



# PROGRAMME DE LA CONFÉRENCE EPIC 2024

## Message de bienvenue du RCE AGE-WELL

Nous sommes ravis de vous accueillir à la 5e conférence EPIC d'AGE-WELL alors que nous réunissons des personnes âgées, des aidants naturels, des partenaires du gouvernement et de l'industrie de partout dans le monde. Avec des exposés de dirigeants, de stagiaires, d'anciens, de partenaires et d'entreprises en démarrage soutenues par AGE-WELL, la conférence EPIC est le plus important événement destiné aux stagiaires du genre à l'avant-garde de la santé, du vieillissement et de la technologie.

AGE-WELL est fière que la conférence EPIC souligne les efforts de recherche et de collaboration de la prochaine génération d'innovateurs en technologie du vieillissement, ce qui fait du Canada un chef de file mondial dans les technologies qui aident les populations vieillissantes partout. Tout au long de la conférence, vous aurez l'occasion d'obtenir de précieux renseignements, d'interagir avec des penseurs novateurs et d'établir de nouveaux liens avec le réseau de visionnaires d'AGE-WELL qui aspirent à accélérer la mise en œuvre de solutions technologiques qui apportent un changement significatif dans la vie des personnes âgées et des aidants naturels.

Cette année, nous sommes heureux de vous présenter un nouveau segment intitulé Faire avancer les choses, qui met en vedette des partenaires et des entreprises en démarrage soutenues par AGE-WELL tout en mettant en lumière la manière dont ils améliorent la qualité de vie des personnes âgées et des aidants naturels au Canada. Je vous encourage à profiter de l'occasion en vue d'apprendre comment ces entrepreneurs appliquent la recherche fondée sur des données probantes pour relever des défis réels.

Alors que nous ouvrons la voie à un avenir meilleur qui favorise le développement des solutions axées sur la technologie qui améliorent profondément la vie des personnes âgées et des aidants naturels, j'espère que nos étudiants, nos boursiers postdoctoraux, le personnel de recherche et les chercheurs en début de carrière d'AGE-WELL et d'EPIC-AT ainsi que leurs intervenants partenaires continuent d'inspirer la communauté internationale du secteur des technologies du vieillissement. Découvrez les innovateurs de demain lors de la conférence EPIC 2024!



Alex Mihailidis,  
Directeur scientifique et chef  
de la direction d'AGE-WELL

## Moving the Dial « Faire avancer les choses »

AGE-WELL a mobilisé une vaste communauté de chercheurs, d'organismes partenaires, de personnes âgées, de soignants et de futurs chefs de file afin d'accélérer la mise en œuvre de solutions axées sur la technologie qui apportent un changement significatif dans la vie des Canadiens. Notre objectif consiste à aider les personnes âgées du Canada à conserver leur autonomie, la santé et leur qualité de vie grâce à des technologies et des services qui améliorent leur sécurité, leur permettent de vivre de façon autonome et améliorent leur participation sociale. Notre nouveau segment, intitulé « Moving the Dial », soulignera certains des travaux importants soutenus par AGE-WELL.

Nous aimerions remercier les partenaires et les entreprises en démarrage que nous soutenons qui ont accepté de nous expliquer comment ils « faire avancer les choses » et améliorent la qualité de vie des personnes âgées et des aidants naturels du Canada d'un océan à l'autre.

CONFÉRENCE EPIC 2024  
**« Moving the Dial »**  
Présentateurs et  
présentatrices

#AWepic2024

Able Innovations

BEST BUY Health

GERAS DANCE  
Support for Cognitive Exercise

Gotcare

HippoCamera

ImaginAble  
solutions inc.

RAYMEX LIFT

ROOT & SEED

AGEWELL  
Conférence 2024  
**EPIC**

## Reconnaissance des territoires

Bien que nous nous réunissions virtuellement, nous aimerions saluer les peuples autochtones de tous les territoires que nos conférenciers habitent. Nous le faisons pour réaffirmer notre engagement et notre responsabilité à l'égard de l'amélioration des relations entre les nations et de celle de notre compréhension des peuples autochtones locaux et de leurs cultures. Nous vous encourageons à réfléchir au territoire sur lequel vous vous trouvez et à tenir compte de votre relation avec la terre et avec les peuples qui en sont les gardiens traditionnels.

Le Bureau de gestion du réseau d'AGE-WELL exerce ses activités sur les territoires traditionnels de nombreuses nations autochtones, qui ont leur terre à cœur depuis des milliers d'années, y compris les Anishnabeg, les Chippewa, les Haudenosaunee et les Wendat; et nous saluons les détenteurs actuels des traités, soit la Première Nation des Mississauga de Credit. Ce territoire abrite de nombreux peuples des Premières Nations, des Inuits et des Métis, et il est assujéti à l'entente wampum du « bol à une seule cuillère », soit une entente visant à partager en paix et à gérer la région des Grands Lacs.

Nous sommes reconnaissants d'avoir l'occasion de travailler sur ce territoire aujourd'hui et de souligner notre responsabilité de faire avancer le processus de réconciliation. AGE-WELL s'engage à favoriser des pratiques équitables et inclusives dans l'ensemble de ses programmes et mesures et accueille ouvertement les modes de connaissance et de vie autochtones afin de les intégrer explicitement dans ses programmes de recherche et d'éducation.

## Comment participer

La conférence EPIC (2024) est l'occasion pour les AGE-WELL HQP de partager leurs recherches, de mettre en évidence leur impact potentiel et de se connecter avec leurs collègues.

Elle comprendra 8 sessions virtuelles, chacune dédiée à l'un des domaines de défi identifiés. La conférence EPIC est l'occasion pour les étudiants, les stagiaires postdoctoraux, le personnel de recherche et les chercheurs en début de carrière d'AGE-WELL et d'EPIC-AT de présenter leurs recherches aux côtés de leurs partenaires parties prenantes, de souligner leur impact potentiel et de se connecter avec des collègues du monde entier.

La conférence comprendra huit sessions virtuelles, chacune consacrée à l'un des domaines de défi, avec des présentations de dirigeants, de stagiaires, de boursiers et d'anciens étudiants d'AGE-WELL et EPIC-AT, ainsi que de partenaires et de jeunes entreprises soutenues.

Chaque session consacrée à un domaine de défi comportera également un nouveau segment intitulé "Moving the Dial" qui mettra en lumière la manière dont les partenaires d'AGE-WELL et les startups soutenues améliorent la qualité de vie des personnes âgées et des aidants naturels au Canada.

Ces 8 sessions seront organisées sur Zoom et comprendront une introduction à la zone de défi présentée par le président de la session, 2 présentations de recherche avec un ou plusieurs co-présentateurs de parties prenantes pour discuter de leur expérience, et une présentation "Moving the Dial" par une startup ou un partenaire soutenu par AGE-WELL.

Ces sessions permettront aux participants à la conférence EPIC de poser des questions, de se présenter et d'entrer en contact avec d'autres participants.

**La conférence EPIC est gratuite et tout le monde est invité à y participer.**

Inscrivez-vous à toutes les sessions de la zone de défi et à notre atelier EPIC sur la page de la conférence EPIC d'AGE-WELL en cliquant [ici](#).

## Code de conduit

La conférence EPIC (2024) a pour but d'accroître l'interaction, l'engagement, la collaboration, la connectivité et le sens communautaire dans un environnement de respect mutuel. Nous reconnaissons que nous avons la responsabilité commune de créer et de maintenir cet environnement dans l'intérêt de tous. Nous demandons aux conférenciers d'encadrer les discussions de la façon la plus ouverte et inclusive possible et d'être conscients de la façon dont le langage ou les images peuvent être perçus par les autres.

Nous sommes reconnaissants de la participation de chaque membre de la collectivité et nous nous efforçons d'offrir une expérience agréable et enrichissante. Les participants à la conférence EPIC doivent se comporter avec intégrité, courtoisie et respect et maintenir le plus haut niveau de professionnalisme à toutes les séances de l'événement. Les perturbations qui nuisent à l'expérience des autres participants ne sont pas tolérées. Tous les participants, conférenciers, organisateurs, partenaires, commanditaires et membres du personnel sont tenus de respecter ce Code de conduite.

Notre conférence vise à offrir une expérience sans harcèlement à tous, peu importe l'identité et l'expression de genre, l'âge, l'orientation sexuelle, le handicap, l'apparence physique, la taille du corps, la race, l'origine ethnique, les croyances et pratiques religieuses ou spirituelles ou les choix technologiques.

Soyez gentil avec les autres. Abstenez-vous d'insulter ou de rabaisser les participants (par exemple en formulant des commentaires agressifs dans les séances de clavardage ou dans l'application de l'événement ou en adoptant des comportements d'intimidation). Le harcèlement sous toutes ses formes, les blagues âgistes, sexistes, racistes ou d'exclusion ne sont pas tolérées dans le cadre de la conférence EPIC. Les participants à la conférence EPIC qui enfreignent ces règles peuvent être expulsés de l'événement, à la discrétion des organisateurs.

Si vous êtes victime de harcèlement, remarquez que quelqu'un d'autre est victime de harcèlement ou avez d'autres préoccupations, veuillez communiquer immédiatement avec l'équipe organisatrice. Vous pouvez communiquer avec le personnel de l'événement par courriel à [info@agewell-nce.ca](mailto:info@agewell-nce.ca).

Merci de contribuer à faire de la conférence EPIC (2024) un événement accueillant pour tous.



**INSCRIVEZ-VOUS ICI**

### **Ouverture de la Conférence EPIC 2024**

Samantha Sandassie, Director, Education and Training, AGE-WELL NCE  
12:00pm to 12:10 pm ET

Président : Andrew Costa, McMaster University

Présentations :

**PATH - Program to Accelerate Technologies for Homecare**  
*Sara Hanafy, KITE-UHN & Farhad Keramati, SmartONE Solutions Inc.*

**Customizing Supportive Smart Technology on Dementia Care Unit**  
*Laura Ault, Bruyère Research Institute & Nadine Carroll, Bayshore Health*

**Best Buy Health Canada**  
*Claire Andrews, Best Buy Canada Ltd.*



**INSCRIVEZ-VOUS ICI**

Président : Kristina Kokorelias, Sinai Health and University Health Network

Présentations :

**Structural Barriers and Facilitators to Accessing Rehabilitation in Older Adults with Low Back Pain: A Scoping Review of the Literature**

*Jessica Wong, Ontario Tech University & Sheilah Hogg-Johnson, Canadian Memorial Chiropractic College*

**Exploring Virtual Care Perspectives Among Older Adults Living with HIV: A Qualitative Study**

*Stuart McKinlay, University of Toronto & Dean Valentine, Casey House Hospital*

**Able Innovations Inc.**

*Jayiesh Singh, Able Innovations Inc.*



**INSCRIVEZ-VOUS ICI**

Président : Pooja Viswanathan, Western University

Présentations :

**Enhancing Health Technology Education and Communication Through Multidisciplinary Community Engagement**

*Fatemeh Khorami, Simon Fraser University & Michel White, BC SPOR Unit*

**Advancing Dementia Care: Memory Aid Technology and Data-Driven Insights for Autonomy at Home?**

*Alyssia Sanchez, University of Toronto & Jordan D'Souza, VHA Home Healthcare*

**ImaginAble Solutions**

*Lianna Genovese, ImaginAble Solutions*



**INSCRIVEZ-VOUS ICI**

Président : Thomas Tannou, Centre de recherche de l'Institut Universitaire de Gériatrie de Montréal

Présentations :

**Co-creating a Virtual Reality Program With Patient and Family Partners and Staff for Older Adults with Dementia in Hospitals**

*Lily Ren, University of British Columbia & Christine Wallsworth, University of British Columbia*

**Role of Technology in Supporting Accessible Workspaces for Employees with Mild Cognitive Impairment or Young Onset Dementia (MCI|YOD)**

*Sabah Rasheed, Wilfrid Laurier University & Ashley Cole, University of Guelph*

**HippoCamera**

*Bryan Hong, HippoCamera*



**AGEWELL**  
Conférence 2024  
**EPIC**

**5** **La mobilité  
et le transport**

lundi 27 mai  
12h00 - 13h00 HAE

#AWepic2024

**INSCRIVEZ-VOUS ICI**

Président : Krista Best, Université Laval

Présentations :

**Examining the Daily Driving Behaviours of Individuals With Mild Cognitive Impairment and Mild Dementia Using A Driving Monitoring System**

*Onara Hettiarachchige, University of Calgary & Ron Beleno*

**Evaluating the Safety of Automated Vehicle for Older Adults with Cognitive Challenges: Enhancing Autonomy and Safety**

*Gelareh Hajian, KITE-UHN & Terry Fagan*

**Axtion Independence Mobility Inc.**

*Tracey McGillivray & Liam Maaskant, Axtion Independence Mobility Inc.*



**[INSCRIVEZ-VOUS ICI](#)**

Président : Amine Choukou, University of Manitoba

Présentations :

**Context-Driven and Iterative Development of Bootle Blast: Feasibility in Older Adults with Dementia**

*Erica Dove, University of Toronto & Selvi Sert, Bloorview Research Institute*

**Health Programming to Support Remote Indigenous Older Adults With Technology Use**

*John Acharibasam, University of Saskatchewan & Victor Star, Star Blanket Cree Nation*

**GERAS DANCE For Brain Health and Mobility**

*Patricia Hewston, Hamilton Health Sciences*



AGEWELL  
Conférence 2024  
**EPIC**

7

**Le maintien  
de liens**

mercredi 29 mai  
12h00 - 13h00 HAE

#AWepic2024

**INSCRIVEZ-VOUS ICI**

Président : Alisa Grigorovich, Brock University

Présentations :

**AgeUnity: Developing a Novel Mobile Application That Empowers Older Adults to Build Social Connections**

*Fateme Pourghasem, KITE-UHN & Indira Gobin, Older Adult Advisor*

**Better Connected**

*Rebecca White, Simon Fraser University & Gerald Dragomir, 411-Seniors*

**Root & Seed**

*Jennifer Siripong Mandel & Anika Chabra, Root & Seed*



**INSCRIVEZ-VOUS ICI**

Président : Josephine McMurray, Directeur scientifique associé, RCE AGE-WELL Inc

Présentations :

**Designing Cognitively Accessible Financial Technology to Support Older Adults**

*Jiamin (Carrie) Dai, University of British Columbia*

**Impact of Digital Transformation on Treatment Burden Experience of Patients With Chronic Conditions of Low Socioeconomic Status**

*Farah Tahsin, University of Toronto*

**Gotcare**

*Chenny Xia, Gotcare*

**EPIC Conference 2024 Closing :**

Josephine McMurray, Directeur scientifique associé, RCE AGE-WELL Inc

# RÉSUMÉS (par ordre alphabétique)

**Health Programming to Support Remote Indigenous Older Adults with Technology Use.** *John Acharibasam, University of Saskatchewan & Victor Starblanket, Starblanket Cree Nation*

Guided by a Community Knowledge Council (CKC) from the Star Blanket Cree Nation (SBCN), this research project supports Indigenous older adults to maximize already existing technologies through culturally safe health programming. Colonial legacies have left Indigenous older adults in remote communities vulnerable to health challenges that impede healthy aging in place. Following this, our previous research projects introduced older adults to new technologies within the SBCN including blood glucose monitors, blood pressure monitors, smart scales, tablets, and Fitbits. The CKC directing this research has identified the need for further support and health programming around these technologies as a major gap that needs to be addressed. The CKC has, therefore, recommended engaging older adults through culturally safe health programming on technology use.

This study aims to enhance the health and wellness of Indigenous older adults living within the SBCN by maximizing technology use. Adopting an Indigenous methodology and a community-based participatory research approach, we engaged ten older adults from the SBCN to explore culturally appropriate health programs that facilitate technology usage among Indigenous older adults. Specific methods of sharing circles are used to gather knowledge. Our preliminary findings have revealed the vital importance of intergenerational support for Indigenous older adults in adopting aging technology. Therefore, designing aging technology support programs within remote Indigenous communities without incorporating younger family members poses significant challenges. Additionally, encouraging peer support and mentorship among remote Indigenous older adults facilitates knowledge sharing and mutual assistance in technology use.

**Best Buy Health Canada.** *Claire Andrews, Best Buy Canada Ltd.*

[Best Buy Health Canada](#) is driven by the belief that technology can make life better - at any age, for any need. Our goal is to empower older adults and caregivers alike whether their focus is on aging in place, achieving independence and health goals, and/or finding new ways to connect with others - all with the lens on quality of life. This is delivered through translating human needs into meaningful service offerings such as curation, installation, and training of technology solutions in any place called home - designed to augment the existing care models in Canada.

**Customizing Supportive Smart Technology on Dementia Care Unit.** *Laura Ault, Bruyère Research Institute & Nadine Carroll, Bayshore Health*

Transitional care units (TCU) provide an intermediate step between acute care and long-term care. Staff work to ensure the health and safety of their patients. Patients living with cognitive decline are particular risk and smart technology could be used to provide support to both the staff and patients. Staff from the Greystone TCU recruited eight patients who frequently exit their bed during the night hours, some of which were high falls risk. Smart technology components, supplied by Ottawa start-up, Esprit-ai, were installed into their rooms, paired with individualized alerts that were sent to a cellphone carried by the night nurse. Unit staff met with the research team weekly to ensure technology was optimally supporting the team. A bed mat, one motion sensor and a system hub were installed in all eight rooms. The location of the motion sensor depended on the patient's level of independence during the night. One room had their bed sensor removed as the patient tampered with the technology. Cellphone alerts were adjusted to be more, or less, frequent based on the needs and declines of patients. Despite the interference provided by COVID-19, the unit staff participated in this research over a period of 26 months. Smart technology can play a supportive role in patient care and safety. There is a strong need for the technology to be customizable to provide optimal level of support and ensure staff acceptance and use.

**Designing Cognitively Accessible Financial Technology to Support Older Adults.** *Jiamin (Carrie) Dai, University of British Columbia*

Financial technology (fintech) has grown ubiquitous with increasing online services and declining cash use, necessitating renewed efforts to ensure continued barrier-free participation in this fundamental aspect of society.

Nine Canadians aged 65+ are diagnosed with dementia every hour, but few everyday technologies accommodate the specific needs of age-related cognitive decline. A dedicated approach to online banking and digital payments can elicit concrete user insights into accessibility, privacy, and security features, better grounding AgeTech approaches to cognitive accessibility.

Guided by an overarching research question—how to improve fintech cognitive accessibility for older adults, this project adopts user-centered design methods involving older adults with/without cognitive impairment to co-design a conceptual fintech prototype. Through dyadic interviews with older adults with varied cognitive needs and their families, we created a set of personas, fintech scenarios, and initial design concepts. We will then extend the personas and scenarios and critique the design concepts with domain experts to further inform the upcoming co-design. Our preliminary findings highlight the fluctuating or evolving cognitive needs, complex financial management and collaboration among family members, and potential design space for AI-mediated family/community support.

By addressing the urgent and widespread need of users with age-related cognitive decline, this research can strategically operationalize cognitive accessibility in AgeTech through the fintech use case. We hope our work will expand the fintech toolbox with interdependent components and enrich interdisciplinary conversations around AgeTech, policy-making, and community practices to support older adults across the spectrum of cognitive needs in maintaining financial autonomy and participation.

### **Context-Driven and Iterative Development of Bootle Blast: Feasibility in Older Adults with Dementia.** *Erica Dove, University of Toronto & Selvi Sert, Bloorview Research Institute*

Bootle Blast (BB), a movement-tracking, mixed-reality video game, integrates best practices in motor learning with game design elements to encourage therapeutic exercise. Its development is guided by the Knowledge to Action framework for research implementation, which emphasizes tailoring interventions to unique user needs. This presentation illustrates BB's iterative development process, initially conducted with youth of varying motor abilities, and its extension to the context of people with dementia. Preliminary research has established BB's feasibility as a motor intervention for children with hemiplegic cerebral palsy. A pilot study will assess its feasibility for people with dementia. People with dementia and family caregivers will participate in a 10-week intervention using lower-body games on BB, according to self-directed playtime goals. Measurements include balance assessments, confidence surveys, video/skeletal/kinematic recordings, safety and adherence tracking, and interviews. Learnings from both study populations will be compiled and compared to adapt the system and support for cross-contextual uptake. Results thus far indicate that BB serves as a motivational and enjoyable therapy exercise for children with disabilities, with all participants improving on performance measures for family-selected activities of daily living. Tailoring BB to the child's abilities, interests, and needs was essential. A similar need for customization is anticipated for people with dementia, such as adjusting the speed of moving objects, adapting graphics to older audiences, and accommodating age-related impairments. Learnings will guide implementation efforts and inform future design adaptations, aiming to enhance access to therapy gaming that positively impacts individuals with motor difficulties across age groups.

### **ImaginAble Solutions.** *Lianna Genovese, ImaginAble Solutions*

ImaginAble Solutions is a women-led social impact company specialized in creating assistive technology to improve the quality of life for individuals with disabilities. The company's international award winning product is Guided Hands®, an assistive device that enables people with limited hand mobility to write, paint, draw and access technology.

Guided Hands® improves the quality of life of children, adults and seniors by promoting self-expression, communication, and the development of sensory motor skills. In 2019, the company's founder, Lianna Genovese originally created the first prototype of Guided Hands® for her friend Cerebral Palsy.

Today, Guided Hands® is used by families, leading hospitals, rehabilitation centres, nursing homes and schools across 17 countries world-wide! Proudly manufactured in Hamilton, ON, Guided Hands® has received over 40 international design awards, including the James Dyson Engineering Award. Lianna and her team's remarkable impact on the disability community earned her recognition in Forbes' 30 Under 30 in Toronto.

### **Evaluating the Safety of Automated Vehicle for Older Adults with Cognitive Challenges: Enhancing Autonomy and Safety.** *Gelareh Hajian, KITE-UHN & Terry Fagan*

Driving cessation significantly affects older adults' independence and well-being. The transition towards automated

driving technologies such as Conditionally Automated Vehicles (CAVs) presents a unique opportunity to enhance road safety and prolong the driving capabilities of older adults, particularly those with cognitive impairments such as dementia, Mild Cognitive Impairment (MCI) and Subjective Cognitive Decline (SCD; a potential early biomarker for later clinical decline). CAVs can handle driving tasks but require driver intervention beyond their operational limits, posing a challenge for those with cognitive challenges. While past research has explored takeover abilities in cognitively healthy individuals, the impact of cognitive status on the ability to manage CAV takeovers remains unexplored. Our study aims to address this gap by investigating this demographic's ability to manage transitions between automated and manual driving under various environmental conditions and road geometries. Using a high-fidelity driving simulator, we collected data from cognitively healthy older adults, individuals with SCD, and MCI. We developed metrics for takeover reaction time and quality, and employed artificial intelligence (unsupervised learning techniques) to establish a performance baseline and categorize drivers into 'safe' and 'less safe' groups. Initial findings show our approach effectively assesses driving capabilities in CAV scenarios for older adults. We continue to investigate the relationship between cognitive function and CAV driving performance, aiming to develop methods for assessing and predicting CAV use safety for older adults. This work will inform the design of future automated vehicles to better serve older adults with cognitive challenges, enhancing their autonomy and safety.

**PATH - Program to Accelerate Technologies for Homecare.** *Sara Hanafy, KITE-UHN & Farhad Keramati, SmartONE Solutions Inc.*

The Program to Accelerate Technologies for Homecare (PATH) is a pioneering initiative that is transforming home healthcare by integrating a wide array of sensors and devices through a unified interface linked to a Cloud-based AI engine. This nationwide initiative is accelerating the development and optimization of smart systems that enable seniors to age in place. The initiative is currently installed in four home-like laboratories across Canada and will be deployed strategically in real homes nation-wide. PATH generates extensive datasets that are instrumental in refining data fusion techniques and AI algorithms. By transitioning devices from laboratory testing to residential deployment, PATH ensures practicality and affordability while enhancing the accuracy of data interpretation through AI models. PATH addresses key barriers to the adoption of home health technology, such as cost constraints and false alarms, by providing a pathway for rapid testing and commercialization. Through innovative methodologies, PATH enhances the precision of identifying health issues that necessitate intervention, focusing on eleven pillars: activity monitoring, cognitive monitoring, event detection, mental health, mobility and balance, nutrition/hydration monitoring, pain monitoring, pressure injury, sleep monitoring, tele-rehabilitation, and vital sign monitoring. Through partnership with SmartONE Solutions Inc., PATH streamlines the journey from prototype to market-ready product. PATH represents a collaborative effort to unlock the potential of smart home technologies in healthcare. By fostering innovation and streamlining the pathway to market readiness, PATH aims to realize the promise of technology-enabled home healthcare, benefiting both caregivers and patients. We will discuss PATH and its contribution to aging in place.

**Examining the Daily Driving Behaviours of Individuals With Mild Cognitive Impairment and Mild Dementia Using A Driving Monitoring System.** *Onara Hettiarachchige, University of Calgary & Ron Beleno*

Motor vehicle injuries rank as the second leading cause of unintentional death among individuals over 65 years old (Bergen et al., 2017), with older drivers expected to contribute to 40% of the anticipated increase in crash involvement (Lyman et al., 2002). This research project focuses on using a Driving Monitoring System (DMS) to aid driving decisionmaking among older adults with cognitive impairments. Cognitive decline, particularly in dementia, compounds accident risks per mile driven. Dementia poses a significant threat to both drivers and passengers, as its progressive nature complicates assessing driving safety thresholds. The DMS aims to provide real-time driving behavior data for a more accurate assessment of driving competence over time. The study's objectives are to assess the DMS's ability to differentiate between older drivers with various cognitive impairments and evaluate its usability among them. Utilizing a cross-sectional study design, participants from Toronto and Calgary will be categorized into healthy older adults, individuals with Mild Cognitive Impairment (MCI), and those with mild dementia. The DMS will collect driving data over eight weeks, including lane exceedances, reversal rate, tailgating, and brake response time. Clinical and cognitive assessments will be conducted at baseline, and usability evaluations will occur post-study. Machine learning techniques will classify participants based on driving profiles, identifying key features related to cognitive status. This research aims to inform interventions to enhance driving safety for older adults with cognitive impairment.

**GERAS DANCE for Brain Health and Mobility.** *Patricia Hewston, Hamilton Health Sciences*

GERAS DANCE is an evidence-based program tailored for older adults looking to improve their brain health and mobility. It was co-designed by older adults, healthcare professionals, and fitness trainers. Certified instructors undergo specialized training led by top geriatric medicine and rehabilitation experts. Originally established in Hamilton, ON, GERAS DANCE has since expanded nationwide. This presentation will showcase how older adults can access on-demand classes via the YMCA HOME+ platform, underscoring the transformative potential of age tech in geriatric care and promoting healthy lifestyles.

**HippoCamera.** *Bryan Hong, HippoCamera*

**HippoCamera:** A neuroscience-guided digital platform to improve memory for everyday events

As we age, we lose the specific details that make up memory for life events—this process is exacerbated with dementia. Memory loss can have profound consequences on one's self-identity, independence, and social relationships, which can in turn worsen memory loss. To address this, we developed HippoCamera, an easy-to-use and validated smartphone-based platform designed to mimic the function of the hippocampus, a brain region that is essential for supporting memory. Specifically, HippoCamera guides users to create and review cues using principles from cognitive neuroscience and psychology. Our research found that HippoCamera produced long-lasting memory benefits with enhanced activity in the hippocampus, demonstrating the potential for a simple and scalable solution that helps individuals preserve memories for the moments that matter most to them.

**Enhancing Health Technology Education and Communication Through Multidisciplinary Community Engagement.** *Fatemeh Khorami, Simon Fraser University & Michel White, BC SPOR Unit*

In the era of rapid technological advancement in healthcare, a paradox emerges: as the sophistication of health technologies escalates, so does the challenge for end users to effectively utilize these tools. This critical insight emerged from a series of six workshops involving a diverse cohort of stakeholders—patient-partners, clinicians, industry experts, researchers, Indigenous elders, and policy makers. A common theme resonated across these discussions: the foremost barrier to leveraging health technologies lies not in their absence but in the complexities of their use, exacerbated by educational voids and language barriers. In addressing this challenge, our initiative unveils a community-oriented strategy aimed at empowering end users to navigate health technologies with confidence and competence. Leveraging a composed cadre of volunteers—comprising biomedical engineers, technicians, and peer patient supporters, all proficient in a variety of languages and intimately familiar with diverse cultures—we set forth to dismantle the formidable barriers of technological literacy. Some volunteers, whose dedication and expertise were solidified through our workshops, are well-suited to lead educational programs at community centers. Here, they will provide practical demonstrations, offer individualized teaching, and have culturally appropriate conversations. Most importantly, we plan to grow our network of volunteers by adding more experienced volunteers from our workshops and student co-ops.

**Root & Seed.** *Jennifer Siripong Mandel & Anika Chabra, Root & Seed*

Root & Seed is a tech startup revolutionizing the culture, connection and story preservation landscape. By harnessing the age-old power of storytelling with intuitive digital and physical tools, Root & Seed helps people claim, honour, document and celebrate their unique culture, identities and stories. Unlike alternatives that focus on DNA or end-of-life memorials... Root & Seed is focused on deepening bonds through conversation. It's this focus on connection, not the end product that has led to expansion from people's homes and families into schools, workplaces and older adult facilities.

Easy, private, secure, and fun, Root & Seed has been recognized by AGE-WELL for the benefits to the cognitive and social wellness of aging Canadians, recommended by Better Homes & Gardens for the fun and convenience in helping preserve family stories, and even honoured by the Webby Awards for our innovation and user experience.

**Axtion Independence Mobility Inc.** *Tracey McGillivray & Liam Maaskant, Axtion Independence Mobility Inc.*

No matter your age, you're too young to give up on your passions or independence. We create products to help people make the most of their lives and continue doing the things they love. We design for comfort, ease of use and style. We invented the **RAYMEX™** Lift, a portable, personal lift to help with everyday activities, prevent falls and

assist with fall recovery. Our multi-disciplined, expert team re-imagines tools to help aid in aging with dignity. We're passionate about removing worry, supporting caregivers, and allowing aging individuals to regain confidence and independence and be safe wherever they are.

**Exploring Virtual Care Perspectives Among Older Adults Living with HIV: A Qualitative Study.** *Stuart McKinlay, University of Toronto & Dean Valentine, Casey House Hospital*

**Objectives:** This study aimed to: (a) investigate the experiences and perceptions of virtual care among older adults living with HIV; (b) explore the potential benefits and challenges of virtual care services for this population; and (c) identify factors that influence the adoption and utilization of virtual care among older adults with HIV. **Methods:** A qualitative study using semi-structured interviews was conducted. Participants (n=14) resided in Ontario, self-identified as HIV-positive, and were aged 50 or older. Efforts were made to recruit individuals with varying familiarity/experience with virtual care. Thematic analysis was conducted following the Qualitative Analysis Guide of Leuven, guided by peer-researchers. **Results:** Themes included: (1) Utilization and Access of Virtual Care Services Spurred by the COVID-19 Pandemic; (2) Patient-Provider Communication and Relationships; (3) Satisfaction and Effectiveness of Virtual Care. Participants expressed varied experiences with virtual care. Participants highlighted concerns about building trust with providers through virtual care yet acknowledged the convenience of accessing care from their preferred location without the need for travel. Virtual platforms also offered a safe space for meeting new providers, facilitating access to healthcare services while mitigating potential barriers associated with in-person visits. Additionally, the COVID-19 pandemic heightened utilization of virtual care, emphasizing its importance as a healthcare delivery modality for this population. However, participants lacked learning tools leading to some isolation from circles of care. **Conclusions:** These findings underscore the importance of supporting trust-building mechanisms and leveraging the convenience of virtual platforms to enhance access to tailored healthcare services for this population.

**AgeUnity: Developing a Novel Mobile Application That Empowers Older Adults to Build Social Connections.** *Fateme Pourghasem, KITE-UHN & Indira Gobin, Older Adult Advisor*

**Background:** Canada's older adult population is rapidly growing and projected to increase to 9.5 million Canadians aged  $\geq 65$  years by 2030. Among older adults residing in urban centers, about 30% are at risk of social isolation or loneliness. Despite living in highly populated areas, many older adults in urban communities experience social withdrawal and loneliness due to mobility limitations, transportation barriers, and limited social connections. Loneliness and social isolation can lead to poor quality-of-life and health outcomes including increased risk of dementia, depression, chronic diseases, and premature death. A key problem is that we lack an accessible platform tailored to older adults to foster meaningful social connections within urban communities. **Objective:** To respond to this need, we are developing AgeUnity, a novel mobile application that empowers older adults to establish and maintain social and cultural connections within urban communities. **Methods:** We are developing an accessible mobile application focused on secure personalized accounts grounded in users' personal and cultural interests. Based on personalized accounts, AI technology will match users with potential friends within their neighbourhood or apartment. Tailored app features will enable older adults to engage and connect with their neighbours through suggested events, skills exchange, volunteer opportunities, and cultural activity boards. **Discussion:** We plan to begin product development and impact testing in 2024, followed by integration of our mobile application within apartment complexes in Toronto by 2026. By 2028, we envision AgeUnity being incorporated in urban communities across Canada, empowering older adults to build meaningful social and cultural connections.

**Role of Technology in Supporting Accessible Workspaces for Employees with Mild Cognitive Impairment or Young Onset Dementia (MCI|YOD).** *Sabah Rasheed, Wilfrid Laurier University & Ashley Cole, University of Guelph*

Large organizations confront a unique dilemma in balancing structured policies and standards with meeting the individualized needs of their employees. This dilemma is particularly salient in the context of supporting individuals with mild cognitive impairment (MCI) or young onset dementia (YOD). The functional limitations associated with MCI/YOD are progressive and vary across individuals, requiring employers to provide tailored and flexible accommodations. To explore employer perspectives, we conducted 96 semi-structured interviews across two large Canadian organizations in the healthcare and government sectors each employing 40,000 to 100,000 employees. We conducted an abductive thematic analysis rooted in socio-technical systems theory (STS) to contrast the technological and social supports available in each organization. Organizational support including tools, technologies, and training, were identified as essential for successfully accommodating employees with MCI/YOD. Various

structural elements were recognized as either facilitators or barriers to organizations fulfilling their duty to accommodate to comply with Canadian legislation. Despite having financial and technological resources, large organizations face challenges providing accommodations that are tailored to individual needs and flexible enough to adapt over time, while ensuring timely support and mitigating risk. Technology offers the potential for personalized support that can be quickly updated to optimize the performance of employees with progressive conditions like MCI/YOD. However, the rapid adoption of technologies can pose risks to security, privacy, and the well-being of employees and organizations. We explore technological solutions that meet the needs of both the employer and their employees identified with MCI/YOD.

**Co-creating a Virtual Reality Program With Patient and Family Partners and Staff for Older Adults with Dementia in Hospitals.** *Lily Ren, University of British Columbia & Christine Wallsworth, University of British Columbia*

Background: Growing evidence suggests that Virtual Reality (VR) is promising to improve the wellbeing of older patients in dementia care units in hospitals. However, older patients are often excluded from VR opportunities. Engaging patient partners, family caregivers and staff in co-creating VR program shows potential in addressing unique needs of older adults with dementia, supporting staff in implementation, and enhancing understanding complexity in clinical settings. However, literature that describes fulsome partnership in the co-creation process is absent. The study aims to understand psychosocial needs of older adults with dementia and how VR could be best implemented in hospitals. Method: Drawing principles of Collaborative Action Research (CAR) and applying an equity and inclusive lens, we conducted qualitative focus groups, co-design workshops and interviews with 46 participants (7 patient partners, 8 family caregivers, 19 staff members and 12 leaders) in hospital. Consolidated Framework for Implementation Research (CFIR) informed our data collection and analysis. Results: We identified three key themes to co-create a VR program for older adults with dementia in hospital to address their psychosocial needs and facilitate staff's implementation, acronymized as AIM: 1) Approach matters; 2) Interactiveness; and 3) Multi-sensory stimulation. Conclusion: Our results underscore the imperative of engaging patient and family partners and staff in co-creation for older adults with dementia to address their psychosocial needs with VR, who deserve digital equity but are traditionally underrepresented in technology program development and implementation. This study contributes valuable insights into the future development and deployment of VR in dementia care settings.

**Advancing Dementia Care: Memory Aid Technology and Data-Driven Insights for Autonomy at Home?** *Alyssia Sanchez, University of Toronto & Jordan D'Souza, VHA Home Healthcare*

Background: Assistive technology (AT) can empower people living with dementia (PLWD), to complete tasks more independently. Following daily routines without the supervised help of caregivers increases the perception of autonomy and dignity in PLWD. Method: This research focuses on creating a home-based reminder system, featuring electronic reminder units and a central base station, to facilitate dementia care and remote behavior monitoring. Reminders can be transmitted through the base station via a mobile application by the caregiver. The reminder units can detect when a reminder is acknowledged by the PLWD, enabling the collection and analysis of behavioral data. Machine learning models are employed to understand the PLWD's daily schedule and detect any deviations from regular routines. We engage dyads of PLWD and their family caregivers, gathering information through interviews and usability testing. Results: Preliminary development, data simulation, user interviews, and prototype demonstrations show that memory aid technology has the potential to improve communication between PLWD and their caregivers and can be a useful aspect of their daily routine. The reminder system can be further developed to monitor and analyze behavior and daily activities, thereby providing valuable insights that can enable better support and intervention when necessary. Conclusion: By developing and evaluating this innovative reminder system, we strive to improve the lives of PLWD, enhance their autonomy, and support caregivers in providing effective and personalized dementia care in a rapidly aging society.

**Able Innovations Inc.** *Jayiesh Singh, Able Innovations Inc.*

Able Innovations develops empathy driven technology. Able's robotic ALTA Platform™ automates one of the most painstaking and uncomfortable tasks in healthcare- lifting and moving individuals. Their technology delivers a safe and effortless experience for healthcare staff, while offering clients a comfortable and dignified experience. As Able continues to push the technical barrier, it aims to transform how and where individuals spend their golden years- by providing technologies that automate the highly labour intensive tasks involved with caregiving.

**Impact of Digital Transformation on Treatment Burden Experience of Patients With Chronic Conditions of Low Socioeconomic Status.** *Farah Tahsin, University of Toronto*

"Treatment burden" refers to the work associated with accessing and seeking healthcare. Patients with low socioeconomic status (SES) experience a disproportionate amount of treatment burden due to structural inequities such as lack of public infrastructure. Digital technologies offer opportunities to reduce the treatment burden for this patient population. However, the persistent digital divide, along with social inequity, can create barriers for them to adopt and utilize digital technologies. Recently, we conducted a mixed-method study to identify how digital technologies can influence this patient population's experience of chronic disease management, specifically their experience of treatment burden. Our study findings suggest that leveraging functionalities offered by digital technologies can alleviate some treatment burdens when used appropriately. However, caution should be practiced when implementing health technologies to ensure they do not increase the treatment burden for patients, especially those with low capacity to shoulder the burden. In this talk, we will discuss personal, interpersonal, organizational, and structural factors that can contribute to the digital health-related treatment burden among this patient population. Additionally, we will discuss key strategies to consider when developing, implementing, and evaluating technology-based interventions for them.

**Better Connected.** *Rebecca White, Simon Fraser University & Gerald Dragomir, 411-Seniors*

Seniors centres across Canada play a critical role in providing help and support to community-living older people, particularly low-income seniors. The increasing use of internet technology for essential activities, is changing the way people connect and access services, requiring older people and seniors centres to adapt to a technologically-mediated society. The Better Connected project is a foundational component of a broader initiative employing a transdisciplinary approach rooted in the principles of community-based participatory research (CBPR) that unites the 411 Seniors Centre Society, a Vancouver-based seniors community-based organization, with researchers from SFU to collaboratively design, construct, and implement programs aimed at addressing key factors contributing to the digital divide. The primary aim of the Better Connected project is to gain an in-depth understanding of the challenges faced by seniors living in a digitally connected world and to develop community-led programs that can help older people overcome these challenges. Specifically, we plan to achieve this by collaboratively developing a program that enhances the skills and capabilities of 411 Seniors' volunteers, enabling them to more effectively support their members as they navigate the digital world. Becky White, a PhD student and embedded researcher, and Gerry Dragomir, 411-Seniors Board Member and LEADS (Learning, Equity, Aging, Digital for Seniors) Partnership Chair, will share their insights and learnings from their community-based research partnership focused on enhancing digital inclusion.

**Structural Barriers and Facilitators to Accessing Rehabilitation in Older Adults with Low Back Pain: A Scoping Review of the Literature.** *Jessica Wong, Ontario Tech University & Sheilah Hogg-Johnson, Canadian Memorial Chiropractic College*

**Objectives:** To explore structural barriers and facilitators to accessing rehabilitation among older adults with low-back pain (LBP) and investigate how these vary across diversity-related factors (e.g., gender, race/ethnicity). **Methods:** Using JBI methodology, we conducted a scoping review of qualitative and mixed-methods (qualitative component) studies on rehabilitation access in adults aged ≥50 years with LBP. Structural factors included socioeconomic and political context, governance, policies, and cultural/societal values. Databases were searched to July 2023. Reviewers screened citations and extracted data to identify themes and knowledge gaps. **Results:** Of 7485 citations screened, 16 were relevant (14/16 from high-income countries). Barriers to accessing rehabilitation included costs, transportation/location (inadequate public transportation/parking, travel arrangements for those in senior housing), wait-times, and time commitment for multiple visits. Facilitators included financial resources (insurance, family support), fewer healthcare visits (emphasis on self-management), flexible scheduling, proximity to services, and travel support. Limited awareness of providers' education/treatments and negative clinician interactions (invalidating or ageist comments, lack of referrals to providers) were barriers, while greater understanding and personal connections with facilities/providers facilitated access. Participants found the use of mobility aids stigmatizing, a barrier requiring them to reframe/confront public perceptions of mobility aids. Virtual rehabilitation addressed location/rurality challenges, but participants had concerns for security. Findings varied with rurality, cultures, and socioeconomic position. **Conclusion:** Older adults with LBP experience many structural barriers to rehabilitation access that vary across diversity related factors. Findings inform strategies for equitable healthcare delivery in high-income countries; research is needed in low-/middle-income countries.

**Gotcare.** *Chenny Xia, Gotcare*

Gotcare is transforming how clients are connected to home health services. Their AI-driven platform seeks to find the perfect match for each client, thereby increasing care consistency and continuity. Gotcare also provides wraparound services, such as virtual visits and remote monitoring, so clients feel connected to them even when someone isn't in the home.

As a social enterprise, Gotcare wants to make care more affordable - the team has been quietly piloting a new program called Care At Cost, which can help families save up to 50% of their home care budget.