



A YEAR IN REVIEW

VHA Research Annual Report

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Innovation, Quality,
Best Practice, Research
and Education



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VHA Research is dedicated to fostering curiosity to support research and innovation that advances human welfare, shares new knowledge, and best practices in the home and community.

OUR FOCUS



children with complex medical needs



cognitive impairment



clinical and health services excellence

OUR PEOPLE



DR. KATHRYN NICHOL
Vice President of QBPRES & CNE



DR. SANDRA MCKAY
Director of Research



DR. EMILY KING
Manager of Research Operations



ARLINDA RUCO
Research Associate



SONIA NIZZER
Clinical Research Coordinator II

THE INVESTMENT

Special attention was placed on growing the investment of research dollars and expanding the expertise of our small but mighty team in 2019. This growth created the need for a director of research role and a manager of research operations.

\$2.6

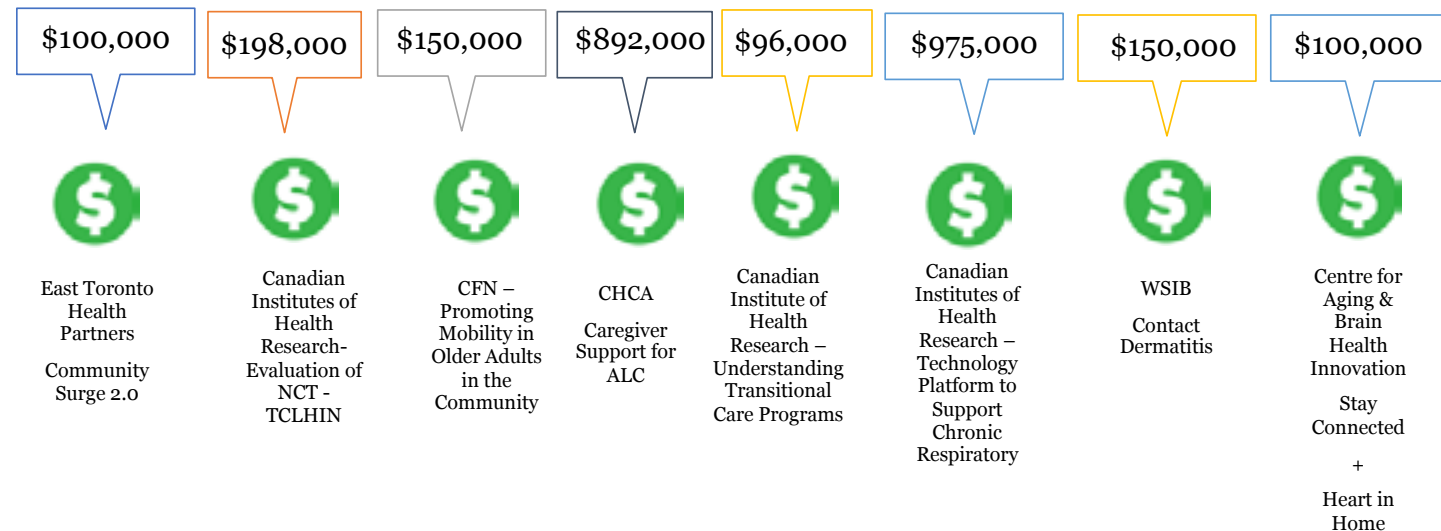
MILLION INVESTED INTO VHA RESEARCH PROJECTS
whereby VHA is a principal investigator & co-investigator

\$975k

LARGEST NEW GRANT FROM CIHR-
Technology Platform to Support Chronic Respiratory

\$96k

SMALLEST NEW GRANT FROM CIHR-
Understanding Transitional Care Programs



THE NUMBERS

29
ACADEMIC TRAINEES

4
RESEARCH FELLOWS
nursing & rehab

3 FUNDED GRADUATE STUDENTS
to support strategic population work

5 RESEARCH ASSISTENTS

89 CO-INVESTIGATORS

3 Manuscripts Published

1
NEW RESEARCH LEADERSHIP POSITION
Director of Research position created and Manager position title change to reflect Manager of Research Operations

18 CLIENT PARTNERS ENGAGED
examples of engagement include: review of application, participating in hiring panels and consultation on new projects

61 RESEARCH PARTNERSHIPS

Research Grants
16 applications submitted
8 awarded

19 Abstracts Submitted

SHARING OUR WORK

VHA Research is committed to knowledge exchange and dissemination of our work within the wider healthcare community through attending conferences, media engagement and publishing manuscripts. Below are some highlights of our activity in 2019.

Invited Speaking Engagements

McKay, S. The View from Here: Reflection on our home care safety improvement collaboratives. Canadian Home Care Association, Mississauga, Ontario; May 2019.

McKay, S. The Intersection of Aging and Innovation. MaRS Health Innovation Week. HealthKick Focus Panel, Toronto, Ontario; April 2019.

Conferences

Edwards, B., Ruco, A. & McKay, S. How to increase physical activity among adults living with cognitive impairment at home. Paper presentation for Canadian Association of Gerontology. Moncton, New Brunswick; October, 2019.

Edwards, B. Safe patient transfers: Principles and techniques with adult clients in the community. Poster presentation for Canadian Association of Gerontology. Moncton, New Brunswick; October 2019.

Lok, J., Chan, J & Wong, M. Best Practice Guidelines: Seeding the Growth of Evidence Informed Decision Making at VHA Home HealthCare. Poster Presentation for RNAO Knowledge Exchange Symposium. Toronto, Ontario; April 2019

Wong, M & Lok, J. Learning what you don't know: Benefits of a multi-modal competency program to support safe, autonomous nursing practice in home care. National Community Health Nurses of Canada Conference, Saint Johns, New Brunswick; May 2019.

Wong, M & Lok, J. Learning what you don't know: Benefits of a multi-modal competency program to support safe, autonomous nursing practice in home care. National Community Health Nurses of Canada Conference, Saint Johns, New Brunswick; May 2019.



Dr. Sandra McKay (center) judges the AGE-WELL National Impact Challenge Startup Edition in Toronto. Photo: Courtesy of AGE-WELL

Manuscripts

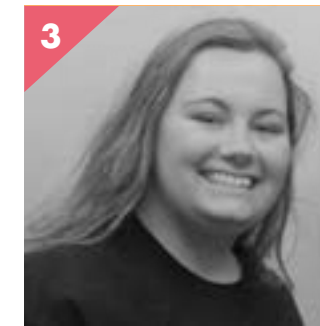
McGilton K, Vellani S, Babineau J, Bethell J, Bronskill S, Burr E, Keatings M, McElhane J, McKay S, Nichol K, Omar A, Puts M, Singh A, Tamblyn Watts L, Wodchis W, Sidani S. Understanding transitional care programmes for older adults who experience delayed discharge: a scoping review protocol – BMJ Open 2019; 9:e032149. doi: 10.1136/bmjopen-2019-032149.

Nichol K, Kudla I, Young V, Eriksson J, Budd D and Holness DL. Testing the joint health and safety committee assessment tool in the education sector - Archives of Environmental & Occupational Health 2019 Apr 16. doi: 10.1080/19338244.2019.1594662.

Nichol K, Copes R, Kersey K, Eriksson J, Holness DL. Screening for Hand Dermatitis in Healthcare Workers: Comparing Workplace Screening with Dermatologist Photo Screening – Contact Dermatitis 2019 Jan 25. doi: 10.1111/cod.13233

CAPACITY BUILDING

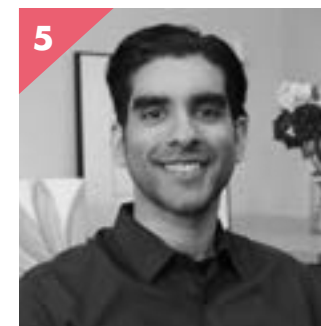
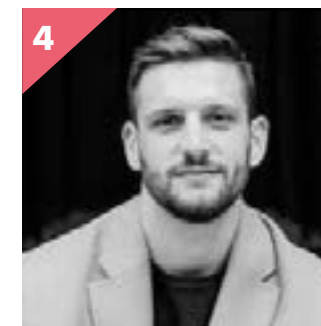
Our efforts to cultivate an internal culture of curiosity at VHA continued in 2019. We increased our engagement efforts across VHA point-of-care providers and created more opportunities for early and junior researchers to build capacity in the homecare sector.



1 **Emilia Cotter**
McGill University

2 **Holly Opara**
Western University

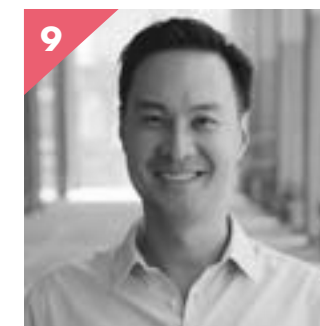
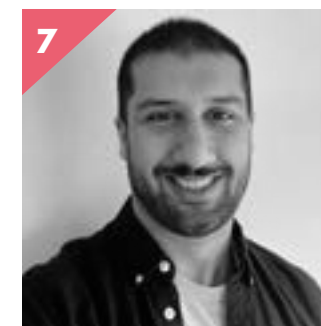
3 **McKenna Mansar**
University of Guelph



4 **Rad Janjic**
University of Toronto

5 **Husayn Murani**
University of Toronto

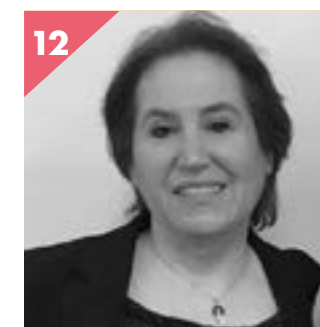
6 **Latha Jaya**
PSW Advisor
Central East Team



7 **Gary Grewal**
Western University

8 **Kristina Smith**
University of Toronto

9 **Todd Tan**
University of Toronto



10 **Alla Yakerson**
York University

11 **Banu Sundaralingam**
OT - VHA Rehab Fellow

12 **Marzieh Moattari**
RN - VHA Nursing Fellow

**RESEARCH
FEATURES**



Inertial Measurement Units, which track personal support worker body motion.

Research In Action

Biometric Research Aims to Reduce Personal Support Workers Injuries

Story By: Tracey Turriff

Personal support work is a physically demanding job. Repeated bending, lifting and stretching are all part of a day's work and, in addition to the potential for sudden acute injuries, "There are cumulative injuries that can happen," says Emily King, VHA's new Manager of Research Operations, who is also a postdoctoral fellow in Kinesiology at the University of Waterloo. "Tiny bits of damage—not really noticeable externally—accumulate over time and weaken the back, for example, leading to chronic pain."

Emily is leading a new VHA-University of Waterloo collaborative research project aimed at reducing work-related Personal Support Worker (PSW) injuries. "PSWs get hurt a lot. Back pain is very common for them. The environments PSWs work in aren't set up for caregiving—they are people's homes—which can make it hard to provide care sometimes," Emily explains. The fact that this care is being provided in private homes also makes it more challenging to reduce injuries. "Other care providers are typically not around, so often no one will notice if a PSW moves their body in a damaging way. The goal of this research is to try to capture the movements the PSW's body is making as they provide regular care."

The study has been designed with privacy in mind. There are no cameras in the client's home and no personal health information is collected. "Our focus is solely on PSW movement," says Emily.

The study uses movement sensors called Inertial Measurement Units that are attached to the PSW's arms, upper and lower back, thighs and lower legs to track the body's motion. Each sensor tracks two modes of data: how fast it is moving in each direction and the acceleration.

Emily arrived at the placement array for the sensors in collaboration with VHA PSWs. "I was chosen as a PSW advisor for Emily," says Latha Jaya, a VHA PSW who has been supporting Emily's work. "Emily used the sensors on me to find out if they fit my body properly and whether I'm able to deliver proper care for the clients with the sensors on. My feedback is helping her to improve the project."

Research In Action

PSWs who choose to participate in the research meet Emily at an off-site location near a client's home prior to a care visit. After completing surveys about how they are feeling that day and a bit about their personal background, PSWs are fitted with the sensors and conduct a brief set of movement exercises to ensure comfort, to orient the sensors, and to synchronize the sensor data before leaving to care for the client.

After providing care, the PSW returns to Emily. "We process the data from the sensors and we have a little stick figure that shows how the PSW's body was moving through the visit. The PSW will look through what the stick figure is doing over time and help us identify what activities they were doing at that point in the visit, such as, 'Oh yes, that's when I was helping



Dr. Emily King (L) with Latha Jaya (R), a PSW advisor supporting the research project

them to get out of bed', or 'that's when we were getting the client dressed.' If we can estimate the postures of the PSWs, then we can work out whether they are in postures that have been linked to musculoskeletal injuries," explains Emily. This phase of the research comes after many steps to develop the research protocol. The study went through a thorough research ethics process to ensure it balanced risks and benefits appropriately. Emily then focused on making sure the sensor system worked properly. "We've been running a validation study in a lab at the University of Waterloo and things are looking good, which leads to the next exciting phase: taking this into the home," she adds.

This research has the potential to answer numerous questions about how PSWs are getting injured. "We believe we have set up a very effective, long-term protocol. There is so much variation in client spaces, client conditions, how PSWs approach providing care... so to understand it all we need to collect a lot of data." The research might shed light on such unknowns as which client characteristics are likely to mean that providing care carries a greater risk for the PSW. Or how much variation there is in providing care to the same client over different days or by different caregivers.

"From [the data] we may be able to work out better ways to train people so they can provide excellent care in a way that is safer for them. Such as, are there ways of bathing people that are riskier to a caregiver's body?" says Emily.

VHA and Emily share the same motivation for pursuing this research: "PSWs are trained, valuable, and caring, and they have a lot of special skills they bring to the job. When a PSW is injured, we lose all of that experience and ability, which is incredibly sad. It affects their ability to make a living and their quality of life. We want to prevent those injuries to allow them to continue to do well and to be able to continue to provide care to the clients we know they care so much about," she says

To learn more about Emily's research and how we are working to reduce PSW injuries, watch our video at:
<https://bit.ly/2ME1AHx>.

This project has been funded by CRE-MSD, MITACS Accelerate, a CIHR Fellowship and VHA's Ideas2Innovations.



ADDING UP THE BILL FOR UNPAID CAREGIVERS

Ontario's caregiver population see an increase in out-of-pocket costs to keep their loved ones at home

Story by Joanne Liburd

When Muriel was diagnosed with dementia, her daughters shared the responsibility of caring for her as long as they could. They purchased personal support services, took time off work, set up a bed on the main floor of each sister's house and eventually paid for long-term care when home care became unmanageable.

It's a common scenario we know that in Canada, rates of dementia are on the rise. In Ontario we see a number of dependent elderly with dementia living at home now," says Husayn Marani, one of three Junior Researcher Development award winners brought on to work with VHA Home HealthCare in 2018. A third-year doctoral student at the University of Toronto's Institute of Health Policy, Management and Evaluation, Husayn is researching the costs for family caregivers looking after a loved one with dementia at home.

Ontario's Aging at Home strategy acknowledges this type of care has many benefits and encourages it, notes Husayn. "It obviously helps dependent elderly, including those with cognitive impairment, age with dignity within their home, [and] there are economic benefits by shifting the responsibility from the community to the individual. However, we're starting to see that the shift in cost is being imposed on family caregivers themselves," he says.

Anecdotally, we know family caregivers cover numerous out-of-pocket costs for things such as home upgrades, transportation, respite care and in-home care providers, and many of these costs do not have available subsidies. There are also opportunity costs from not pursuing

employment or advancement in order to provide unpaid care. There is little research available about the extent of these costs, how caregivers experience them and how well they feel protected from financial risk by government supports.

"We also don't know if caregivers for people with cognitive impairment experience these costs differently than caregivers for people with other conditions. I hope my research might unearth these things," says Husayn. "These costs may be contributing to issues like financial burnout that compromise the quality of care that caregivers can provide."

Working with VHA Research has given Husayn access to important research connections to support his project development. The first part of the study is a qualitative analysis of the costs that family caregivers perceive they have. Husayn is working with VHA to connect with a diverse group of caregivers from across Ontario who are interested in participating. The second part of the research is a



Husayn Marani, a 2018 VHA Junior Researcher Development award winner, is working with VHA to research the costs for family caregivers who are caring for loved ones with dementia at home

"Ontario's Aging at Home strategy acknowledges this type of care has many benefits and encourages it... we're starting to see that the shift in cost is being imposed on family caregivers themselves."

quantitative analysis of available data, such as government information on home care costs, to see if these align with the qualitative findings. "If they don't correspond, it calls into question whether the financial supports available from the government accurately capture or protect against the true costs that caregivers are experiencing out of pocket," says Husayn.

In shaping his research project, Husayn has already spoken to many caregivers, which had an unexpected impact on his approach. "When I started this research, I spoke of these costs as a burden to caregivers. But many caregivers see these costs not as burdens but as responsibilities—something that they do because they are caring for their loved one who has dementia," he explains. "In fact, as caregivers for my mom who has MS, my family does not view the costs for home upgrades or the costs for her care as burdens. They are something that we do out of love and responsibility and caring. I think that difference will shine through as I conduct my research."

"Family caregivers now face a huge responsibility. They are saving the government a significant amount of money through their unpaid work and I think there is a responsibility on the government to protect family caregivers from these financial risks. I hope my findings will inform strategies and targeted interventions for caregivers and will help demonstrate the critical role unpaid caregivers are playing in dementia care."

To learn more about Husayn's project, visit: <https://bit.ly/20CLiz5>



Dr. Brydne Edwards Rehab Clinical Educator at VHA

Impact Stories Series

In Conversation with...
VHA Research Fellow Alumni Dr. Brydne Edwards

In 2017 VHA Home HealthCare partnered with UHN Collaborative Academic Practice Department (CAP) to support point-of-care providers to engage in successful quality improvement work. The VHA-UHN Research Fellowship provides unique opportunities for healthcare professionals at the point of care to improve quality of client care by leading a quality improvement project, related to the organizations' strategic priorities, and to engage in ongoing dialogue and learning about leadership and spearheading positive change.

In 2017, Dr. Brydne Edwards an OT with VHA Rehab Solutions Mississauga/Halton Region, was selected as the inaugural recipient of the VHA-UHN Research Fellowship for Rehab. Her successful project is titled Addressing Physical Activity with Seniors in the Community with Cognitive Impairment.

The Challenge

My project was about increasing how comfortable physiotherapists and occupational therapists are with addressing physical activity with clients who have cognitive impairments, cognitive impairments mostly related to dementia, or Alzheimer's disease and mild cognitive impairment among older adults in particular. I did have a lot of clients who had those diagnoses but also my grandfather has severe dementia as well, which is another reason why I'm interested in that particular client group. What I was noticing in the community was just that clients and caregivers in particular just felt very powerless, like there was nothing they could do to slow the progression of the disease or even prevent it if they were someone who had mild cognitive impairment, but not a formal diagnosis of dementia or Alzheimers.

The Intervention

A lot of [my intervention] was around trying to find a strategy to empower clients and families. Then when I went to the literature- that's where this collectivity really came out as being an effective and reasonable method for prevention and slowing the progression of disease. I had a few different methods given the context of our work. I also consulted different stakeholders, so client partners, other frontline workers as well as the facilitator within the fellowship program. We developed a few different methods of implementation. The first was a face-to-face presentation at a team meeting. One of the reasons why we thought that would be effective is because people are paid to attend those sessions, and they are usually quite well attended. I also did a very brief recording of the project in general. And subsequent to that, I did a five-part video education series, covering different topics. [The videos] were meant to

be a rapid, mini series because each video was five to seven minutes long to make it easy for clinicians to go on The Loop and just watch a video, even in-between clients if they wanted to. Lastly, I developed four handouts. One was general information about the benefits of physical activity. The second one for caregivers was more about how to enhance adherence to recommendations because this client group generally has very low motivation. Then, there were two handouts specifically for clinicians that had specific recommendations related to physical activity.

The Impact

Clinically speaking, I think those who actually accessed the videos, took the handouts and/or were present for the face-to-face session, they showed an increase in knowledge and comfort in making those recommendations related to physical activity. That was the main impact. Then chart audits as well- there was [a clinician] that had an 11% increase in actual recommendation. That showed that clinicians, OTs and PTs were reporting subjectively that they felt more comfortable with this intervention. Then objectively, there was also an observed increase. Personally, what I really liked about the fellowship project is that it opened my eyes to the world of quality improvement, where it's almost like a mini research project, but your work is immediately applicable and the impact is immediately observable. I really, really liked that part of it. Although it's kind of quick, it's still rigorous in the sense that it is formed by recent evidence. You're not just making things up. It's still evidence-based, but it's much faster. I appreciated that. I also found that it allows for participation amongst different groups in the organization to co-design what the implementation plan is, which I really appreciated.

The Client Engagement

I engaged with client partners on this project for feedback to develop content for the videos and the handouts. I appreciated the direct feedback but it was not initially face-to-face, so not as collaborative as I would have liked. Afterwards, I was invited to join the Cognitive Impairment steering committee after presenting my work there - I got a lot of input from all of the client partners at that table during that meeting that I found helpful.

The Advice

If I could go back in time and give myself one piece of advice, I would say stay calm and be flexible! Things are not always going to go the way you planned and that's okay.

One piece of advice I would give to anybody who is interested in getting involved in the fellowship program is to just use your frontline work as a starting point for your [quality improvement] idea. Just be confident that an idea that comes from the frontline work is your best bet to be successful within the program as well as to be a successful candidate. Use what you know to anchor yourself. One thing I have noticed from some of the other fellows that have gone after me is they feel intimidated because they don't have a strong research background. They're not sure if what they're seeing in clinical work is supported by research. I think just having the confidence that if you're seeing it in front line and it's common in front line in your own work then you're not going to have a difficult time finding research to support that gap.

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To learn more about the VHA Fellowship Program visit: www.vha.ca/vha-research-fellowship-program/



Nothing About Me, Without Me

How Client Partners are Helping to Guide Research at VHA Home HealthCare

Story By: Lusine Stephanson



(L) Stacey Ryan, former client partner and current client and family voice liaison with Sonia Nizzer (R), clinical research coordinator. They sit in front of The Little Things research project exhibit. Stacey and Sonia collaborated on this project which marked the beginning of co-designing research with clients at VHA.

Sonia Nizzer is a Clinical Research Coordinator at VHA and is the primary contact for client partners who are working with VHA's Research team on projects to help clients and their caregivers. VHA tries to involve clients' voices in every aspect of our work, and the Research team has made this an important priority.

"We see the impact client and caregiver involvement has had on other initiatives and areas of VHA. We want to involve them in our research work so we can ensure the end products of our initiatives are the most suited for clients and caregivers," says Nizzer.

Research projects have long been directed by academic institutions or large governing bodies making the decisions about what should be explored and what questions need to be answered. "We want to engage clients in helping to direct the research at VHA. We are in a unique position being so close to patient care in home health care that we have the opportunity to reach out to our clients and caregivers to ask for their help

in guiding our research," adds Nizzer.

One example of this client engagement is the PhotoVoice study called The Little Things. Client partners were involved from the very beginning helping to shape this project that explored the perceptions and experiences of client and family-centered care through photographs by families with children with complex medical needs. "For the PhotoVoice study, a client partner helped to write the initial proposal and was involved in decisions regarding how to conduct the research throughout the project," shares Nizzer. "This is ideally how we would like to conduct all of our projects, co-designing with client partners along each step of the process, and that is what we are working towards."

Client partners get involved with research

"We want to engage clients and caregivers to help direct the research at VHA."

in a number of ways. Members of VHA's Client Partner Advisory Council have expressed interest in working with the Research department and have helped to hire new members of the Research team. Other client partners have been involved in making decisions regarding VHA's Junior Researcher Development Award as well as our internal fellowship program. "Client partners review the applications alongside the Research staff members. We discuss the applications and make decisions together," Nizzer says, "We see this as a very collaborative process with client partners having an equal voice to our staff members. In this way, client partners are playing a key role in directing the focus and shape for our research going forward."

"Some clients have told us they think research is intimidating and involves confusing language. We are working to bring down those barriers as much as possible. We want clients to feel comfortable participating and to be excited about research. When clients who have never been involved in a research project before tell us what a positive experience it has been, that feels great and makes us feel we are doing something well. We know how much client partners have to contribute due to their lived experience."

VHA Research is always looking for client partners to participate in various projects. Email at researchhelp@vha.ca to learn more.

SPOTLIGHT



CORNER

Harold Fortis, one of VHA's research client partners, has been the shining star on many recent research initiatives. Harold became connected with VHA when his daughter received services due to her complex medical needs. VHA provided nursing, personal support and wound care for her. These were lifesaving for Harold's daughter and greatly improved her quality of life.

A few years ago, Harold attended a research advisory meeting presenting VHA's Strategic Research Vision and the department's five-year strategic priorities. "I was fascinated by the process of the Research team moving through the earlier years of visibility and support in 2009, to collaborating with partners in 2015, and ultimately to driving solutions in 2020. I decided I

wanted to play a role," shares Harold. Recently, Harold was part of the hiring panel for a new Research Manager for VHA. Harold wanted to ensure the new team member would allow the department to grow and become even more collaborative. His overall goal working with the Research team has been to help raise their profile, to support their long-term vision, and to remove any stigma around the word and idea of 'research', to make sure it is accessible and that VHA's research projects are making a valuable contribution.

"Joining VHA's research team has been quite rewarding for me," says Harold.

"There is never a dull moment as you work through the ever expanding list of projects, funding, and partnerships, all in an effort to raise VHA's profile and impact."

RESEARCH PARTNERSHIPS

VHA Home HealthCare's strength in research excellence is supported by partnerships with established institutions and creating opportunities that generate new knowledge and further home care research. We would like to extend our gratitude to the following research institutions that supported our work in 2019.

AGEWell

Sick Kids

Women's College Hospital

Toronto Rehabilitation Institute

University of Waterloo

University of Toronto Institute of Health Policy, Management and Evaluation (IHPE)

Sunnybrook Hospital

Ryerson University

University of Toronto Department of Physical Therapy

Holland Bloorview Rehabilitation Hospital

Bryuere Research Institute

Centre for Research Expertise in

Occupational Disease (CREOD)

Toronto Central LHIN

Winterlight Labs

Cognixion

Locate Motion

University of Toronto Department of

Occupational Therapy

Michael Garron Hospital

Healthcare Insurance Reciprocal of

Canada (HIROC)

ABOUT VHA HOME HEALTHCARE

Founded in 1925 as the Visiting Homemakers Association, VHA Home HealthCare (VHA) is a not-for-profit, charitable organization that offers 24/7 health care and support services to people of all ages and cultural backgrounds. Our goal is to provide clients with spectacular service when, where and how they want it to support their independence. Our caring team of professionals includes nurses, occupational therapists, physiotherapists, personal support workers, home support workers, cleaners, social workers, dietitians, and speech-language pathologists. We deliver the highest quality client support at home, in the community and in long-term care facilities.

VISION, MISSION & BELIEFS

Vision: Accessible, quality care for all who need it
Mission: Creating possibilities for more independence
Core Beliefs: Our care must be:

Client-driven because what matters most to clients and families is what counts
Spectacular and continuously focused on quality improvement and safety
Integrated and collaborative to unearth innovative answers to complex challenges
Inclusive and committed to serving the most vulnerable in our communities
Inspired and creative, delivered by a skilled team that has tremendous heart

As a charitable not-for-profit organization led by a volunteer Board of Directors, VHA is committed to:

- Valuing and supporting our staff and care providers
- Fiscal responsibility
- Driving positive change in community support and home health care
- Ethical practices in all our operations

President and CEO

Carol Annett

Board Members

Karen N. Singh, *Board Chair*
Ian Brunskill
Sheree Davis
Eitan Dehtiar
Michael Kenigsberg
Adrienne Largo
Joseph Mayer
Paul Moroney
Patrick Tallon
Cindy Veinot
Karen Waite
Catherine Wiley

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VHA Research 2019 Year In Review

