

Annual Report to the **Labarge Gift Board**



BRIGHTER WORLD

LABARGE
Optimal Aging
INITIATIVE

Labarge Centre for
Mobility in Aging

Institute for
Research on Aging

McMaster
University 





Through the generosity of Suzanne Labarge, researchers focused on aging at McMaster University have benefited from direct access to funding and enhanced interdisciplinary partnership. The support provided by the **Labarge Foundation** and the **Labarge Optimal Aging Initiative** has laid the groundwork for the creation of the **Labarge Centre for Mobility in Aging**, which in turn has led to a renewed investment in aging research at McMaster. Built on the foundation of several robust research platforms, McMaster's strength in aging research has been launched by the generosity of Suzanne Labarge, leading to tangible outcomes that aim to improve the lives of older adults in Canada and around the world.





Patrick Deane

It has been such a great pleasure over the past year for me to see the momentum building in so many areas of the University that focus on aging. Our researchers are working together in new ways and their enthusiasm can be directly correlated not only to the generous support of Suzanne Labarge, but also to our shared belief in the importance of finding ways to support those already experiencing older age, as well as those who are much younger and want to age with purpose and opportunity.

Establishing aging as a priority for McMaster has helped us focus our energies, leverage our infrastructure, develop new partnerships and gain national recognition for our strengths in important areas of aging research, and we are just getting started. It has been a particular privilege for me to be involved with many of the initiatives that are underway.

I hope you enjoy reading this year's report as we work together to create a Brighter World.

Dr. Patrick Deane
President and Vice-Chancellor

The goals of the Labarge Optimal Aging Initiative and the Labarge Centre for Mobility in Aging, which is nested within the McMaster Institute for Research on Aging, are to build capacity in aging research and education, introduce new partnerships, position our researchers for success in external competitions, and enhance our reputation for excellence in research and knowledge translation. Through the work of McMaster researchers and the generous support of Suzanne Labarge, we have taken significant steps forward this year. This is evident through the increased attention McMaster is receiving for its research strengths and enabling platforms such as the McMaster Optimal Aging Portal, which has now accumulated nearly half a million unique users.

I invite you to review the progress of the work supported by the Labarge Optimal Aging Initiative, the Labarge Centre for Mobility in Aging, and the Labarge Foundation detailed in this report. McMaster's leadership position in research, education and knowledge translation on the broad topic of aging has been enhanced through these investments, and will only continue to grow in the years ahead.

Dr. Susan Denburg
Associate Vice-President Academic, Faculty of Health Sciences, and University Lead, Labarge Centre for Mobility in Aging and McMaster Institute for Research on Aging



Susan Denburg

Innovations in vehicle design that promote safety and usability in an aging society

INVESTIGATORS

Brenda Vrkljan

Robert Fleisig

This Labarge-funded team representing four McMaster Faculties is exploring innovations focused on vehicle design for an aging population. Co-led by Dr. Brenda Vrkljan (Rehabilitation Science) and Dr. Robert Fleisig (Engineering), this team collected data from 33 drivers (aged 57-87) on their health and mobility patterns specific to vehicle entry and exit. In 2014, they published a systematic review on this topic in the *Journal of Ergonomics* (Special issue on Driver Safety). They also presented their work as part of an interdisciplinary panel at the annual conference of the Canadian Association on Gerontology in the fall of 2017. Their research highlights the strong connection older adults have with their automobile, and a manuscript is under development that speaks to this connection

(i.e., “AUTO-biography”). Going forward, the team is building on their ideas,

including examining the potential effect of advancements of in-vehicle technology on older drivers. Funding for this extended project has been secured through the highly competitive Social Sciences and Humanities Research Council.

“A key aim of our team has been to establish partnerships between the public and private sectors when it comes to R&D. Thanks to the Labarge funding, our interdisciplinary team has presented our project to General Motors and Canadian Tire. It’s exciting to consider these partnerships as we move forward with our research.”

Brenda Vrkljan



Brenda Vrkljan
and **Robert Fleisig**

IMPACT

The initial Labarge funding has led to further research partnerships between the Faculties of Health Sciences and Engineering, such as a recent cross-Faculty submission to the Ontario Research Fund (ORF) on automated and electrified vehicles. – *Brenda Vrkljan*



Julie Richardson
and Lori Letts

Detecting and addressing preclinical disability

INVESTIGATORS

Julie Richardson
Lori Letts

David Chan
Lehana Thabane

Henry Siu

The global rise in chronic diseases, aging populations and associated rise in disability is a significant public health problem. The purpose of this study was 1) to utilize the electronic Personal Health Record (PHR) to engage patients in self-monitoring their physical function as a form of self-management in a primary care setting; and 2) to evaluate the impact on functional outcomes over an 18-month period. A cohort of 97 patients with chronic conditions and 50 patients without chronic conditions were recruited from a Family Health Team in Hamilton. Participants self-monitored their physical function online by completing assessments in their PHR. A physical therapist and two occupational therapists reviewed the results of assessments as well as the goals the patients identified and provided tailored rehabilitation strategies via secure messaging to address the physical functional changes that patients were experiencing. Results showed that patients both with and without chronic diseases were able to use the online tailored instructions and recommendations from a physiotherapist or occupational therapist to address their goals and to improve their ability to perform activities that were important to them.

“Funding from the Labarge Initiative has allowed us to study how online self-monitoring and delivery of rehabilitation strategies using the electronic personal health record can result in people improving their participation activities that matter to them. As a result, we have seen improvements in physical functioning for people with and without chronic conditions.”

Julie Richardson

IMPACT

Labarge-funded researchers have secured **over \$28.8 million in funding** from external sources to support research initiatives that build upon their Labarge projects.

Defining the optimal combination of exercise and nutrition for maximizing muscle mass and mobility in aging

INVESTIGATORS

Gianni Parise Stuart Phillips

Sarcopenia, the age-related loss of skeletal muscle mass and function, is a precursor to the decline of mobility and increased risk of frailty and disability, falls, and chronic diseases, such as type 2 diabetes and vascular disease. Older people who lose mobility are more likely to be institutionalized, socially isolated, have higher rates of morbidity, more frequent hospitalizations, and experience a lower quality of life. Given the interrelationship between sarcopenia and mobility impairments, there is critical need to change the mobility and health trajectory of older people by addressing declines in skeletal muscle function. It is recognized that no pharmacological or behavioural intervention to reverse sarcopenia has proven to be as effective as resistance training, but rarely is this combined with the known therapeutic benefits of nutrition/nutraceuticals. Through this Labarge-funded project, we have shown that this combination yields incredible dividends in terms of strength and function.

“This project would not have been possible without the Labarge initiative. We aim to continue this work with peer-reviewed funding and are actively seeking further support to commercialize the supplement.”

Gianni Parise



Gianni Parise



Vanina Dal Bello-Haas
and Sharon Kaasalainen

Enhancing optimal aging: An examination of a unique adult day service model for older adults

INVESTIGATORS

Vanina Dal Bello-Haas

Sharon Kaasalainen

Our research, comprised of two phases, aims to better understand how a unique community-based, adult day, slow-stream rehabilitation program [Goldies2Home (G2H, Shalom Village, Hamilton, Ontario)] targets the needs of older adults transitioning from hospital to home. Preliminary results indicate that participants experience social benefits and significant improvements in physical function and mobility-related measures in the short term. However, healthcare system challenges such as funding and capacity need to be improved, and there is a need to respond to the challenges identified through this work in order to fully enhance the model of care.

IMPACT

Because of the Labarge support, we have received subsequent funding to explore the concept of Goldies2Home 2.0, and we believe we are well positioned for a strong CIHR application in 2018. – *Vanina Dal Bello-Haas*

“Funding from the Labarge Initiative has helped highlight several key elements: 1) the social, psychological and physical complexities faced by older adults transitioning from hospital to home; 2) how unique community-based adult day, slow-stream programs, such as Goldies2Home, have the potential to increase older adults’ quality of life, health and well-being, and satisfaction with transitional care; and, 3) how unique programs play a key role for older adults in mitigating risk, maximizing mobility and resilience, and enhancing optimal aging at home.”

Vanina Dal Bello-Haas

Resistance and longevity for older workers with arthritis through exercise

INVESTIGATORS

Monica Maly

Peter Keir

Jim Potvin

Sedentary behaviours among older adults are highly prevalent globally. The purpose of this study was to assess the effectiveness of a leg-strengthening program implemented in the workplace on self-reported function, physical capacity, and work-related outcomes among sedentary workers. Forty-three employees at the Ford of Canada central headquarters building participated in this two-armed randomized controlled trial of either 12-weeks of exercise or no exercise. Significant improvements in self-reported physical function and mobility performance were present following 12 weeks of exercise. Thus, the results of this trial support exercise in the workplace to improve self-reported and physical health outcomes of sedentary workers. Further, the exercise program is now a permanent component of programming at the facility.

“Funding from the Labarge Initiative has helped sedentary workers learn how to improve physical function and mobility through exercise. This is of particular importance for our increasingly sedentary and aging workforce in Canada. Completing this project in a workplace outside of McMaster has brought awareness of other research funded through the Labarge Initiative to the employees of Ford Canada”

Monica Maly



From left to right:
Monica Maly,
Peter Keir and
Jim Potvin



From left to right:
Sinéad Dufour,
Jenny Ploeg and
Holly Reimer

Moving upstream: Preventative approaches to preclinical mobility limitation for community-dwelling older adults

INVESTIGATORS

Sinead Dufour
Julie Richardson

Jenny Ploeg
Maureen Markle-Reid

Lehana Thabane
Carrie McAiney

Holly Reimer

Upstream approaches to improving mobility and reducing falls risk are important. We hypothesized that participation in a tailored, multi-component program, founded on self-management principles and task-oriented motor learning exercises (Stepping-Up) would lead to greater improvements in mobility compared to a conventional community-based fall prevention program (Stand-Up). A group of community-dwelling older adults identified to be in a stage of early mobility limitation were recruited and randomized into either the intervention (Stepping-Up) or control (Stand-Up) group. Results showed a similar improvement for participants in both programs for the primary outcome of walking speed, and it is likely that both interventions could support positive changes in mobility. Focus group results indicated that participants in the Stepping-Up Program experienced greater improvements in self-worth and perceived mobility when compared to the control group. Control group participants reported difficulty accessing existing community programs, which is an important finding since intervening at an early stage of mobility limitation can help to prevent the transition to disability and loss of independence for many older adults.

“Thanks to funding from the Labarge Initiative, novel movement strategies have been embedded within a unique self-management framework that empowers older adults to get moving well and stay moving well.”

Sinead Dufour

Providing recommendations from guidelines for healthy aging through the McMaster Optimal Aging Portal

INVESTIGATORS

Nancy Santesso

Holger Schunemann

Clinical practice guidelines are used by physicians to guide healthcare decisions. Awareness of these guidelines may help older adults make more informed health choices and become more engaged in decision-making with their healthcare team. The goal of this project was to determine the best way to communicate recommendations about aging from clinical practice guidelines to patients and the public. In this study, we conducted focus groups and interviews with people interested in topics related to healthy aging. Our analysis of the qualitative research and user-testing of multiple formats found that patients would like to have enough information to identify the recommendations that apply to their situation and to discuss their care with their physician, as well as information about potential harms of different treatment options. Based on our findings, we developed a template for the teams preparing clinical guidelines in order to facilitate sharing these recommendations with patients and the public through electronic platforms such as the McMaster Optimal Aging Portal.

“Because of the funding from the Labarge Initiative, there is a pathway to allow patients to access important health information from clinical practice guidelines that was previously hard to use.”

Nancy Santesso



**Nancy Santesso and
Holger Schunemann**



John N. Lavis and
Anthony Levinson

Helping Canadians get more involved in health and healthcare decisions: Adding a decision aids database to the McMaster Optimal Aging Portal

INVESTIGATORS

John N. Lavis
Brian Haynes

Maureen Dobbins
Anthony Levinson

Parminder Raina
Sandra Carroll

Michael McGillion
Dawn Stacey

Helping citizens to both understand the available research evidence about a topic (e.g., what works and for whom) and to clarify their own values (e.g. "Am I prepared to experience significant anxiety and side effects in order to achieve a small gain in expected survival?") offers the potential to help older adults stay healthy, active and engaged, and to make more informed healthcare decisions. The decision aids database has now been integrated into the McMaster Optimal Aging Portal, and users are able to access information that will help them age well.

IMPACT

Labarge-funded researchers have published **13 academic papers** and participated in **66 conference presentations** related to their work in aging in 2017.

"Our partnership with Dawn Stacey and her colleagues at the University of Ottawa who maintain the decision aids database created a win-win opportunity: the Portal enriched its citizen-focused content, the decision aids database expanded its citizen audience dramatically, and both teams will be able to contribute to the development and application of new methods and prepare for a large-scale evaluation."

John Lavis

Identifying optimal combinations of nonpharmacological interventions for the prevention and management of osteoporosis and osteoarthritis complications in the elderly: A Bayesian network meta-analysis

INVESTIGATORS

Joseph Beyene
Julie Richardson
Parminder Raina

Binod Neupane
Russell de Souza
Alexandra Papaioannou

Aliya Khan

Our Labarge Initiative-funded project sought to identify the optimal combination of non-pharmaceutical, non-surgical interventions for the management of osteoarthritis (OA) and osteoporosis (OP) in older adults. We have analyzed important clinical outcomes including pain and physical functions, and our analysis suggests that the best combination of interventions for reducing knee and hip pain are stretching and exercise in an aquatic medium, and optimal pathways for improving physical function are stretching and aerobic exercises.

“With support from the Labarge Initiative, we have identified an optimal combination of complex interventions that is a relatively inexpensive and sustainable alternative to drug therapies and surgery for older adults who have or are likely to develop osteoporosis or osteoarthritis.”

Joseph Beyene

IMPACT

Labarge-funded researchers have created **42 new collaborations and partnerships**, and **60 evidence-based rehabilitation protocols**.



Joseph Beyene



Marla Beauchamp

Pilot study of a tailored home balance exercise program for reducing falls in older adults with chronic obstructive pulmonary disease

INVESTIGATORS

Marla Beauchamp
Dina Brooks

Roger Goldstein
Stewart Pugsley

Julie Richardson

Chronic obstructive pulmonary disease (COPD) is an age-dependent respiratory condition affecting approximately 1.5 million Canadians. While respiratory impairment is the hallmark of the disease, people with COPD also have significant balance problems and a high risk of falls. Annual fall rates in COPD are estimated to be up to five-fold higher than in older adults and are linked with an increased risk of injury and death. This research project continues to explore the feasibility and preliminary effects of a six-month home balance exercise program for reducing falls in older adults with COPD. The project is in its second year and recruitment is more than 50% complete. We expect this study to be completed by Fall 2018. This pilot study has informed the design of a recently initiated international multi-centre trial of fall prevention for older adults with COPD who are at risk of falling, and has given our team the opportunity to embark on the first study of home-based fall prevention in older adults with COPD.

“This study is investigating the feasibility and preliminary efficacy of a tailored home balance exercise program for reducing falls in older adults with COPD.”

Marla Beauchamp

IMPACT

Labarge funding has provided me with the opportunity to develop and pilot test an entirely home-based fall prevention program for older adults with COPD who are at high risk of falls; this led to an international multi-site randomized controlled trial funded by the CIHR. – *Marla Beauchamp*

TAPER-F: Team approach to polypharmacy evaluation and reduction

INVESTIGATORS

| | | | |
|---------------|------------------|-----------------|-----------------|
| Dee Mangin | Cathy Risdon | Daria O'Reilly | Peter Götzsche |
| Lisa Dolovich | Julie Richardson | Kiska Colwill | Johanna Trimble |
| Gina Agarwal | James Gillett | Jane Jurcic | Alan Cassels |
| Anne Holbrook | Mat Savelli | Scott Garrison | William Brown |
| Henry Siu | James McCormack | Barbara Farrell | |

Polypharmacy in older adults is associated with mobility-related functional decline, increased falls, hospitalization, institutionalization, impaired cognition, and reduced quality of life. A higher drug burden has negative associations with bathing, dressing, bladder function, transfers, mobility and stair climbing. As part of the efforts to reduce harm related to overmedication, the term “deprescribing” has entered common use. However, there are currently few patient-focused programs in place to review medication in older adults with a focus on discontinuing unnecessary drugs or individualized dose reduction. Our vision is to develop a process which would become part of routine prevention.

This study examined the feasibility of implementing a structured clinical pathway for medication discontinuation in the primary care setting (TAPER). The pathway is implemented by the primary care team of pharmacist and family physician along with patient input and is supported by electronic decision support tools. We tested for signals that such a pathway is effective in reducing the number or dose of medications in older adults. Findings indicate successful medication reduction occurs, and adverse drug effects are detected. This study helped secure funding from the Canadian Institutes of Health Research (CIHR) to conduct a randomized controlled trial to examine the effectiveness of TAPER.

“Support from the Labarge Initiative led to our team securing funding for a large randomized controlled trial from CIHR in which we will test in detail the effects in a large patient sample on medication burden, on patient health outcomes and on health care utilization and costs.”

Dee Mangin



From left to right:
Dee Mangin,
Jenna Parascandolo,
and **Sherrie Orr**



From left to right:
Meghan McConnell,
Karin R. Humphreys,
and **Karen Saperson**

A new screening tool for cognitive impairment

INVESTIGATORS

Karin R. Humphreys

L. Kathleen Oliver

Meghan McConnell

Karen Saperson

It is critical to be able to easily and sensitively screen older adults for mild cognitive impairment to identify who might be at risk for dementia onset. Our team has developed and tested a simple, easily administered picture naming test based on psycholinguistic science to see if it was a sensitive screening tool that was also more reliable and less confronting than some current tools. Our tool was shown to be more sensitive than the tests currently in use, and also exhibits strong reliability. The test would best be used to identify mild cognitive impairment that precedes dementia of the Alzheimer's type rather than vascular dementia. We are now working with researchers at Georgia Technical University to pool our data and look for more specific markers of vocabulary decline.

"Funding from the Labarge Initiative has allowed us to conduct applied psychological scientific research that can help to improve cognitive screening for older adults experiencing mild cognitive decline."

Karin R. Humphreys

Preventing hip fractures in older adults by mapping subject-specific finite element models

INVESTIGATORS

Cheryl E. Quenneville

Hip fractures are a significant cause of morbidity for older Canadians, with approximately 54% of women over 50 sustaining an osteoporotic fracture in her life. Clinically, osteoporosis (and fracture risk) is assessed using t-scores, which have been shown to be insufficient for this purpose. This project has focused on using standard clinical bone scans and advanced numerical modeling techniques to better understand what factors influence a person's risk of injury, and allow us to identify those who need protective measures. Twenty-four cadaveric femurs have been scanned using both 2D and 3D methods, and are being subjected to impact testing representative of falling on a hip. The strain data from these experimental tests will serve to validate the subject-specific numerical models, and provide important information about fracture initiation and risk. The outcome of the current research will be a program that can better assess a person's fracture risk (from falls), thus improving the resilience and mobility of aging Canadians.

"The Labarge Initiative has advanced our research efforts to prevent devastating hip fractures in older adults by better identifying those at greatest risk for these injuries via a novel approach to analyzing standard clinical scans."

Cheryl Quenneville

IMPACT

The Labarge funding allowed me to expand my program of study into a new application for my research, as well as to establish new collaborations. I just submitted my first CIHR Project Grant application, focused on continuing the research started using the Labarge funds. – Cheryl Quenneville



Cheryl E. Quenneville



From left to right:
Susannah Watson,
Sarah Neil-Sztramko,
Julie Richardson,
Maureen Dobbins,
and **Jenna Smith**

Evaluating the impact of the McMaster Optimal Aging Portal on knowledge, behavioural intentions and health behaviours related to physical mobility

INVESTIGATORS

Maureen Dobbins
Sarah Neil-Sztramko

Julie Richardson
Jenna Smith

Susannah Watson

The McMaster Optimal Aging Portal (the Portal) was launched in 2014 to increase public access to trustworthy health information. The Portal helps readers to access evidence-based resources, identify trustworthy messages, and understand scientific findings. Through this study, we aim to understand whether or not using the Portal changes what people know and do to stay healthy and mobile. We have randomized 510 individuals across Canada to a 12-week intervention or control group. The intervention featured tailored weekly email alerts providing information about maintaining and improving physical mobility, as well as a study-specific hashtag for Twitter and Facebook. We have collected end of study data from participants, and 31 individuals have taken part in in-depth interviews to provide richer insight into their experience with both the study and the Portal itself. We will be examining the results after completion of the 3-month follow-up data collection in late 2017.

“Funding from the Labarge Initiative has helped us to conduct the first formal evaluation of the McMaster Optimal Aging Portal to understand the impact it may have on the health of users.”

Sarah Neil-Sztramko

IMPACT

These funds have provided the starting point for a stream of research that will help to more thoroughly understand the impact of the Portal on users’ health behaviours and potentially health outcomes. – *Sarah Neil-Sztramko*

Optimal prescribing to enhance mobility among seniors: A GeriMedRisk-TAPERMD collaboration

INVESTIGATORS

| | | | |
|--------------|---------------|------------------|------------------|
| Joanne Ho | Gordon Guyatt | Julie Richardson | Kristina Frizzle |
| Dee Mangin | Anne Holbrook | Justin Lee | |
| Andrew Costa | Reza Mirza | Lehana Thabane | |

In Canada, the burden of polypharmacy and mobility impairment is much higher in long-term care residents, therefore this group potentially stands to gain the most from reduction in polypharmacy. This study extends our work in testing the effectiveness of a structured clinical pathway for medication discontinuation in primary care (TAPER) to a long-term care setting. We are examining the feasibility of implementing the TAPER program in a long-term care setting, to see whether there are signals that impairments of mobility and function improve if we reduce polypharmacy. We have partnered with a long-term care facility in Brampton, ON and have linked with GeriMedRisk to provide back-up advice as needed. We have completed the co-development of operational steps for implementation of the pathway and have now tested on four (of 80) participants. We will complete data collection by the end of 2017.

“Our team has tested a structured clinical pathway for reducing the burden of medications aimed at improving mobility and quality of life for residents in long-term care. This is vital work, as residents in long-term care stand to experience the greatest impact from polypharmacy reduction. The results of this feasibility study provide the crucial step to gain funding for a pan-Canadian study.”

Dee Mangin

IMPACT

Funding from the Labarge Initiative allowed GeriMedRisk to launch its interdisciplinary geriatric clinical pharmacology service, empowering clinicians to optimize prescribing to their older patients through service and knowledge translation. – *Joanne Ho*



Dee Mangin
and **Joanne Ho**



From left to right:
Rebecca Ganann,
Alfonso Iorio,
Cynthia Lokker, and
Stephen J. Gentles

Co-design and production of a user-optimized communication toolbox for delivering research evidence to older adults

INVESTIGATORS

Alfonso Iorio
Rebecca Ganann

Stephen J. Gentles
Ruta Valaitis

Cynthia Lokker

Appropriately tailored health information to support older adults in maintaining their health and living well in the community is essential to address changing population demographics and to support primary health care, yet the optimal approach for packaging this information remains undefined. This study engaged older adults in co-designing communication strategies that broadly consider their needs in delivering high quality health content. The purpose of this study was to: 1) Determine user needs and approaches used to access trusted health information; 2) Work with users to develop a new communication toolbox; and 3) Evaluate the impact of user engagement in the co-design process used in this project. Eighteen older adults, working in pairs, were asked to develop realistic descriptions of potential users and how they might access health information as a means to elicit novel user-centered ideas for communication. The results were analysed and used to develop a communications toolbox to create non-electronic and multi-modal electronic approaches to accessing relevant, concise, clear language evidence summaries with consideration for accessibility and privacy.

“Funding from the Labarge Initiative has fostered a better understanding of the information needs of aging Canadians and how they access trusted health information to support living well in the community as they age. This study can inform knowledge translation approaches used by researchers and providers targeting older adults and their caregivers.”

Rebecca Gannan

Dancing for cognition and exercise pilot randomized controlled trial

INVESTIGATORS

Alexandra Papaioannou
Courtney Kennedy
George Ioannidis
Richard Sztramko

Dafna Merom
Laurel Trainor
Matthew Woolhouse
Amanda Grenier

Sharon Marr
Christopher Patterson

Dance isn't just fun – it's good for your health! GERAS Centre and the YMCA of Hamilton/Burlington/Brantford recently launched the Dancing for Cognition and Exercise (DANCE) study to pilot the feasibility of a dancing program for older adults with early cognitive and mobility impairments. Funded by the Labarge Initiative and the Alzheimer's Society, participants attend a one-hour class, twice weekly for 15 weeks. In addition to understanding older adults' experience with the program, participants complete cognitive, physical and social function measures before and after the intervention.

The results of this pilot project will contribute to our understanding of the needs and capabilities of older adults and the importance of mind-body activities. The strong partnership between GERAS Centre, YMCA and the Alzheimer's Society will also ensure knowledge into action and future program sustainability both within our local area and across Canada.

“Funding from the Labarge Initiative has enabled us to examine a community-based dance program (Dancing for Cognition and Exercise) that incorporates mind-body training to enhance the social, cognitive and physical function of older adults with early cognitive and mobility impairments.”

Alexandra Papaioannou



From left to right:
**Courtney Kennedy,
Alexandra Papaioannou,
Justin Lee, Sarah Radcliffe,
George Ioannidis, and
Aidan Giangregorio**



**Martin von
Mohrenschildt and
Judith M. Shedden**

Staying mobile: Age-related enhancement of multisensory integration

INVESTIGATORS

Martin von Mohrenschildt

Judith M. Shedden

For older drivers, maintaining safe, independent mobility is vitally important for self-sufficiency, quality of life, and self-esteem. How do good drivers adapt to maintain safe performance on the road as they age? Can we identify key aspects of behaviour to improve adaptation for other drivers? Our team uses physiological and brain-imaging techniques in a multisensory (visual, auditory, and other) driving simulator to examine how age-related enhancement of multisensory integration may be critical for older drivers. We examine behavioural and brain responses while drivers navigate through familiar and unfamiliar spaces, interact with pedestrians and other vehicles, and respond to physical motion such as acceleration, turning rotation, and bumpy roads. A better understanding of the neural and behavioural changes involved in driving and aging will lead to strategies to maintain mobility for aging drivers, maintaining self-sufficiency, self-esteem, and quality of life.

IMPACT

The Labarge funding has made a big difference in terms of our program of study, expanding our interests from neural basis of multisensory integration and navigation while driving to examining how these processes change as we age. We would not have expanded our research in this way without support from the Labarge Initiative. – *Judith Shedden*

“Funding from the Labarge Initiative is helping us understand age-related neural and cognitive changes so that we can develop strategies for maintaining safe driving, mobility, and self-sufficiency for seniors.”

Judith Shedden

Improving confidence and behind-the-wheel skills: Evaluating the feasibility of an older driver-health promotion intervention to optimize safe mobility

INVESTIGATORS

Brenda Vrkljan Jessica Gish Lauren Griffith

Our industry partner on this project is *Young Drivers of Canada*® who is recognized as a leader in retraining across the age continuum. This past year we were able to solidify our partnership as well as explore existing evidence in this emerging area of research. While much evidence has focused on medical screening of older drivers, our current project emphasizes the need to develop interventions that promote the safe driving skills of older adults. Our discussions this past summer with leading researchers in the field of Transportation and Aging in San Francisco at the International Association of Gerontology and Geriatrics (IAGG) validated the approach undertaken in the current project, which includes older drivers as part of both the design and testing of the proposed retraining program that will take place in the coming months.

“Funding from this initiative has catalyzed opportunities to open a dialogue with key stakeholders (including industry) that will keep older Canadians driving safely for as long as possible.”

Brenda Vrkljan



From left to right:
Jessica Gish,
Brenda Vrkljan, and
Lauren Griffith

The **McMaster Optimal Aging Portal** has seen significant growth in the number of users, endorsements and overall visibility in the past year. Older adults, caregivers and health professionals from around the world are visiting the Portal as a trusted resource for credible, evidence-based information about healthy aging.

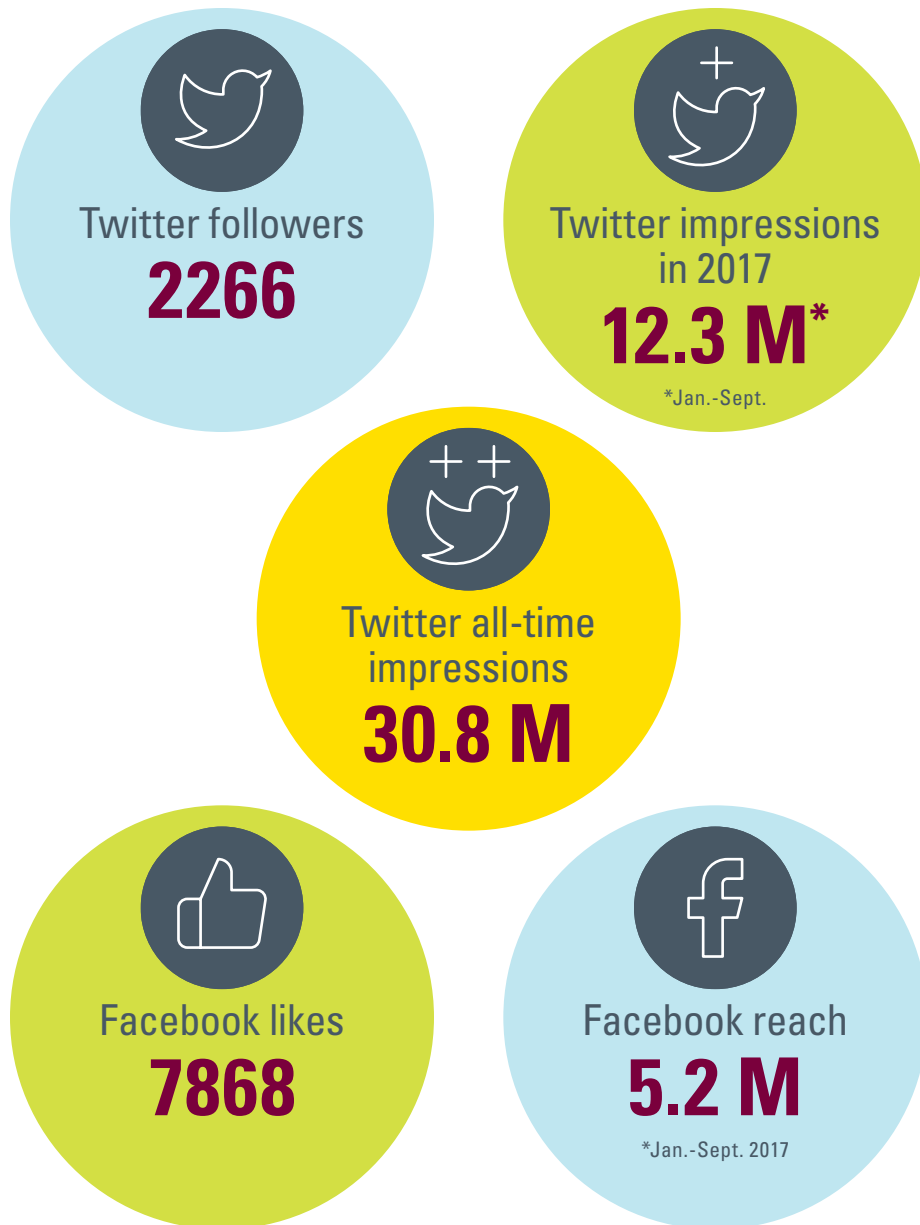
Portal engagement



Social Systems Evidence and Portal content on social aspects of aging

The Labarge Initiative also contributed funds to support the connection of Social Systems Evidence (SSE), the newest database at the McMaster Health Forum, to the McMaster Optimal Aging Portal. We are excited about the upcoming launch of SSE, the world's most comprehensive, continuously updated, free online repository of pre-appraised, synthesized research for social-system policymakers and stakeholders. We are thankful to our collaborators (Michel Grignon and colleagues) in the Faculty of Social Sciences and to our funders, the Labarge Optimal Aging Initiative, the Provost's Strategic Alignment Fund, the Faculty of Health Sciences and the McMaster Institute for Research on Aging. The addition of citizen-focused content about social aspects of aging (such as housing, transportation, and community and social services) will complement the high-quality information the Portal already provides about the health aspects of aging, and will enhance the Portal's ability to support citizens to make informed decisions as they age. It will also raise the profile of McMaster provincially, nationally and internationally as the 'go to' place for broad-based, multidisciplinary evidence-based information on optimal aging.

Social media



Content





Larkin Lamarche

Pairing nursing and medical clerk students with experienced volunteers to visit older adults in their homes

INVESTIGATORS

Ruta Valaitis
Heather Waters

Doug Oliver
Larkin Lamarche

Lisa Dolovich

The research team has piloted and evaluated the impact of a unique practical learning experience outside the traditional clinical setting. In this project, nursing and medical clerkship students are paired with experienced Health TAPESTRY community volunteers to visit older adults in their homes. There, they collect information about the older adults' health goals, risks, and needs to share with their primary health care team. Students then join the care discussion at the primary care clinic and get first-hand experience of the inner workings of interprofessional primary care team communication and care planning. A total of 20 students completed the placement. Surveys were completed before and after the placement to measure the students' confidence in their ability to perform and their attitudes toward older adults. Students also participated in focus groups after their placement. Noted positive impacts included learning about an interprofessional approach to care, exposure to primary care as a placement setting, gaining new perspectives about older adults, particularly around mobility and resilience, and the expanding abilities to help clients navigate and learn about community resources. These initial findings support the need and benefit of integrating nursing students into a primary care placement, of facilitating exposure to older adults in the community, and of involving medical trainees in health prevention home visits and interprofessional team work.

"This experience highlighted the incredible benefit of having nursing students gain practical experience visiting older adults in their homes and transmitting the information learned to the primary healthcare team. The experience also provided medical trainees with an excellent opportunity to focus on wellness and prevention in older adults"

Lisa Dolovich

Patient/caregiver engagement in community-based research on older adults

INVESTIGATORS

Ruta Valaitis
Carrie McAiney

Maureen Markle-Reid
Rebecca Ganann

The goal of the Aging, Community, and Health Research Unit (ACHRU) is to work together with older adults who have multiple chronic conditions and their family caregivers to promote optimal aging at home. This is achieved by collaboratively designing and evaluating new and innovative community-based health care interventions to improve access to health care, quality of life, and health outcomes in this population, while reducing costs. While patients and family caregivers themselves increasingly expect to participate in decision-making and problem-solving with respect to matters affecting their health, their engagement in research design, implementation and evaluation is a relatively new concept.

Supported by Labarge funding, ACHRU researchers will continue to evaluate the process and impact of older adults' and family caregivers' engagement as partners on research teams in order to better understand how this approach has a positive influence on outcomes.

In addition, ACHRU research team members are expanding capacity in this important area of study amongst researchers, patient/caregivers and community partners, and in graduate and undergraduate education. Through valuable insights gained through this project, ACHRU continues to expand the integration of meaningful public engagement in each of its current as well as future studies.

"Evaluating the process and impact of engagement are the fundamental goals of this work to inform researchers and members of the public who are interested in investing in meaningful patient- and people-centred research."

Ruta Valaitis



Aging, Community and Health Research Unit Co-Investigators: (back row from left to right): **Drs. Carrie McAiney, Rebecca Ganann, Maureen Markle-Reid** (front row from left to right): **Drs. Jenny Ploeg, Ruta Valaitis** (study lead)

A partnership between the McMaster Optimal Aging Portal and the Bachelor of Health Sciences Program

The Portal team engaged BHSc students by introducing them to the components of the McMaster Optimal Aging Portal and supporting them in undertaking Portal content creation through purpose-built nano courses. In partnership with the McMaster Institute for Research on Aging (MIRA), we are currently exploring innovative ways to use the content developed for the nano courses and adapt it to other formats such as videos (through a potential partnership with the Paul R. MacPherson Institute for Leadership, Innovation and Excellence in Teaching) as well as to expand its use to other programs within McMaster and beyond.



Labarge Curriculum project

The McMaster Toolkit for Working with Older Adults was developed by an interprofessional group of researchers and clinicians at McMaster University. The goal of the Toolkit is to build competence in older adult care by providing instruction and resources focused on increasing comfort levels and enhancing communication skills. The Toolkit is free to use, and consists of an online course, a trigger video to prompt group discussion, and a website with additional resources. The Toolkit can be found at: <http://machealth.ca/programs/mcmaster-toolkit/>.

The Toolkit will be incorporated into a new initiative, MacPAGE, which is a learning portfolio for health professional students that is being developed by Andrew Costa to stimulate and recognize student interest in geriatrics. The initiative will be piloted in the medical school at the Waterloo campus. The portfolio has been developed so that it can be adapted for other programs at the University.

There are also ongoing discussions with the Centre for Continuing Education about incorporating the Toolkit into other resources under development.



The **McMaster Institute for Research on Aging** (MIRA) launched in fall 2016 with the mandate to serve as shared infrastructure to support aging research, education, collaboration and community outreach at McMaster University. The Labarge Centre for Mobility in Aging is MIRA's first focused centre.

Key Outcomes for MIRA's first year include:

Growth in membership from **35 to 83** members across all Faculties

Funded **two** post-doctoral fellows

Institute for
Research on Aging



Signed new partnership agreements with **five** organizations

Established governance structures, including International Scientific Advisory Committee



Over **450**
newsletter
subscribers

Established Twitter
following: growth
from **152** to **527**
followers (approx.
250% growth)
in **one** year.

Total social
media reach:
2,834,437

"MIRA provided me with
several opportunities
for personal growth and
portfolio development. I
was given the opportunity
to apply my skills in
an interdisciplinary
environment. I thoroughly
enjoyed every aspect of
the internship, and looked
forward to coming to my
placement every day."

Adriana Skaljin

26 pieces of media
coverage: readership
equaled **245 million**,
with an estimated
388,000 coverage
views and **2.87K** in
social media shares.

Two
communications
interns



The **Labarge Centre for Mobility in Aging** (LCMA) was launched in fall 2016 with the goal of amplifying, facilitating and financially supporting research projects focused on the broad theme of mobility in aging. In its first year, the Centre focused on developing processes and governance for allocating resources, and establishing the infrastructure necessary to achieve its mandate.

The LCMA now employs 6 staff members with complementary expertise focused on developing new interdisciplinary partnerships, identifying research opportunities and funding sources and increasing awareness, both internally and externally, of McMaster's strength and research potential.

The Centre is positioned within MIRA, which allows it to gain efficiencies through shared staff, space and governance structures. Together, the LCMA and MIRA are well-positioned to respond to opportunities and enhance the lives of today's aging population.

Exploration Grants

Exploration grants offer the opportunity to conduct collaborative and interdisciplinary research focused on mobility in aging. These grants are intended to stimulate new collaborations (**planning grants**) and allow researchers to collect preliminary data to support future proposals for full-scale studies (**catalyst grants**).

Planning Grants

Funding for planning activities this year has primarily focused on developing new relationships through networking and brainstorming events.

Catalyst Grants

The projects on the following pages were supported by seed funding of \$228,817 through the LCMA as well as matching funds of \$70,000 from other sources.

A comprehensive framework for the conceptualization of physical mobility as an essential construct to address in both the assessment and treatment of older adults

INVESTIGATORS

| | | |
|-----------------|-----------------------|---------------------|
| Ayse Kuspinar | Carol Bassim | Carrie McAiney |
| Chris Verschoor | Dawn Bowdish | Sarah Neil-Sztramko |
| Lori Letts | Vanina Dal Bello-Haas | Julie Richardson |
| Ruta Valaitis | Johnathan Dushoff | Brenda Vrkljan |
| Ellen Amster | Jocelyn Harris | |

Physical mobility is one of the most important contributors to well-being and health-related quality of life as we age. It is critical to remain socially engaged, reduce the risk of mental and physical deficits, and prevent institutionalization. However, the trajectory of mobility impairment in older adults is complex, influenced by factors belonging to biological, cognitive, behavioral, psychosocial and environmental systems. As such, a keen understanding of how these systems are related will be required in order to design effective, multifactorial interventions to preserve physical mobility into old age. Our interdisciplinary

team aims to use a mixed-methods approach to build and validate a model of physical mobility in older adults. First, we will develop a model of physical mobility using data from the Canadian Longitudinal Study on Aging. Second, we will validate this model by exploring the perceptions of older adults regarding mobility and impairment.

"Funding from the Labarge Centre will be instrumental in helping Canadians better understand the complexities of mobility impairment as we age."

Chris Verschoor

Cognitive vs. chronological age as barriers to using wearable activity monitors in older persons

INVESTIGATORS

| | |
|---------------------|-----------------|
| Maryam Ghasmeaghaei | Stuart Phillips |
| Manaf Zargoush | Reza Samavi |

Daily physical activity is a strong independent predictor of morbidity, mortality, and independence. The use of smart devices (e.g., Fitbit) has the potential to positively affect older adults' quality of life and decrease the use of expensive health resources by encouraging and facilitating physical activity. However, some members of this demographic group have the perception that they experience high disability (i.e., cognitive and physical limitations) that makes it difficult for them to independently utilize smart devices. Moreover, individuals' self-perception of age (i.e. perceived age) has been found to be a better predictor of their behaviors towards using technology than their chronological age. This interdisciplinary project has gathered scholars from several disciplines to explore the effects of older adults' perceived age on their disability perceptions, which can influence their adoption of smart devices. A combination of qualitative and quantitative methods will be utilized to achieve the stated objective.

"The findings will help system designers to understand some of the main design elements that are necessary to be considered while designing smart devices for older adults."

Maryam Ghasmeaghaei

Assessing and improving mobility in older adults using a smart knee monitoring system

INVESTIGATORS

Jamal Deen Khaled Hassanein Tapas Mondal David Cowan

Healthy aging is a growing socio-economic concern in many societies including Canada. Maintaining optimal mobility with relative ease and freedom of movement is key to healthy aging. Poor mobility eventually leads to lack of independence, declined ability in conducting daily activities, and deteriorating mental health and quality-of-life. Poor mobility coupled with aging leads towards rapid degradation of the musculoskeletal system in older adults, thus making them more vulnerable to falls and fall-related bone and joint injuries. The knee joint, being a primary bearer of the body weight, plays a vital role in maintaining mobility. Therefore, monitoring the knee joint can potentially provide important quantitative information related to declining mobility. This project involves expertise from the engineering, medical and business disciplines to design, implement, test and validate a simple, easy-to-use, cost-effective, non-invasive and unobtrusive wearable wireless knee monitoring system; and interpret the analyzed data to extract useful information about the overall mobility status of the individual.

"Funding from the Labarge Centre will contribute to our development of the smart wearable knee monitoring system as a tool for monitoring, assessing and improving mobility in older adults."

Jamal Deen

The ultrastructure of osteoporotic bone and its medical implications in aging populations

INVESTIGATORS

Kathryn Grandfield Jonathan Adachi Janet Pritchard
Henry Schwarcz Justin De Beer Alexandra Papaioannou

Osteoporosis is a chronic condition that affects older adults. It is characterized by significant loss in bone mineral density, and often associated with increased fracture frequency which is a contributing factor to decreased mobility in older adults. However, the origin of this decreased bone density at the nanometer level of bone remains unknown. This project combines engineers, basic scientists, clinicians, geriatricians and orthopaedic surgeons to explore the locus for changes in osteoporotic bone at the nanoscale, using advanced high-resolution microscopy. The team will also investigate the ways in which a better understanding of this osteoporotic bone structure at the nanoscale impacts current therapeutics, implant design and fracture prevention.

"Funding from the Labarge Centre will enable us to probe osteoporotic bone structure at unprecedented levels with advanced microscopes. This will shed new light on the disease and possibilities for treatment."

Kathryn Grandfield

ABLE: Arts-based therapies enabling longevity for geriatric outpatients

INVESTIGATORS

Paula Gardner
Patricia Hewston

Alexandra Papaioannou
Courtney Kennedy

Laurel Trainor
Rong Zheng

As our senior population grows, frailty becomes an urgent issue, which can result in physical deconditioning and expedite pathways to reduced physical and mood health and social participation. Art, music and game play, however, are powerful therapeutic activities that can motivate participation in physical activity and may have synergistic effects, enhancing cognitive, physical and emotional health. Our interdisciplinary team, consisting of scholars in aging, health, engineering and media technologies has created the project “ABLE” to tackle this problem. ABLE proposes to create a range of arts-based movement experiences using technologies (e.g. Xbox Kinects) that encourage fragile seniors to engage in therapeutic exercises.

The movements will produce visuals (on a screen) or musical sequences in multi-player and cross-generational games. We hope that the seniors’ pleasure in engaging in these art based therapies will work to encourage their consistent, long-term commitment to the therapy. In this first stage the project aims to advance the design of the Movement and Biometric Feedback Platform (“the Platform”) to produce artistic expression, gaming, movement, and interactions in co-design with frail seniors and examine how the Platform impacts cognitive, physical, and emotional parameters in older adults.

"Funding from the Labarge Centre will enable us to work with frail geriatric patients in this co-design project, to together create unique arts-based therapies and innovative tools that encourage the patients’ pleasure and thus compliance in therapeutic exercise."

Paula Gardner

Implications of driving cessation amongst Canada’s older adults living in rural and small urban communities

INVESTIGATORS

Bruce Newbold
Darren Scott

Jim Dunn
Amanda Grenier

Kai Huang
Brenda Vrkljan

For older adults, the personal automobile is the preferred travel mode choice. For those older adults in rural areas or small towns where transportation options are more limited, however, aging and driving cessation bring particular challenges. Understanding how the transportation needs and behaviours of Canada's aging population changes according to their specific needs, relative location, and stage in the life course is important as they age through retirement and approach and complete driving cessation. This project brings together leading experts in aging, health, and driving to examine changing travel behaviours as cessation is approached and completed, with a focus on older adults in rural areas and small towns, and to investigate the health, social and economic implications of driving cessation as individuals approach and complete driving cessation in rural areas and small towns.

"Funding from the Labarge Centre will contribute to a more nuanced understanding of the challenges older adults living in rural areas and small towns face when it comes to their travel options and behaviours, with research outcomes enabling improved transport planning."

Bruce Newbold

Meanings of (im)mobilities: A 'new mobilities' perspective

INVESTIGATORS

Amanda Grenier
Meridith Griffin

Gavin Andrews
Jim Dunn

Alexandra Papaioannou
Rob Wilton

The objective of this cross-Faculty study led by researchers at the Gilbrea Centre is to reach beyond the traditional understandings of mobility to test out fresh interpretations offered by a 'new mobilities' perspective. In the coming year, we will conduct a case study of mobility that is comprised of interviews and observations with 15 participants. The participants will be selected from three groups who have various experiences of mobility, impairment, and immobility. The sample will include five active older adults, five people aging with a disability, and five older people who are considered 'frail'. The responses of the participants will be compared and contrasted to reveal similarities, variations and intersections between the groups, and will be examined in comparison with existing understandings, including the binary categories of mobility and immobility. Overall, the research will explore the extent to which we are witnessing a shifting state of knowledge on mobility (and immobility), and whether the new mobilities perspective and the case study method hold merit for further development.

"Funding from the Labarge Centre will help to improve the well-being of older adults by advancing interdisciplinary knowledge on mobility that is inclusive of understandings of social relations, power, and complex experiences of mobility."

Amanda Grenier



Catalyst
Grant recipients **Lori Letts, Chris Verschoor, Ayse Kuspinar, Vanina Dal Bello-Haas, Ruta Valaitis, Ellen Amster** and **Sarah Neil-Sztramko** present the ideas driving their interdisciplinary project during the Catalyst Grant presentation event on October 12.



Building Capacity

The Labarge Centre for Mobility in Aging has also invested in the development of the next generation of researchers in aging. Activities include awarding graduate scholarships, creating an active and engaged Graduate Student Network and forming a Training and Capacity Working Group that will explore ways to build capacity among students in the field.

Graduate Scholarship Recipients

This year's recipients are **Sydney Valentino**, a Master's student in Kinesiology in the Faculty of Science, and **Michael Kalu**, who is pursuing a Ph.D. in Rehabilitation Science within the Faculty of Health Sciences.

Both recipients were selected for their demonstrated high academic achievements, proven interest in aging and mobility research, ambition to collaborate with other disciplines, and participation in research activities that show potential to benefit older adults.



Valentino spent the last two years working alongside Dean of Science Maureen MacDonald in her Vascular Dynamics Lab. There, students and researchers examine the response in arteries to changes in physical activity. Valentino will continue her work in the lab developing a stair climbing intervention for cardiac rehabilitation.



Kalu, a trained physiotherapist from the University of Nigeria, has devoted his prior academic career to studying mobility among older

populations. Having extensive clinical experience, Kalu observed a decline in the mobility of older adults as they move from one care setting to another. That observation formed the basis for his current Ph.D. thesis, which will focus on mobility enhancement for older adults across care transitions in partnership with his supervisor, Vanina Dal Bello Haas in the School of Rehabilitation Sciences.



Age Friendly University Network

McMaster University has joined the international Age-Friendly University (AFU) network, a global body made up of higher education institutions that are committed to being more accessible to older adults.

The AFU network was launched in 2012 by Dublin City University (DCU) in Ireland as a way to assist in addressing the challenges and opportunities associated with the world's aging population. It builds on the World Health Organization's Age-Friendly Communities Initiative, which encourages all communities to shape their physical and social environments to support people of all ages.

McMaster University is one of just two Canadian universities to join the AFU network to date. Other members include the University of Manitoba, Arizona State University, University of Pai Chai in South Korea, the University of Massachusetts in Boston, and Florida South University Institute of Longevity, among others.



Members of the Stakeholder Committee:
(bottom from left) **Laura Harrington, Mary Lou Tanner, Marie-Lison Fougère, Brenda Vrkljan, Jennifer Heisz, Mr. and Mrs. Weisz;** (top) **Jeanette O'Leary, April Morganti, Liz Conti, Anju Joshi.**





Partnership with the Walrus Foundation

In October 2017, MIRA and the Labarge Centre partnered with the Walrus Foundation to organize a high profile, public event on the topic of mobility. The event was at capacity with 250 in attendance, and provided the opportunity for MIRA to raise the profile of McMaster researchers in the field through advertising, news stories, and social media attention. The eight speakers at the event provided thought-provoking presentations focused on varying perspectives of mobility in aging.





From left to right:
Nick Kates, Principal Investigator for McMaster,
Suzanne Labarge, and
Tarek Rajji, Principal Investigator at CAMH

CAMH-McMaster collaborative care initiative for mental health risk factors in dementia

INVESTIGATORS

Tarek Rajji
Nick Kates

Karen Saperson
Carrie McAiney

Pallavi Dham

Researchers from the Department of Psychiatry and Behavioural Neurosciences at McMaster University and the Centre for Addiction and Mental Health (CAMH) are working together to examine the impact and implementation of an evidence-based care pathway in primary care settings for patients with mental health risk factors for dementia (i.e., depression, anxiety and mild cognitive impairment). Three primary care practices in Toronto and one large practice in Hamilton have been recruited to participate. Participants for the intervention and comparison groups are currently being recruited, with data being collected at baseline and 6, 12, 18 and 24 months. Information on the implementation of the interventions in each site is also being

"In a very short period of time, a remarkably productive collaboration has evolved that has enabled us to integrate the strengths and expertise of our two centres. We have been able to develop an innovative program that will lead to the earlier identification of increasingly common problems amongst seniors, the development of specific interventions to improve an individual's well-being and participation in their community, and learning that will enhance the care that individuals with depression, anxiety and mild cognitive impairment receive from their primary care teams."

Nick Kates

Raymond and Margaret Labarge Chair in Research and Knowledge Application for Optimal Aging

The Raymond and Margaret Labarge Chair in Research and Knowledge Application for Optimal Aging was established in 2006, thanks to a generous donation from Suzanne Labarge, with the goal of contributing significantly to the body of scholarship on research and knowledge application for optimal aging. Its inaugural recipient, Dr. Parminder Raina, has held the position for the last 10 years.

One of Dr. Raina's most significant contributions is his leadership of the Canadian Longitudinal Study on Aging (CLSA), which is one of the largest and most comprehensive cohorts on aging in the world, with data from 50,000 Canadians being collected for the next 20 years. In 2016, the first data from the CLSA became available, and more than 100 research teams (including several members of the McMaster Institute for Research on Aging) have now been approved to use this data. The CLSA is also being used by federal, provincial and municipal departments to inform policy frameworks to promote the health of older adults.

Moreover, Dr. Raina's important scientific contributions in areas such as dementia, heart failure and diabetes continue to be published in high-impact journals, such as *Annals of Internal Medicine*, *The Journal of American Medical Association (JAMA)* and *Canadian Medical Association Journal (CMAJ)*, among others. These projects have resulted in the formulation of practice guidelines for key stakeholders and decision-makers, including evidence reports that are routinely used by primary care physicians in Canada. Dr. Raina regularly participates in national and international governmental agency panels and boards, peer review committees, and has co-developed evidence-based knowledge translation platforms, such as the McMaster Optimal Aging Portal.

Dr. Raina is also the Scientific Director of the McMaster Institute for Research on Aging (MIRA) and its associated Labarge Centre for Mobility in Aging, where he leads more than 80 researchers from all six Faculties to generate ground-breaking discoveries and address gaps in knowledge on aging.



Parminder Raina

"I would like to thank Ms. Suzanne Labarge and her family for establishing the Chair and providing me with an opportunity to develop a world class program of research on aging."

Parminder Raina



BRIGHTER WORLD

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