	October 1, 2022 x 3 yrs	Understanding how best to mobilize and strengthen communities post COVID-19 to better support older Canadians living at home.

NPI: Perruccio AV Co-PI: Badley EM Collaborators: Canizares M, Heckman GH, Power JD	CIHR Program: 2020 Spring Project Grant	160,000	2 years Funding start date: 2022- 10-01	Cardiovascular disease onset in osteoarthritis: a longitudinal investigation of the role of sex and multijoint symptoms
PI: A Papaioannou <u>Co-Investigators:</u> Abu Alrob H; Adachi R; Costa A; Feldman S; Giangregorio L; Heckman G; Hewston P; Hirdes J; Holroyd-Leduc J; Ioannidis G; Jaglal S; Kaasalainen S; Kennedy C; Lee A; Marr S; McArthur C; Okpara C; Straus S; Tarride JE; Thabane L.	CIHR	\$745,000	April 2021- March 2025	PREVENT trial: a pragmatic cluster randomized controlled trial of a multicomponent fracture prevention model for long-term care
PI: Veronique Boscart <u>Co-investigators:</u> Heckman G; Costa A, Brown S; Bruyn-Martin L	CIHR and Canadian Foundation for Healthcare Improvement	\$143,323	1 year 2021?	Implementation Science Teams – Strengthening Pandemic Preparedness in Long-Term Care Funding

Unsuccessful

PI: Boscart V <u>Co-investigators:</u> Hirdes J, Sheiban L, Crutchlow L, Heckman, G	Centre for Aging and Brain Health Innovation (CABHI) SPARK	\$49,980	02/18- 01/19	An Innovative Approach to Optimize Personal Support Workers’ Knowledge Caring for Seniors at Home
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	Competition			
<p><u>PI:</u> Stolee P</p> <p><u>Co-Investigators:</u> Elliot J, Heckman G, McKinnon J, van Wyk P, Chesworth B, Cook R, Tong C, Hajizadeh M, Sims-Gould J</p> <p><u>Co-PIs:</u> Hirdes J, Stolee P, Heckman G</p> <p><u>Co-I:</u> Elliot J, Boscart V, McAiney C, Perlman C, Saari M, Eckel L.</p>	<p>CIHR: Transitions in Care</p> <p>Ontario SPOR Support Unit</p>	<p>\$960,000 (CIHR ask)</p> <p>\$163,000 (cash)</p> <p>\$236,900 (in-kind)</p> <p>\$300,000</p>	<p>04/19-03/23</p> <p>04/19-03/20</p>	<p>Improving care transitions for older rehabilitation patients: the infoRehab Model</p> <p>University of Waterloo Centre on Aging (UWCA)</p>
<p><u>PI:</u> Hirdes J</p> <p><u>P. applicants:</u> Guthrie D, Heckman G, Perlman C, Stewart S</p> <p><u>Co-Investigators:</u> Barrett B, Berg K, Boscart V, Brown G, Costa A, Doherty M, Daudt H, Downar J, Hebert P, Wegier P, Hoffman R, Harter K, Henry T, Kergoat MJ, Martin L, Mathias K, McArthur C, McKelvie R, Mercer S, Mitchell</p>	<p>CIHR: Transitions in Care</p>	<p>\$960,000 (CIHR)</p> <p>\$224,000 (cash)</p> <p>\$249,000 (in-kind)</p>	<p>04/19-03/23</p>	<p>Transitions across care settings over the life course: Using interRAI assessment systems to improve outcomes across the continuum of care</p>

L, Barbaree H, Poss J, Saari M, Smith T, Sinha S, Turcotte L, Vadeboncoeur C, Vollmer Ashley C				
<u>PI:</u> Heckman G <u>Co-PI:</u> Boscart V <u>Co-investigators:</u> Costa A, McKelvie R, Harkness K, McAiney C, Brown S, Stolee P	Heart and Stroke Foundation GIA	\$298,624	07/17-06/20	Assessing the impact of Interprofessional Care Processes to Manage Heart Failure in Long Term Care Homes: a pilot study
<u>PI:</u> Heckman G, Boscart V, Brown S, Costa A, Kane D, Harkness K, McAiney C, McKelvie R, Stolee P, D'avernas J	CIHR: Project Grant: Fall 2016	\$505000	04/17-03/20	Assessing the impact of Interprofessional Care Processes to Manage Heart Failure in Long Term Care Homes: a pilot study
<u>PI:</u> Hughson R <u>Co-investigators:</u> Heckman G, Yu A, McKelvie R, Milligan J, Wong A, Finucane C	CIHR: Project Grant: Fall 2016	\$395000	04/17-03/20	Challenges to oxygen supply and brain blood flow during activities of daily living in heart failure and aging
<u>PI:</u> Boscart V <u>Co-investigator :</u> George Heckman	Canadian-Centre for Aging & Brain Health Innovation	\$581,500	07/17-06/19	Improving care outcomes for frail seniors in long-term care: Optimizing the use of assessment and documentation technology through an Applied Simulated and Integrated Learning Approach (ASILA)
<u>Co-PIs:</u> Boscart V, Costa A <u>Co-investigators:</u> Heckman G,	Health System Research Fund: HSRF Targeted Call for Research in	\$398,988	04/17-03/19	Nurse led TEAM (inTerprofessional Evidence-based Assessment and Management) for

El-Bestawi MR, Ploeg J, Bronskill S	Nursing			emergency department avoidance in home and long-term care
PI: Boscart V, Hirdes J Co-investigators: Heckman G, Sheiban L, McDonald L	CFN Knowledge Translation	\$250,000	07/17- 06/18	Improving the quality of care and quality of life of frail older people: Translating research evidence into practice in North-American nursing homes
PI: Boscart V Co-investigators: Hirdes J, Pavlinic T, d’Avernas J, Bruyn-Martin L, Brown S, Heckman G	2016 SPARK	\$49818	02/17- 01/18	ASILA: An Innovative Approach to Educate, Engage and Empower Personal Care Providers in Long-Term Care
Co-PIs: Raina P, Griffith L Project Leads: Costa AP, Vrkljan B, Dolovich L, Phillips S, Santaguida L, Dobbins M Co-Investigators: Bedard M, Boscart V, Bronskill S, Feeney D, Fisher K, Gilsing A, Grunier A, Heckman G, Heisz J, Kotcha J, Mangin D, Marshall S, McKelvie R, Naglie G, Watson S, Rapoport M, Sherifali D, Sinha	Ontario Ministry of Health and Long-Term Care Health System Research Fund	3,000,000	06/16- 05/19	“Generating Optimal Evidence to Promote Independence, Mobility and Engagement among older Ontarians (GO- PRIME)“

S, Taler V, van den Heuvel E				
<u>Co-PI:</u> Costa AP, Boscart V <u>Co-Investigators:</u> Oliver D, Bronskill S, Heckman G, Ploeg J, Elbestawi M	Ontario Ministry of Health and Long-Term Care Health System Research Fund	\$749,250	04/16–03/19	“Nurse led TEAM (inTerprofessional Evidence-based Assessment and Management) for emergency department avoidance in home and long-term care”
<u>PI:</u> Boscart V <u>Co-Investigators:</u> Heckman G, Murzin K	Retired Teachers of Ontario Foundation Grant 2016: Geriatrics/Gerontology Research and Training at Post-Secondary Institutions	\$24,975	04/16-03/17	HIV Literacy among Pre-Entry-to-Practice Gerontologists: An Intervention Study.
<u>PI:</u> Costa A <u>Co-investigators:</u> Didyk N, Melady D, Heckman G, Ho J, Morris C, Scotchmer E	RTO/ERO Foundation 2016 Geriatrics/Gerontology Research & Training at Post-Secondary Institutions Grant	\$25,000	04/16-03/17	Make a New, Old Friend’: An Experiential Education Program in Care of the Elderly for Medical Students
<u>Co-PIs:</u> Costa AP, Kotcha J. <u>Co-investigator:</u> Heckman G, Feeny D, Mitchell L, Bronskill S, Sinha S, McKelvie R, Haughton D, Beach C, Wright J, Afzal A	TVN 2014 Strategic Impact Grant Program	\$583,760	05/14-05/15	The DIVERT-CARE (Collaboration Action Research & Evaluation) Initiative: Pragmatic Trials of Emergency Department Avoidance Interventions in Home Care

Graduate Student Supervision (Primary supervision in bold font)**1. PhD****Completed**

2008-2011	Andrea Foebel, MSc. Heart Failure management in Home Care clients. University of Waterloo. PhD supervisory committee (led by Dr. John Hirdes). (completed April 2012)
2010-2011	Shannon Freeman. Optimal model for delivery of palliative care. University of Waterloo, PhD comprehensive exam committee member
2010-April 12, 2013	Andrew Robertson, A characterization of cerebral hemodynamics in a healthy population of older adults with impact of modifiable risk factors and implication. University of Waterloo, PhD committee member
2011-2013	Tina Mah, Reducing use of restraints in Long Term Care, University of Waterloo, PhD committee member
2012-2013	Andrew Costa, The Role of the Emergency Department in the Continuum of Care for Older Adults, University of Waterloo, PhD committee member.
2012-2013	Maryam Iraniparast, University of Waterloo, PhD committee member (comprehensive exam).
2014-2020	Jason Randle (fall 2014 – on medical leave; left program Fall 2020)
2014	Sandy van Solm, When Frailty and Disaster Collide. University of Waterloo, PhD committee member (comprehensive exam), May 27, 2014.
2014-	Raquel Betini, University of Waterloo, PhD committee member (comprehensive exam). Sept 2, 2014.
2012-2016	Byung Wook Chang. Health Quality Indicators. University of Waterloo, PhD Committee Member, PhD Thesis Defense April 27 th , 2016.
2010-2018	Jason Xen. Role of aldosterone in cerebral vascular function. University of Waterloo, PhD committee member
2011-2018	Laura Fitzgibbon-Collins, University of Waterloo, PhD committee member

2015-2019	Sophie Hogeveen, University of Waterloo, PhD Committee Member, PhD Final Defense: Aug 26, 2019
2015-2019	Joanna (Chi-Ling) Sinn, University of Waterloo, PhD Committee Member, PhD Final Defense: Aug 12, 2019
2013-2020	Arsalan Afzal, PhD co-supervisor. Evaluation of a stroke rehabilitation pathway (part-time student)
2019-2020	Teri Shackleton (supervisor; student returned to private OT practice)
2019-2021	Isabel Rodrigues (committee)
2020-2021	Sarah Wu (committee)

Ongoing

2014-	Yasser Ayad (supervisor; interrupted by medical leave)
2018-	Amina Jabbar (part-time, committee member)
2019-	Guangxia Meng (Comprehensive committee member)
2020-	Jill Morrison (committee member)
2020-	Amanda Nova (supervisor; Co-tutelle with Dr. Anja Declerq (KU Leuven))
2020-	Navjot Gill (supervisor)
2020-	Kathleen Norman (committee member)
2020-	Stella Arthur (committee member)
2020-	Reem Mulla (committee member)
2020-	Bon Egbujie (committee member)
2021-	Mohamad Nazmus Zakib (committee member)

Post-doctoral fellow

- 2011-2012 Andrea Foebel, Heart failure in home care residents. University of Waterloo (completed April 2012)
- 2019-2020 Melissa Northwood (supported by CIHR Impact Fellowship)

2. Masters**Completed**

- 2008 Dr. Alok Gupta, MSc, The Effect of cholinesterase inhibitors on the risk of falls and injuries in patients with Alzheimer’s disease (AD): A systematic review Masters Supervisory Committee (2008)
- 2009-2010 Jordache McLeod. Evaluation of the Transitional Care Measure in MSK Rehab patients. University of Waterloo. MSc committee member. (Aug 2010)
- 2010-2011 Rebecca Morton. Migraines as a risk factor for dementia. University of Waterloo. MSc supervisory committee. (Aug 2011)
- 2010-2011 Brooke Manderson. System navigation for seniors. University of Waterloo. MSc supervisory committee. (Aug 2011)
- 2010-2011 Katherine McLaughlin. Cross-sectoral and Individual Differences in Older Adults Expressed Goals of Care. University of Waterloo. MSc supervisory committee. (Spring 2011)
- 2011 Irene Marzona. The Standard Assessment of Global Activities in the Elderly (SAGE) Scale: Validation Process of a New Tool for the Assessment of Disability in Older Adults. MSc, (supervisor K. Teo, McMaster University) (September 21, 2011), External Member of Thesis Committee
- 2011-2012 Carly Skidmore, University of Waterloo, MSc (supervisor Lora Giangregorio)
- 2012- 2013 Clare Cheng, University of Waterloo, MSc Supervisory Committee Member. Topic: Predictors of Costs for Dementia, ALS, and MS in an Ontario Home Care Population. Description: Economic impact of major neurological diseases. (June 25, 2013.)
- 2011-2014 Ali Malik. University of Waterloo, MSc Supervisor. Topic: Quality of care transitions for seniors being discharged from home care**

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- 2011- 2014 Katelyn Fraser, University of Waterloo, MSc Co-Supervisor. Topic: Cerebral perfusion in older patients with heart failure (Feb 3, 2014)
- 2013-2014 Corrie Vincent, University of Waterloo, MSc Committee Member (June 2014)
- 2011-2015 Osman Osman. University of Waterloo. MSc Supervisor. Topic: Barriers to less stringent glucose control in frail seniors**
- 2013-2015 Erica Ihn, University of Waterloo, MSc Supervisory Committee. Topic Patterns of Depression in Long-Term Care Homes and the Role of Language (April, 2015)
- 2013-2014 Madathira Kadu, University of Waterloo, MSc Supervisory Committee. Quality of Care for Long-term Care Residents with Heart Failure: Are there with-in facility differences?
- 2014-2015 Jenn Bucek, University of Waterloo, MSc Supervisory Committee (March, 2015)
- 2013- 2015 Stephanie Hinton, University of Waterloo, MSc Supervisor. (April, 2015)**
- 2014-2015 Kelsey Huson, University of Waterloo, MSc Supervisory Committee
- 2012- 2015 Kaylen Pfisterer, University of Waterloo, MSc Supervisory Committee. Patterns of B12 replacement in Long Term Care homes, and associations with frailty (09/15)
- 2013- 2015 Vishaka Chetram, University of Waterloo, MSc Supervisor.(Dec 15, 2015)**
- 2014-2017 Brenda Trinh, University of Waterloo, MSc Supervisor. (April 11, 2017)**
- 2015-2017 Yong-Jin Kim, University of Waterloo, MSc Supervisor (June 19th, 2017)**
- 2017-2018 Eunice Ofeibea Indome, University of Waterloo, MSc Supervisory Committee
- 2018-2019 Linda Iheme, University of Waterloo, MSc Supervisory Committee
- 2018-2019 Laura Brooks, University of Waterloo, MSc Supervisory Committee
- 2017-2019 Aein Zarrin, University of Waterloo, MSc Supervisor**
- 2017-2019 Jessica Poirier, University of Waterloo, MSc Supervisory Committee
- 2017-2019 Kevin Murray, University of Waterloo, MSc Supervisory Committee
- 2018-2020 Mats Junek, McMaster University, MSc Supervisory Committee
- 2018-2020 Amanda Nova, University of Waterloo (supervisor)**

2021-2022 Courtney Hicks, University of Waterloo (Committee)

Current

2020- **Brittany Kroetsch**

2019- Cheryl Lee – MSc (Committee member)

HLTH 432A/B: Undergraduate thesis, SPHHS, University of Waterloo

Completed

Fall 2017/2018: Amanda Nova

Fall 2016-Winter 2017: Julia Borges, Suruthi Senthilvel, Bryan Franco

Sept 2015-April 2016: Brittney Holisek

Fall 2019-2020 Alexandra Taylor, Mehar Sasan

Ongoing

N/A

Other undergraduate student supervision

June 2017-Feb 2018: Alyana Shamji (AHS 20610266), Raisa Ladha (BPH 20617700);
Volunteer student research: Scoping review of heart failure management
in nursing homes (ultimately published in the Canadian Journal of
Cardiology); , assisted by Jackie Stapleton

d) Courses TaughtUndergraduate Medical School

- Unit 1 Clinical skills, September-December 1998 and 1999, McMaster University
- Unit 5 Clinical skills, March 2000, February-March 2001, McMaster University
- MF3 Clinical skills, February-March 2007, McMaster University
- MF3 Clinical skills, February- April, 2008, McMaster University

Undergraduate Health Sciences**HLTH 430/620:** Contemporary Issues in Health: Geriatric Assessment, SPHHS, U. of Waterloo

- Winter 2022: ongoing
- Winter 2021, 26 students; virtual: (instructor 4.2, course 4.2)

HLTH 473: Contemporary Issues in Health: Geriatric Assessment, SPHHS, U. of Waterloo

- Fall 2019, 17 students: (instructor 4.9, course 4.8)
- Winter 2019, 18 students: (instructor 4.3, course 4.3)
- Winter 2017, 14 students (instructor 4.8, course 4.7)
- Winter 2014, 14 students (instructor 5.0; course 4.9)
- Winter 2013, 15 students (instructor 4.6; course 4.5)
- Winter 2012, 15 students (instructor 5.0; course 5.0)
- Winter 2011, 9 students (instructor 4.7; course 4.6)

HLTH/GERON 201: Health and Aging, SPHHS, University of Waterloo

- Fall 2020, 346 students (asynchronous and online due to pandemic measures)
- Fall 2018, 336 students (instructor 4.4, course 4.3)
- Fall 2017, 275 students (instructor 4.3, course 4.1)
- Fall 2016, 258 students (instructor 3.8, course 3.9)
- Fall 2014, 274 students (instructor 3.8, course 3.6); co-taught with A. Crizzle
- Fall 2013, 230 students (evaluations not available); co-taught with A. Costa

HLTH 400: Multidisciplinary Seminar on Aging, Winter 2015, University of Waterloo

- Winter 2015, 31 students (instructor 3.3, course 3.6)

HLTH 401: Independent Study in Aging

- Summer 2018: Emma Bender; Review: Intergenerational programs
- Winter 2017: Matthew Sefati & Basil Ahmad; Pressure Injury Scoping Review. (Co-Supervised with Dr. Jenn Boger); Manuscript ready for submission.

HLTH 472: Independent Study

- Winter 2020: Liza Imanzi; Dementia & Chronic Disease MGT
- Summer 2016: Julia Borges; (led to Undergraduate Thesis project)
- Winter 2014: Atiya Hemraj; Scoping review: the role of speech language pathologists in long term care.
- Winter 2013: Janet Heng; Scoping review of retirement homes
- Winter 2012: Saad Shakeel; Implementing exercise programs in LTC: Systematic Review (Led to a peer-reviewed publication)

Graduate Student Reading Courses**HSG 620:**

- Winter 2018: Aein Zarrin; Scoping Review: Chronic Disease Management in Iran (led to peer-reviewed publication)
- Winter 2015: 4 students (as part of HLTH 400)
- Winter 2014: Stephanie Hinton; Scoping review: Primary care barriers to heart failure care.
- Winter 2014: Vishaka Chetram; Scoping review: role of point of care testing and heart failure diagnosis.
- Winter 2012: Ali Malik
- Winter 2011: Emily Piraino; Systematic review: Transitions of care: who is left behind? (led to a peer-reviewed publication)

HSG 720:

- Fall 2013: Clare Cheng; Systematic review: What are the criteria for comprehensive geriatric assessment.

KIN 680:

- Winter 2018: Kevin Murray; Scoping Review: Cerebral perfusion in heart failure (manuscript in advanced stages for submission to peer-review journal)
- Winter 2014: Kaylen Pfisterer

Guest Lectures

- PHIL 321J; Prof. Andrew Stumpf; Advance care planning; February 22, 2021
- HLTH/KIN/REC 750, Carrie McAiney. Oct 7, 2019 (12:45-1:45)
- Geriatricians: Caretakers of Parking Lots (or are they more useful than that?); HLTH/GERON 400, January 23, 2019
- Personal Expressions in older adults with dementia, PHARM, Chang Feng & Colleen Maxwell, Jan 24, 2018. (9:00 am- 11:00)

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- Frailty: Contemp Issues in Kinesiology **KIN 471**, Lora Giangregorio. Jan 26, 2017. (11:30-12:50pm)
- Interdisciplinary Perspectives on Aging **HLTH/GERON 400**, Paul Stolee. Jan 10, 2017 (1:00 pm-2:30 pm)
- Frailty. Guest Lecture- Kinesiology Course, Undergraduate Class. University of Waterloo. February 3, 2015.
- Multidisciplinary Seminar on Aging: **HLTH 400**, Paul Stolee. Jan 14, 2014 (8:30-9:50)
- Hazards of hospitalization: **HSG 611**, Paul Stolee Jan 11 2011 (8:30-10:00)
- Hazards of hospitalization: **HSG 611**, Paul Stolee Oct 17 2011 (1:30-4:30)
- Health Service Use and Medications: **Health 201**, Anita Myers Nov 23, 2011 (2:30-5:00)
- Hazards of Hospitalization. Seminar in Aging. University of Waterloo. February 6, 2009.
- Heart Failure and Cognitive Impairment. Seminar-University of Waterloo. December 6, 2007.

Undergraduate projects

Natasha Laroque, HTH SCI 3H03 project, RN Role Ambiguity in Long Term Care, McMaster University

Jason Akerman, HTH SCI 3H03: Inquiry Project (3 units, January-April 2009), HTH SCI 4B06: Senior Project (6 units, September-April 2010).

On-line courses

Jan 28th to Feb 10th, 2013-Canadian Academy of Geriatric Psychiatry, Geriatric Giants Module (developed and facilitated the module).

Mentoring Activities

	Role	Organization	Start Date	Student	End Date	Description
1)	Supervisor	University Cooperative Education Program	2012/09	Allie Harrison, high school student		
2)	Mentor	Arthur Labatt Family School of Nursing	2012/04	Amy Horton, Nurse Practitioner, Hellen Jarman, Nurse Practitioner	2012/08	I mentored two Nurse Practitioners during the research portion of their Masters of Nursing degree (Western University)

Medical learners: lectures and academic half-days

- October 26, 2020 Geriatric Medicine subspecialty residents, University of Toronto.
Academic Half Day: Heart failure in Older Adults
- June 15, 2020 Geriatric Medicine subspecialty residents, McMaster University.
Academic Half Day: Standardized assessment
- February 25, 2019 Geriatric Medicine subspecialty residents, University of Toronto.
Academic Half Day: Cardiovascular Disease in Older Adults
- June 5, 2017 Geriatric medicine subspecialty residents, McMaster University,
Academic half-day: Chronic Disease Management and Geriatrics.
- April 10, 2017 Geriatric Medicine subspecialty residents, University of Toronto.
Academic Half Day: Geriatrics and Cardiology Focus on Heart Failure

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- Nov 20, 2011 An Overview of Heart Failure. Family Medicine Residents. McMaster University. Integrated Health Building. Kitchener, ON.
- Nov 4, 2010 CHF and Frailty in the Elderly. Academic Half Day. Internal Medicine Residents. Western University, London, Ontario.
- Oct 20, 2009 Transition of Care. Geriatric Residents Academic half day. McMaster University, Hamilton, ON.
- June 11, 2009 Cardiovascular Aging. Geriatric Residents half-day. McMaster University, Hamilton, ON.
- Jan 8, 2009 Transition of Care. Geriatric Residents half-day. McMaster University, Hamilton, ON.
- Nov 21, 2007 Rapidly Progressive Dementia. Geriatric Residents half-day. McMaster University, Hamilton, ON.
- June 7, 2007 Geriatrics for Cardiologists. Cardiology residents' academic half-day. McMaster University, Hamilton, ON.
- June 8, 2005 Heart Failure and the Elderly, Geriatric Summer Institute, McMaster University.
- April 28, 2004 Approach to Parkinson's disease. Internal Medicine Half-day, McMaster University.

Service**Faculty Service**

- 2019-2021
 - PhD Chair (3 events)
 - Grad committee: CIHR, OGS, and application reviews.
- 2017-18
 - 2017-18: Undergrad committee meetings
 - 2018: MPH admissions meeting
 - 2018: STCP
 - 2018-19: grad committee
- 2016:
 - Graduate Research Programs Committee
 - Graduate Awards Selection Committee
 - Library Representative

- 2013:
 - SPHSS Undergraduate Committee
 - Discovery Days in Health Sciences. Career Panelist. University of Waterloo. April 16, 2013.
- 2011:
 - Undergraduate Committee-University of Waterloo-Health Studies and Gerontology
 - Discovery Days in Health Sciences. Career Panelist. University of Waterloo. April 19, 2011.
 - RBC Undergraduate Scholarship Application Committee (2011-12)
 - MPH Program Development Committee (2011-12)

Community

- Minor hockey trainer, Plattsville and District Minor Hockey Association (Atom to Bantam); 2010-2018

Areas of Teaching Expertise

Teaching

1. Interested in geriatric medicine at all levels of clinical learners.
2. Health Sciences and Gerontology for Applied Health Sciences students.
3. Interested in generating interest in geriatric medicine at all levels, with particular focus on clinical teaching units, both as attending physician and geriatric consultant. In that capacity, have taught clinical clerks (core and elective rotations), as well as residents at all levels of training and from multiple programs (family medicine, internal medicine, psychiatry, physiatry, geriatric medicine, community health)
4. Participation at CME events for family physicians and allied health professionals.
5. Talks on health issues for seniors for the general public
6. Directed development of a clinical teaching unit at Freeport Health Centre for McMaster University Family Medicine residents, clinical clerks, and internal and geriatric medicine residents (2004).

Clinical

Provision of comprehensive geriatric assessment with particular attention on education and prevention, in Family Health Teams and Long Term Care. Attending physician, Heart Function Clinic, St. Mary's Heart Function Clinic, Kitchener Ontario.

Current Research Interests:Research

1. Integrating interRAI instruments into clinical care
2. Cardiovascular disease in the elderly: epidemiology, diagnosis, management and quality assurance, with particular emphasis on Heart Failure
3. Heart failure management in long-term care
4. Cognition and frailty in patients with cardiovascular disease
5. Community management of chronic disease: transitional care, risk stratification, system integration
6. Chronic disease management in primary care

Other - Medical Residents and Learners supervised:

Date:	Name:
February 19, 2010	Julie Ray
February 19, 2010	Mohamed Alarakhia
April 9, 2010	Rath Rajesan
April 9, 2010	Erin Hoh
July 9, 2010	Lorraine Colpitts-Wakim
July 9, 2010	Sheila Russek
August 13, 2010	Kris Varano
August 13, 2010	Will van Heiningen
September 10, 2010	Dave Bitonti
September 10, 2010	Wendy Davie
October 8, 2010	Dave Bitonti
October 8, 2010	Kelly Van Diepen
November 12, 2010	Wyatt McTavish
November 12, 2010	Tom Irvine
February 19, 2010	Julie Ray
February 19, 2010	Mohamed Alarakhia
April 9, 2010	Rath Rajesan
April 9, 2010	Erin Hoh
July 9, 2010	Lorraine Colpitts-Wakim
July 9, 2010	Sheila Russek
August 13, 2010	Kris Varano
August 13, 2010	Will van Heiningen
September 10, 2010	Dave Bitonti
September 10, 2010	Wendy Davie
October 8, 2010	Dave Bitonti
October 8, 2010	Kelly Van Diepen
November 12, 2010	Wyatt McTavish
November 12, 2010	Tom Irvine
November 12, 2010	Monica Pease (Social Worker student)
November 12, 2010	Laura Chaisson (Social Worker student)
January 14, 2011	Sheila Russek PGY2
January 14, 2011	Katie Mulhern- PGY2
February 19, 2010	Julie Ray
February 19, 2010	Mohamed Alarakhia
April 9, 2010	Rath Rajesan
April 9, 2010	Erin Hoh
July 9, 2010	Lorraine Colpitts-Wakim
July 9, 2010	Sheila Russek
August 13, 2010	Kris Varano

August 13, 2010	Will van Heiningen
February 19, 2010	Julie Ray
February 19, 2010	Mohamed Alarakhia
April 9, 2010	Rath Rajesan
April 9, 2010	Erin Hoh
July 9, 2010	Lorraine Colpitts-Wakim
July 9, 2010	Sheila Russek
August 13, 2010	Kris Varano
August 13, 2010	Will van Heiningen
September 10, 2010	Dave Bitonti
September 10, 2010	Wendy Davie
October 8, 2010	Dave Bitonti
October 8, 2010	Kelly Van Diepen
November 12, 2010	Wyatt McTavish
November 12, 2010	Tom Irvine
November 12, 2010	Monica Pease (Social Worker student)
November 12, 2010	Laura Chaisson (Social Worker student)
January 14, 2011	Sheila Russek PGY2
January 14, 2011	Katie Mulhern- PGY2
February 11, 2011	Wendy Davie- PGY2
April 8, 2011	David Bitonti- PGY2
May 13, 2011	Kris Varano- PGY2
May 13, 2011	Phil Kowtecky- PGY2
June 10, 2011	Jeeshan Persaud-PGY2
June 10, 2011	Wyatt McTavish-PGY2
July 8, 2011	Paul Miron-PGY1
July 8, 2011	Jessica Seibel- PGY1
August 2 nd -12 th , 2011	Kaitlin Hanmer
September 30, 2011	Mariana Mocanu NP student
September 30, 2011	Jill Grocholosky-pharmacy student
September 30, 2011	Anthony Chen
October 14, 2011	Marnie Smith- PGY2
October 14, 2011	Abhishek Narayan-PGY1
October 14, 2011	Lauren Lessard-PGY1
November 11, 2011	Sheila Russek- PGY2
November 11, 2011	Lyndsay Evans-PGY1
December 9, 2011	Jessica Seibel-PGY1
December 9, 2011	Colleen Fuller- PGY1
December 22, 2011	Natasha Larocque- observership for one day
January 25, 2012	Chloe Davidson- 2 nd year medical student- ½ day- HFC
March 9 th , 2012	Phil Kowtecky- PGY2
March 9 th , 2012	Colleen Fuller- PGY1

March 28, 2012	Alison Martin- Clinical Clerk- ½ day- HFC
May 11, 2012	Jen Jones-½ day CFM
June 15 th , 2012	Katie Mulhern-½ day CFM
Aug 11, 2012	Ed Weiss- ½ day CFM
Aug 11, 2012	Colleen Fuller- ½ day CFM
Sept 14 th , 2012	Penny English-½ day CFM
Sept 27 th , 2012	Shawn Prasad- Student observership for ½ day at Freeport
Oct 5 th , 2012	Penny English-½ day at Nithview Home
Nov 23 rd 2012	Lyndsay Evans and Paul Miron- ½ day CFM
Dec 14 th , 2012	Lyndsay Evans – ½ day CFM
Jan 11, 2013	Paul Jones- ½ day CFM
Jan 24, 2013	Paul Jones- PGY2- full day Freeport
Feb 14, 2013	Qi Wang- Full day Freeport
Feb 28, 2013	Qi Wang- Full day Freeport
March 6, 2013	Sachin Chopra R5 and Alisa DeJong (Nursing Student)
March 8, 2013	Qi Wang and Dan Finnigan- ½ day CFM
March 21, 2013	Joan Chan, full day Freeport
March 28, 2013	Joan Chan full day Freeport
April 11, 2013	Joan Chan- half a day Freeport
April 12, 2013	Joan Chan and Melissa Mills- half a day CFM
May 10, 2013	Lindsay Woods PGY1 and Abhishek Narayan PGY2- full day CFM
May 17, 2013	Janie Penhearow and Jennifer Jones- full day CFM
June 6, 2013	Abhishek Narayan- full day Freeport
June 21, 2013	Abhishek Narayan- ½ day at CFM
July 24, 2013	Avreet Alangh-PGY2- ½ day Freeport
Aug 1 st , 2013	Alison Delorme- full day Freeport
Aug 8, 2013	Alison Delorme -full day Freeport
Aug 9, 2013	Alison Delorme, Avreet Alangh- ½ day at CFM
Aug 22, 2013	Alison Delorme-full day Freeport
Aug 29, 2013	Robin Muir-full day Freeport
Sept 5, 2013	Robin Muir-full day Freeport
Sept 12, 2013	Robin Muir-full day HFC
Sept 13, 2013	Robin Muir- ½ day and Janie Penhearow at CFM
Oct 11, 2013	Robin Muir and Claire Harlick- ½ day at CFM
Oct 17, 2013	Janie Penhearow- Full day Freeport
Oct 31, 2013	Rose Noble- Full day Freeport
Nov 14, 2013	Rose Noble-HFC
Nov 15, 2013	Rose Noble and Allison Mills- ½ day CFM
Dec 13, 2013	Rose Noble and John McCuaig- ½ day CFM
Feb 20, 2014	Sophie Gervais- full day Freeport
Feb 27, 2014	Sophie Gervais- full day Freeport
Mar 6, 2014	Sophie Gervais- full day Freeport
Mar 13, 2014	Sophie Gervais- full day Freeport

Mar 27, 2014	Lyndsay Woods- full day Freeport
May 29, 2014	Edward Weiss- CFM Resident- full day Freeport
June 17, 2014	James McMurrich- CFM resident- full day Freeport
Aug 21, 2014	James McMurrich- CFM resident- full day Freeport
Nov 3, 2014- Nov 21 2014	Christine Glenny
Nov 13, 2014	Jason Zhu- CFM resident- full day Freeport
Nov 20, 2014	Stephanie Spadotto, CFM Resident- full day HFC
Nov 2014	Shiv Khosla, Geriatric Fellow, GRH/Freeport
Jan 22, 2015	John McCuaig, CFM Resident, full day Freeport
Jan 29, 2015	John McCuaig, CFM Resident, full day Freeport
Feb 5, 2015	John McCuaig, CFM Resident, full day Freeport
Feb 12, 2015	John McCuaig, CFM Resident, full day Freeport
May 11 2015-June 12, 2015	Lisa Friars, CFM Resident, full day Freeport
June 23- Aug 20 2015	Patricia Froese, CFM resident, full day Freeport
Sept 10, 2015	Ling Chen, CFM Resident, full day Freeport
Oct 29 th , Nov 5 th , Nov 12 th , Nov 19 th	Jordi McLeod, CFM Resident, full day Freeport
Jan 14, 21, 28, Feb 4, 11, 18, 2016	Nicole Robichaud, CFM Resident- Freeport and UG
April 7 th , April 21 st and April 28 ^t 2016	Ryan McArthur , CFM Resident -Freeport
Aug 4 2016	Julie Chaytor, CFM Resident- HFC St Mary's
Sept 8 2016	Julie Chaytor, CFM Resident- Village at University Gates
Oct 27, 2016	Matthew Johnson, CFM Resident- St. Mary's Heart Function Clinic
Nov 3, Nov 17, Dec 6, 2016	Allison Yantzi, CFM Resident- Village at University Gates
Mar 22, 2017	Emma Scotchmer, Clinical Clerk- HFC St. Mary's
Mar 22, 2017	Lisa Friars, CFM Resident- HFC St. Mary's
Mar 23, 2017	David Martin, CFM Resident, Village at University Gates
Apr 19, 2017	Lisa Friars, FM Resident- HFC St Mary's
Aug 31, 2017	Bridget Campbell, FM Resident- HFC St. Mary's Hospital
Dec 13, 2017	Jonathan Zipursky PGY6 clin pharm and toxicology
April 2017 to July 2018	Charles Faubert, Geriatrician: HFC St. Mary's Hospital, University Gates nursing home, New Vision Family Health Team Coordinated Cardiogeriatric Fellowship with Western University
April 2019	Jane Newman, Internal Medicine Resident
May 21-June 1 2019	Alyson Osbourne, PGY4 Geriatric Medicine, McMaster University
Dec 18 2019	Victoria Chuen, Internal Medicine Resident
Feb 11-Mar 11 2021	Dana Trafford PGY5 Geriatric Medicine
Aug 8-12 2022	Tyler Pitre, PGY3 Internal Medicine, McMaster University

**ONTARIO HEALTH COALITION AND
ADVOCACY CENTRE FOR THE ELDERLY**

- and -

**HIS MAJESTY THE KING IN RIGHT OF ONTARIO AS
REPRESENTED BY THE ATTORNEY GENERAL OF
ONTARIO, THE MINISTER OF HEALTH, and THE
MINISTER OF LONG-TERM CARE**

Applicants

Respondents

Court File No.

*ONTARIO
SUPERIOR COURT OF JUSTICE*

Proceeding commenced in Toronto

**AFFIDAVIT OF
DR. GEORGE HECKMAN
(Sworn March 3, 2023)**

GOLDBLATT PARTNERS LLP

20 Dundas Street West, Suite 1039
Toronto, ON M5G 2C2
Fax: 416-591-7333

Steven Shrybman (20774B)

Telephone: 613-858-6842
Email: sshrybman@goldblattpartners.com

GOLDBLATT PARTNERS LLP

30 Metcalfe Street, Suite 500
Ottawa, Ontario K1P 5L4
Fax: 613-235-3041

Benjamin Piper (58122B)

Telephone: 613-482-2464
Email: bpiper@goldblattpartners.com

Counsel for the Applicants