



# ICON Year 3 Meeting

Improving Cognitive and Joint Health Network

October 20-21, 2016

Prepared by: Jasmina Geldman, ICON Network and Research Coordinator



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## Executive Summary

This report summarizes the ICON (Improving Cognitive & Joint Health Network) Year 3 Annual General Meeting that took place on **October 20<sup>th</sup> and 21<sup>st</sup>, 2016**, at the Centre for Digital Media, Vancouver, British Columbia. The objective of this meeting was to learn about the progress of currently funded projects and present ideas for new projects and opportunities for collaboration, partnership, and training. The meeting was attended by 26 people, including researchers and research trainees from health and computer science disciplines, patients/consumers, health professionals, and partners from the software industry.

The following highlights summarize current network activities and achievements, as well as ideas for moving forward:

- ❖ “Mobile U” emerged as a central theme that captured the relevance of keeping the *consumer* in mind when planning current and future projects and knowledge-user engagement efforts. Project leaders provided updates on five successfully funded projects that focus on implementing digital-media tools to conduct **research on improving joint and brain health** (OPERAS, SuPA Brain) and facilitate **mobility in the community** (Walk10Blocks, UltraAdvertising, SPINACH). Patient collaborators discussed ideas for constituent engagement, and industry partners presented ways to provide state of the art support for new digital media tools.
- ❖ ICON members presented new project ideas to improve digital media tools that:
  - Help improve informed decision making and functional autonomy of older adults and their care providers to make informed decisions about staying at home or moving into assisted care, in hospital or home settings
  - Develop targeted messaging to improve physical activity adherence in adults with osteoarthritis
  - Understand differences in adherence to physical activity in adults with osteoarthritis and develop physical activity messaging to target low adherers
  - Develop and test the application of virtual reality to encourage range of motion for arthritis patients
- ❖ ICON co-leads will apply qualitative and quantitative metrics to describe network productivity in developing user-friendly digital media-enabled Knowledge Translation (KT) tools and creating new research-community partnerships.
- ❖ Researchers and collaborators support the idea to develop a strategy to communicate the successful collaboration between researchers and advocacy groups in ICON.

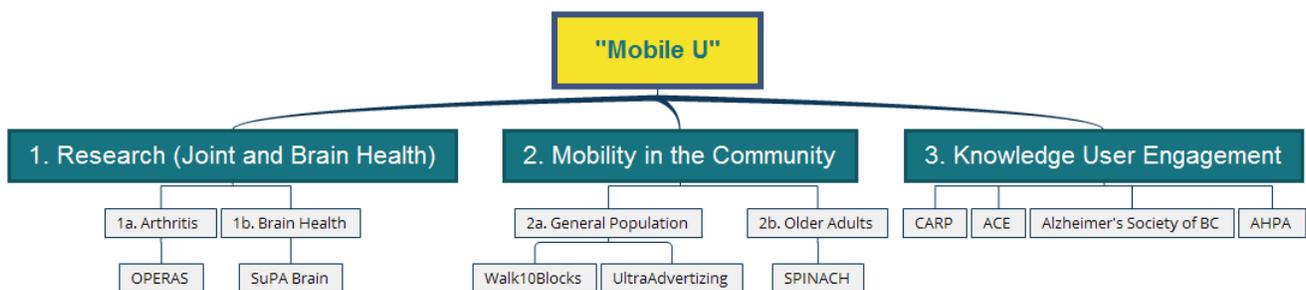
## 1.0 Background

ICON (Improving **C**ognitive & **J**oint Health **N**etwork) is a Knowledge Translation (KT) network, initiated upon the successful funding of a 3-year CIHR catalyst grant in April 2014. The **vision** of ICON is to *transform* how research in brain and joint health is used to improve clinical practice, individual self-management and health promotion, and ultimately, mobility independence in older people. The KT network supports researcher and community-led projects that implement user-friendly digital media technology to meet this vision. Since 2014, the network has grown from 22 members to over [30](#), consisting of researchers, community leaders and trainees from British Columbia, Alberta, Ontario, Quebec, and Nova Scotia.

The ICON Executive Committee approved five projects from 2014 and 2015 that address ICON's priority areas. The Year 3 network meeting was held on October 20<sup>th</sup> and 21<sup>st</sup>, 2016, in Vancouver, British Columbia. Day 1 was devoted to a report of the five successfully funded projects, as well as updates from partners and collaborators. On Day 2, ICON members were invited to put forward new project ideas, delineating how the project goals match ICON's priority areas, and outline opportunities for involving the network's collaborators, partners and trainees.

## 2.0 Day 1: Project and Partner Updates

*Mobile U* emerged as the central theme that bridges the network's mission with the projects led by ICON's investigators and community partners. *Mobile U* represents the *individual as the key informant and consumer* of developing and applying user-friendly digital media tools towards a) research to demonstrate its effectiveness in improving joint and brain health, b) promote daily mobility and healthy aging, and c) create sustainable strategies for knowledge user engagement (Figure 1).



**OPERAS:** an On-demand Program to Empower Active Self-management; **SuPA Brain:** Supporting Physical Activity for Brain Health; **SPINACH:** Support for Seniors and Caregivers to stay mobile at Home; **CARP:** Canadian Association for Retired Persons (formerly); **ACE:** Arthritis Consumer Experts; **AHPA:** Arthritis Health Professions Association

**Figure 1: "Mobile U": putting the consumer first in ICON**

**1. Research (Joint and Brain Health):** Dr. Linda Li and Dr. John Best presented projects that study whether wearable physical activity technology (Fitbit), when used in conjunction with physical activity counselling programs improve arthritis symptoms (OPERAS) for patients with arthritis, and brain health (SuPA Brain) in individuals with osteoarthritis:

- Dr. Linda Li provided an update on the On-demand Program to Empower Active Self-management (**OPERAS**) project (Figure 1, 1a). The team was awarded **\$360,000** for 3 years by The Arthritis Society to conduct a randomized control trial on a program that incorporates **FitViz** (a recently developed Fitbit data visualization web app), **physical therapy counselling** and a **self-monitoring journal** embedded in a remote-access platform supported by Kinduct Technologies. Software integration will be complete by summer 2017 and the trial will begin in the fall of 2017
- Supporting Physical Activity for Brain Health in Mild Cognitive Impairment (**SuPA Brain**) (Figure 1, 1b), led by Dr. Teresa Liu-Ambrose (co-led by Post-doctoral Fellow Dr. John Best), is embedded into a larger randomized control trial (**MONITOR-OA**) that will investigate the association between brain structure and function and physical activity in adults with osteoarthritis. Data collection will be completed in May 2017

**2. Mobility in the Community:** Cheryl Koehn, Dr. Chris Shaw and Dr. Mirjam Garvelink presented digital media tools targeting improvement in mobility in the general population (Figure 1, 2a) and the elderly (Figure 1, 2b).

- Cheryl Koehn (Arthritis Consumer Experts), Andrés Fajardo and Jasmina Geldman (Arthritis Research Canada) presented on **Walk10Blocks**. This app uses a simple interface and reward system, targeting users who find it challenging to get up and get moving every day. It was successfully launched in the [App Store](#) on October 20<sup>th</sup>, 2016. The team is also conducting an embedded study to understand how users interact with the app
- Dr. Chris Shaw discussed the initial design and testing of **Ultra-Customized Health Advertising (YouTube)**, a health awareness advertising application that will use FitViz data to trigger motivational messages delivered by health practitioners with aims to decrease user sitting time
- Dr. Mirjam Garvelink presented on the development and initial user testing of SupPortIng seNIors and Caregivers to stay mobile at Home (**SPINACH**), a caregiver-and-patient-informed web-based interactive decision-aid, to help seniors optimize independent functionality and mobility

The successfully funded projects are described in more detail in the Year 2<sup>1</sup> progress report.

**3. Knowledge User Engagement:** Patient and provider advocacy group collaborators, and education and industry partners discussed future opportunities for project support and engagement. ICON partner and collaborator representatives [provided annual activity updates](#) and potential opportunities for supporting ICON projects:

- Eva Boberski of **Alzheimer's Society of BC** discussed the increased need to build dementia-friendly communities
- Ramona Kaptyn of **CARP** (White Rock/Surrey) presented about potential opportunities to collaborate with ICON on caregiver wellness and education series on the importance of physical activity

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<sup>1</sup> [Improving Cognitive and JOint Health Network \(ICON\): Report for August 2014 – June 2016](#)

- Leslie Soever of **Arthritis Health Professions Association** talked about the organization's commitment to engage constituents in promoting current and future studies at ICON and how to involve the network in sponsored educational activities
- Patrick Pennefather of **Centre for Digital Media** outlined the centre's growing capacity for projects involving virtual reality interfaces
- Allan Hennigar of **Kinduct Technologies** announced the launch of the Kinduct Clinic Platform and suggested opportunities for its integration into several ICON projects, including OPERAS

Presentations for Day 1 are summarized in [Appendix C: Summary of Presentations \(Day 1\)](#).

### 3.0 Day 2: New Project Ideas

ICON members were invited to present ideas that expand on existing projects or set a foundation for new projects ([Appendix D](#)). Four presenters discussed projects that focused on a) developing and evaluating navigation modules to facilitate functional independence in frail elderly and b) proposing novel strategies to improve adherence to physical activity in arthritis patients:

- **Project 1:** Carrie Anna McGinn and Dr. Patrick Archambault discussed conducting a qualitative evaluation of an evidence-informed model of care for the elderly in Quebec
- **Project 2:** Dr. Mirjam Garvelink will continue to adapt and test the SPINACH module, and conduct acceptability and user testing of the existing module in a sample of seniors living in the community and long-term care facilities, as well as caregivers, in two settings (Alberta and Quebec)
- **Project 3:** Dr. John Best proposed an extension of the SuPER project to study whether health messaging and performance in cognitive tasks can help us better understand differences in adherence to the FitViz/physical therapy counselling program, and ultimately physical activity in adults with osteoarthritis
- **Project 4:** Dr. Diane Gromala discussed ideas to build on existing research on the use of Virtual Reality to manage acute pain by studying how its temporary analgesic effects can improve Range of Motion in arthritis patients while exercising at home, using commercially available video game consoles

Projects 1 and 2 will also include building an interactive Wiki platform to support the integration of other projects and resources of the ICON network, by providing direct links to the Walk10Blocks and OPERAS apps. The Wiki platform will allow ICON members and other knowledge users that work with the project leads in British Columbia, Quebec, Ontario and Alberta to update the content and add new resources as they become available.

## 4.0 Year 3 and beyond

Overall, the key impetus in moving forward is to communicate how the ICON network exemplifies successful researcher-patient/public partnership to brain and joint health across the health continuum, from healthy individuals to patients with dementia and arthritis. ICON will continue to grow the “Mobile U” narrative by publishing the results of research, building partnerships with the media as well as other chronic disease agencies and partnerships for active living. The following strategies were discussed (Figure 2):

- Support new innovative projects in Year 3, with a focus on improving mobility across the health continuum
- Publish results of outcomes of current and new projects in peer reviewed papers
- Share the partnership story with other networks through press releases and publishing; Walk10Blocks is an example of a successful partnership between researchers and knowledge users to build an app that has wide appeal in both chronic disease prevention and as an awareness campaign tool
- Build connections with other chronic disease groups (e.g. Lupus, Parkinson’s, Multiple Sclerosis) to communicate the work completed so far and explore new funding opportunities
- Embed the ICON message in current partners and health professionals as well as research workshop programs (e.g., CARP, AHPA)
- Integrate caregivers into research projects and knowledge-to-action strategies

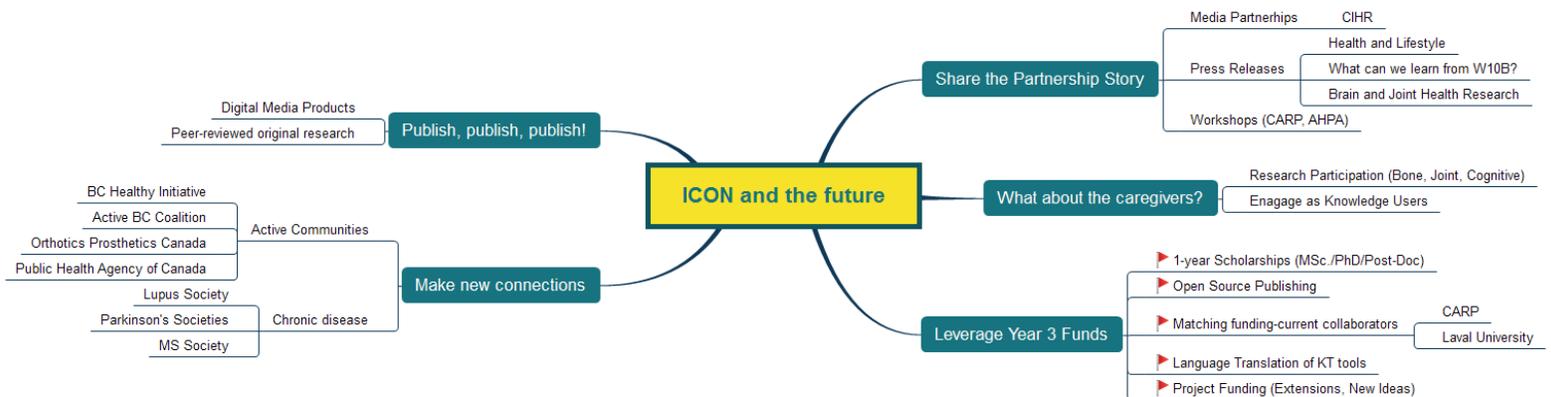


Figure 2: ICON and the future

# Appendices

## Appendix A: List of ICON Members

### Linda Li (Nominated Principal Applicant)

Dr. Linda Li is a Professor, Harold Robinson / Arthritis Society Chair in Arthritic Diseases, and Canada Research Chair in Patient-Oriented KT at the Department of Physical Therapy, University of British Columbia. She is also a Senior Scientist at the Arthritis Research Centre (ARC) of Canada. She is also a Michael Smith Foundation for Health Research Scholar. Dr. Li leads the [Arthritis, Joint Health & KT Research Program](#) at ARC. As a health services researcher, her research focuses in three areas: 1) Understanding the help-seeking experience in people with early inflammatory arthritis, 2) Evaluating models of arthritis care, and 3) Studying the role of digital media tools for improving the uptake of effective treatment. Her work involves collaborating with scientists and skilled workers in sociology, health psychology, computer science and visual arts to create online tools, such as decision aids for promoting shared-decision making and interactive programs for coaching people to be physically active. Dr. Li is currently leading the [OPERAS project](#), as well as [MONITOR-OA](#).

### Teresa Liu-Ambrose (Co-Principal Applicant)

Dr. Liu-Ambrose is Associate Professor and Canada Research Chair in Physical Activity, Mobility, and Cognitive Neuroscience in the Department of Physical Therapy at the University of British Columbia. She is also a Michael Smith Foundation for Health Research Scholar. Her research laboratory, The [Aging, Mobility and Cognitive Neuroscience Lab](#), focuses on defining the role of exercise to promote healthy aging and prevent cognitive and functional decline among seniors. Dr. Liu-Ambrose has a track record for successfully executing randomized controlled trials in seniors. Her most recent 12-month RCT was published in the Archives of Internal Medicine. Dr. Liu-Ambrose is also the Research Director of the [Vancouver General Hospital Falls Prevention Clinic](#). She is an associate member of the [UBC Brain Research Centre](#) and the [Centre for Hip Health and Mobility](#). Dr. Liu-Ambrose works collaboratively with faculty in Psychology, Family Practice, Geriatric Medicine, and Health Care and Epidemiology. Dr. Liu-Ambrose is leading the [SuPA brain pilot project](#).

### Diane Gromala (Co-Principal Applicant)

Dr. Diane Gromala is a [Canada Research Chair in Computational Technologies for Transforming Pain](#) and Professor at the School of Interactive Arts and Technology at Simon Fraser University (SFU) in Vancouver. She earned a Bachelor of Fine Arts at the University of Michigan, a Master of Fine Arts at Yale University, and a PhD in Computing Science at the University of Plymouth, England. As the founding director of the [Transforming Pain Research Group](#), one of Dr. Gromala's primary research interests includes the development of new technologies (ranging from virtual reality and robotics to social media) to improve the lives of people living with long-term chronic pain. She is now working to develop computerized aids that will help patients through biofeedback meditation and visualization therapy. Dr. Gromala has supervised or has been a member of over 70 MAs, MFAs, MSCs and PhD committees in departments ranging from Design, Interactive Art, English, Film and Communications to Computer Science and Engineering. Her work is widely published in the fields of Computer Science, Interactive Art and Design and Pain Studies. Dr. Gromala is working with Dr. Shaw in designing the user interface of [FitViz](#).

### John Esdaile (Co-Principal Applicant)

Dr. Esdaile is Professor of Medicine, Division of Rheumatology Department of Medicine, University of British Columbia. He established the [Arthritis Research Centre of Canada](#) in 2000, of which he was named Scientific Director. The Centre now has a faculty of 12 and includes rheumatologists, orthopaedic surgeons, doctoral level

occupational therapists, physical therapists, biostatisticians, as well as an epidemiologist, a pharmacoepidemiologist and a specialist in knowledge translation. In 2010, the Centre expanded to include the University of Calgary. Dr. Esdaile's areas of research interest include rheumatoid arthritis, systemic lupus erythematosus, and osteoarthritis. He has authored more than 200 publications in refereed journals.

### Sharon Straus (Co-Applicant)

Dr. Straus is a geriatrician/general internist/clinical epidemiologist and Director of the Knowledge Translation (KT) Program at the Li Ka Shing Knowledge Institute of St. Michael's and the Division Director for Geriatric Medicine at the University of Toronto. She holds a [Canada Research Chair in Knowledge Translation and Quality of Care](#). Moreover, Dr. Straus serves as the Principal Investigator for [KT Canada- Strategic Training Initiative in Health Research \(STIHR\)](#). Her contributions include development and evaluation of strategies to bring evidence to the point of care, and the evaluation of other interventions to facilitate knowledge translation and promote quality of care. She has created a transdisciplinary research team that includes colleagues from human factors engineering, computer science, health informatics, and clinical epidemiology amongst others. More than 25 graduate students have been involved with research in this program, which focuses on developing and evaluating strategies for effective knowledge translation. She is the co-author of a best-selling book on Evidence-Based Medicine (EBM), "Evidence-Based Medicine: How to Teach and Practice EBM".

### France Légaré (Co-Applicant)

Dr. Légaré practises family medicine in Québec and is a full-time professor in the Department of Family Medicine and Emergency Medicine at Université Laval, Québec. In 2005, she obtained her PhD in Population Health from the University of Ottawa. The same year, she was awarded a grant as a clinical investigator by the Fonds de la recherche en santé du Québec (FRSQ) for her research program entitled "Health professionals in primary care: From knowledge brokers to decision brokers". Since June 2006, Dr. Légaré has held the title of Tier II Canada Research Chair in the [Implementation of Shared Decision Making in Primary Care](#). She has also been the Canadian Cochrane Network Site representative at Université Laval (the CHUQ Research Centre) since 1999. Dr. Légaré is supervising the post-doctoral training of Dr. Mirjam Garvelink and co-leading the [SPINACH project](#).

### Richard Smith (Co-Applicant)

Dr. Smith is Professor and Director of the Masters of Digital Media Program at the [Centre for Digital Media](#) (CDM). He has over two decades of academic and directorial experience at Simon Fraser University. As professor at the School of Communication at SFU for over fifteen years, he has also served as Director of SFU's Centre for Policy Research on Science and Technology (CPROST) for the past ten years. Dr. Smith has actively been engaged with local, national and international media on issues related to his research into the contemporary world of technology, social media and public surveillance. In addition to research focused on social inclusion brought on by the introduction of digital media, he keeps an ongoing interest in education technology, privacy and public surveillance, online communities, and the wireless information society. His diverse projects and creative works have explored such subjects as privacy issues in the use of mobile technology, electronic scholarly publishing, and the development of technologies for mobile media-rich, urban shared experiences.

### Chris Shaw (Co-Applicant)

Dr. Shaw is an Associate Professor and Undergraduate Chair for the [School of Interactive Arts and Technology](#) at Simon Fraser University (SFU). He is the principal investigator of the [Bio-V group](#) which investigates new methods for the visualization and understanding of biological data. He is the co-author of the first virtual reality application and has created numerous virtual environments for medical applications. Other areas of expertise include bioinformatics, visual analytics and two-handed interfaces for 3D applications. Dr. Shaw teaches human-computer interaction, interactive visualization and video game design, and is currently leading the development of FitViz and [Ultra-Customized Health Advertising](#).

### Allyson Jones (Co-Applicant)

Dr. Jones is an Associate Professor at the Department of Physical Therapy, with a cross appointment in the Department of Public Health Sciences at the University of Alberta. She has clinical experience as a physical therapist in neurology and home care along with graduate training in epidemiology. She is also an AIHS Population Health Investigator. Her research interests include patient health outcomes and health-related quality of life in chronic musculoskeletal conditions common in elderly patient populations. Her more recent work has looked at physical activity and exercise in arthritis, total knee replacements, hip fracture and Parkinson's disease. Other projects include knowledge strategies for mobility in older adults in long-term care facilities and assisted living. Dr. Jones is working with Drs. Légaré and Garvelink on the [SPINACH project](#) with Alberta participants.

### Lynne Feehan (Co-Applicant)

Dr. Lynne Feehan is a physiotherapist and currently works as the Lead in Clinical Research for the Rehabilitation Program for Fraser Health in British Columbia. Dr. Feehan is also a Clinical Associate Professor at the Department of Physical Therapy at the University of British Columbia and is an affiliate researcher with Arthritis Research Canada. As a Co-Investigator for ICON, Dr. Feehan brings her research expertise in evaluation of micro-structural bone health and physical activity in people living with rheumatoid arthritis. Dr. Feehan has previously collaborated with Dr. Li in a study understanding the usability of physical activity monitors for RA, funded by Graphics, Animation and New Media (GRAND) and has ongoing collaboration with Dr. Li in a number of studies exploring physical activity and sedentary behaviour in people living with arthritis. Dr. Feehan has provided her scientific expertise on a number of projects, including [OPERAS](#) and [Walk10Blocks](#).

### Cheryl Koehn (Knowledge User Collaborator)

Cheryl Koehn is the founder and president of Arthritis Consumer Experts (ACE) and [JointHealth™](#). She is a national arthritis advocate, a community leader and a published author. In November 2000, Cheryl founded Arthritis Consumer Experts (ACE) and its [JointHealth™](#) family of programs. As a 20-year survivor of rheumatoid arthritis, Cheryl brings the arthritis consumer's perspective to ACE, and to decision-making processes at government, research institutions, not-for-profit and for-profit organizations across Canada and internationally. Cheryl has served on provincial and national committees and has been a standard bearer for the inclusion of people with arthritis in all decision-making processes related to the field of arthritis. Her remarks from the floor during the final Arthritis 2000 plenary session have been widely recognized as the catalyst for the creation of the Canadian Arthritis Network (CAN). She is an invited speaker at National and International arthritis and health-related conferences as a leading arthritis advocate in Canada. In May 1999, Cheryl became the consumer representative on CAN's management and research and development committee, and was elected chair of its Consumer Advisory Council (CAC). She was re-elected co-chair of this volunteer council in September 2002. She served as a consumer community representative on the CAN Partnerships and Sustainability Committee and along with her Aboriginal colleague, Joyce Greene, spearheaded the development of CAN's Aboriginal Research Initiative, the first of its kind in Canada. Cheryl Koehn is leading the [Walk10Blocks](#) initiative.

### Paul Adam (Knowledge User Co-Applicant)

Paul Adam has a Master's Degree in Social Work and is currently employed as the Rheumatology Liaison & Outreach Services Coordinator at the Mary Pack Arthritis Program in Vancouver. In this position he is involved in improving allied health programs and services for people with arthritis in British Columbia, and in supporting allied health professionals in the province in their provision of care to this patient population. Mr. Adam also has an interest in research as a qualitative researcher. Areas of focus include models of care, health behaviour change, help seeking, and self-employment. Mr. Adam was a member of the Canadian Arthritis Network since its inception. In addition to his work as an administrator and researcher, Mr. Adam is also involved on the board of the Canadian-based Arthritis Health Professions Association and the e-learning committee of the U.S.-based

Association of Rheumatology Health Professionals. Paul Adam is providing project management and subject matter expertise in the [OPERAS](#) project.

### **Alison Hoens (Knowledge User Co-Applicant, Knowledge Broker)**

Ms. Alison Hoens is the [Physical Therapy Knowledge Broker](#) (PT KB). This position is jointly funded by several partner organizations (The UBC Department of Physical Therapy, The Physiotherapy Association of British Columbia, Vancouver Coastal Health Research Institute and Providence Health Care Research Institute. The focus of the role is to support both evidence-informed practice as well as practice-informed evidence. In addition, Alison is the Research, Education and Practice Coordinator for Physiotherapy at Providence Health Care (PHC). PHC provides services to patient and residents across the spectrum of health from acute, rehabilitation and residential settings. Alison has played critical roles in the development of [FitViz](#) and [Walk10Blocks](#) apps.

### **Daniel Schwartz (Collaborator)**

Dr. Schwartz is Medical Director of the Fraser Health Renal Program, Internist in the Royal Columbian Clinical Teaching Unit, Clinical Assistant Professor of Medicine at the University of British Columbia, and Co-Founder of QxMD. In addition to QxMD.com, he is the creator of many online and mobile medical education offerings, including NephrologyNow.com and MedicalPearl.com. Dr. Schwartz aims to use digital media to make research and clinical practice knowledge accessible to all health professionals. QxMD will serve as a knowledge dissemination partner for the [OPERAS](#) project.

### **Jennifer Stewart (Collaborator)**

Ms. Stewart is Manager of Program Development, Coordination & Evaluation at Alzheimer's Society of BC. The Society (established in 1981) is dedicated to helping anyone concerned with or facing dementia have the confidence and skills to maintain quality of life, to ensuring that public policy and perceptions reflect the issues and reality, and to securing funding for support and research. Jennifer is representing Alzheimer's Society of BC as a knowledge partner and co-lead for [Walk10Blocks](#).

### **Leslie Soever (Collaborator)**

Ms. Soever is President of the Arthritis Health Professions Association. Leslie graduated with a Bachelor of Science in Physical Therapy in 1984 and a Master of Science in 2002 from the Institute of Medical Science in The Collaborative Program in Bioethics, all at the University of Toronto. More recently, in 2008, she graduated from the Advanced Clinician Practitioner in Arthritis Care (ACPAC) Program, based out of St. Michael's Hospital and The Hospital for Sick Children in Toronto. Leslie has several years of clinical experience in physiotherapy as well as management experience, in research, program evaluation and the hospital sector. She is currently employed at Mount Sinai Hospital in Toronto as an advanced practice physiotherapist working in the departments of orthopaedic surgery and rheumatology, and is a clinical lecturer in the Department of Physical Therapy at the University of Toronto.

### **Jeannette Kopak (Collaborator)**

Jeannette Kopak holds the position of Director of Business Development and Operations at the Centre for Digital Media in Vancouver. In that capacity, she managed the renovation of a 40-year-old tractor factory, transforming it into a digital media graduate facility, and the home of the Masters of Digital Media program. Jeannette is responsible for ensuring the Centre continues to adapt to the needs of the students and the digital community. Jeannette is a digital media veteran with 16 years of experience at the Canadian Broadcast Corporation, in roles that ranged from designing and implementing the CBC Vancouver TV newsroom editorial system to facilitating the re-use of broadcast content for the early websites such as the Atlanta Olympics and the 1997 Federal

Election. The highlight of her CBC career was leading a multi-million dollar, multi-year project to catalogue, restore, digitize and preserve the CBC radio and television archives across Canada.

### **Monika Kastner (Collaborator)**

Monika Kastner is a Scientist with the Knowledge Translation Program at the Li Ka Shing Knowledge Institute of St. Michael's Hospital in Toronto, Ontario. Monika's research interests and goals are to make a positive impact on the health of Canadians through the development of innovative Knowledge Translation (KT) tools for providers and patients, and to advance the fields of health research methodology, informatics and KT. She pursued a PhD in health informatics at the University of Toronto, which involved the development and evaluation of a CIHR-funded e-clinical decision support tool. She is currently working on: 1) developing a seniors' web-based portal (S-PORT) to improve chronic disease self-management delivered through iPads housed in standalone kiosks across hospital and community settings; and 2) an initiative funded by the Ontario Ministry of Health aimed at developing a "pathway to tools for seniors (PATH-S)", a systematic infrastructure for rigorously and efficiently developing chronic disease tools. The ultimate goal will be to apply PATH-S in the creation of an innovative KT tool that can integrate logical clusters of  $\geq 2$  high-burden chronic diseases to address the needs of seniors with multiple chronic conditions.

### **Patrick Archambault (Collaborator)**

Dr. Archambault obtained his medical degree from the Université Laval in 2000 and completed his post-graduate training to become a member of the Royal College of Physicians and Surgeons of Canada as an emergency medicine specialist at Université Laval in 2005. He was awarded a McLaughlin Fellowship bursary by the Dean of the Faculty of Medicine at Université Laval and, in 2007, completed a Royal College subspecialisation in Critical Care Medicine at the University of Ottawa. Dr. Archambault graduated with honours from the master's program in clinical research at Université Laval in 2007 and the Royal College awarded him a certificate of completion of the clinician investigator program. During his master's studies, Dr. Archambault studied the negative impact of etomidate on the production of cortisol in traumatic brain injuries. In October 2008, Dr. Archambault was awarded a Canadian Health Services Research Foundation (CHSRF) CADRE postdoctoral fellowship scholarship within André Lavoie's REISS program, "Performance of a Continuum of Services in Trauma". He completed training in Knowledge Translation under the direction of France Légaré, André Lavoie and Jean Lapointe. Dr. Archambault's projects have studied the implementation of a wiki reminder system to help physicians caring for critically ill trauma patients share evidence-based therapeutic protocols. Dr. Archambault is a co-investigator on the [SPINACH](#) project.

### **Anita Chan (Collaborator)**

Anita is responsible for research as part of the development and implementation of communications and public affair strategies. She plays a large role in media and social media outreach. She also coordinates special event plans and programs and is responsible for creative input into program design and implementation.

### **Kinduct Technologies (Industry Collaborator)**

Kinduct Technologies is an information technology company that provides data collection and centralization solutions to improve health and human performance. Kinduct has been working with the [OPERAS](#) team to create a module repository to facilitate physical activity counselling. The team will also use their data analytics tools built into their platform towards creating a user-friendly data display interface using the FitViz app.

## Elizabeth Dunbar (Collaborator)

A generalist, Elizabeth Dunbar's background is diverse and includes: Health Care, Education, Not for Profit, Legal Outreach, Financial Management, Real Estate and Radio. As Chair and Director of Communications for CARP North Shore Chapter 4, advocacy is part of her mandate as it pertains to a "New Vision of Aging for Canada". While at Simon Fraser University, Dunbar became passionate about "discourse" including filters, nuance, cultural exposures and underpinnings – and the ensuing challenges - in terms of the communications' approaches pertaining to healthcare services delivery to the elderly and frail. Her final capstone project explored alternative models of day and residential care.

## Hubert Robitaille (Collaborator)

Hubert is a research associate and coordinator at the Tier 2 Canada Research Chair in Implementation of Shared Decision Making in Primary Care. He is the site coordinator (Québec) for KT-Canada, a Canadian research network on Knowledge Translation. His research interests are: shared decision making, continuing professional development, knowledge transfer, knowledge synthesis and dyadic research. Hubert holds a PhD degree in Cellular and Molecular Biology from the Laval University. Following his PhD, he has pursued a post-doctoral fellowship at the Faculty of Veterinary Medicine from the University of Montreal. His interest for the applied sciences led him to join the France Légaré's research team in June 2009 and perform knowledge translation projects. So far, he has led many research projects aiming to implement shared decision making in primary care practice.

## Kimberley Miller (Collaborator)

Dr. Miller is an Assistant Professor, Knowledge Translation and Implementation Sciences, Health Sciences, Simon Fraser University. Dr. Miller's position is partnered with Centre for Improved Cardiovascular Health and the Cardiology program at Fraser Health Authority. She has expertise in the generation of evidence to inform clinical reasoning in the selection of therapeutic interventions and evaluations of outcomes. Her focus is on the application of technologies for therapeutic purposes and physical activity in people with chronic disease and neurological conditions, and barriers and enablers to technology adoption.

## Mirjam Garvelink (Trainee)

Mirjam is a Post-Doctoral Fellow with Dr. Légaré, in the Department of Social and Preventive Medicine, Faculty of Medicine, Université Laval. Earlier this year, she earned a PhD in the fields of Shared Decision Making and Gynecology, Leiden University, the Netherlands. Her research interests include shared decision making, patient's decision aids, knowledge transfer and interprofessional care. Mirjam and Dr. Légaré are currently involved in a project that aims to improve the decision process about location of care with the frail elderly and their caregivers. With ICON's support, Mirjam will lead the developing of a web based tool to support decision making about location of care and mobility for frail elderly ([SPINACH project](#)).

## Ankit Gupta (Trainee)

Ankit Gupta is currently a PhD student at SFU School of Interactive Art & Technology (SIAT). He has a M.Sc. (Computing Science) from Simon Fraser University, and a B.E. (Computer Science & Engineering) from Devi Ahilya University, India. His research interests include data visualization and visual analytics particularly for large collection of text documents. Visual Analytics is an iterative process and Ankit is interested in building visual analytics tools that support re-usability, exploration of alternatives and real-time integration of new knowledge during the analysis process. Working in a team led by ICON Investigator, Dr. Chris Shaw, Ankit's work involves developing a new visualization on a Fitbit application ([FitViz](#)) for health professionals to offer personalized physical activity strategies, and for patients to obtain meaningful feedback.

## Tim Bodyka Heng (Trainee)

Tim Bodyka Heng is a Master of Science student in School of Interactive Arts and Technology at Simon Fraser University, under the supervision of Dr. Chris Shaw. Tim completed his BSc in Interactive Arts and Technology with concentrations in Interactive System and Design. He previously worked as a UX/UI designer and Front-End developer at Radiant Communications in downtown Vancouver. Tim's field of interests include Web Technologies, Visual Analytics and Human Computer Interaction. Tim is involved in the [Ultra-Customized Health Advertising Project](#).

## John Best (Trainee)

John Best is a postdoctoral research fellow working under the supervision of Teresa Liu-Ambrose. John's research uses scientific approaches from lifespan developmental psychology, behavioural economics, health psychology, and kinesiology to study two interrelated questions: (1) What types of experiences bolster cognitive function across the lifespan? (2) What are the cognitive and environmental factors that lead individuals to make choices in the world that promote positive health? In examining these questions, Dr. Best focuses most closely on executive functions, which refer to the cognitive functions essential to goal-oriented and controlled behavior. Originally from the USA, John received a PhD in developmental psychology from the University of Georgia and post-doctoral training in obesity research from Washington University School of Medicine in St. Louis. He is currently supported by fellowships from CIHR and MSFHR. John will be taking the lead in analyzing the fMRI data for the [SuPA Brain pilot project](#).

## Ryan Falck (Trainee)

Ryan Falck is a PhD Student of Rehabilitative Sciences under the supervision of Teresa Liu-Ambrose. He previously earned his MSc in exercise science from the University of South Carolina working under Dr. Sara Wilcox. His thesis work focused on the effects of a community-based walking program on cognitive function in older adults. He has also spent time working for the Energy Balance Study under principle investigators Dr. Steven Blair and Dr. Gregory Hand. A former collegiate strength and conditioning coach, he is interested in the effects of different intensities, frequencies and modalities on the cognitive function of older adults. Ryan will be involved with analyzing the fMRI data for the [SuPA Brain pilot project](#).

## Bryan Chiu (Trainee)

Bryan is an Undergraduate student supervised by Teresa Liu-Ambrose. He is currently studying Honors Biophysics at the University of British Columbia. His research interest is bio imaging and his current project is focusing on the changes in brain structure following the POWER exercise program. His hobbies include weightlifting and cycling. He will be providing support with data analysis for the [SuPA Brain project](#).

## Appendix B: Meeting Agenda

Thursday, October 20 <sup>th</sup> , 2016	
8:30 am	Breakfast
9:00 am	ICON: The future is here! – <b>Linda Li</b> , University of British Columbia
9:45 am	Project 1: Walk10Blocks – <b>Cheryl Kohen</b> , Arthritis Consumer Experts
10:15 am	Break
10:30 am	Project 2: SPINACH – <b>Mirjam Garvelink</b> , Université Laval
11:00 am	Project 3: Ultra Advertising – <b>Chris Shaw</b> , Simon Fraser University
11:30 am	Project 4: OPERAS Pilot – <b>Linda Li</b> , University of British Columbia
12:00 pm	Lunch
1:15 pm	Project 5: SuPA Brain – <b>Teresa Liu-Ambrose / John Best</b> , University of British Columbia
	<b>Partner Update</b>
1:45 pm	<ul style="list-style-type: none"> <li>• Centre for Digital Media (<b>Patrick Pennefather</b>)</li> </ul>
2:00 pm	<ul style="list-style-type: none"> <li>• Kinduct Technologies (<b>Allan Hennigar</b>)</li> </ul>
2:15 pm	Break
2:30 pm	<ul style="list-style-type: none"> <li>• Alzheimer’s Society BC (<b>Eva Boberski</b>)</li> </ul>
2:45 pm	<ul style="list-style-type: none"> <li>• CARP (<b>Ramona Kaptyn</b>)</li> </ul>
3:00 pm	<ul style="list-style-type: none"> <li>• Arthritis Health Professions Association (<b>Leslie Soever</b>)</li> </ul>
3:15 pm	ICON Year 3 Discussion – facilitated by <b>Linda Li</b>
3:45 pm	Wrap-up
5:30 pm	Dinner (E.B.O. Restaurant and Lounge)
Friday, October 21 <sup>st</sup> , 2016	
8:30 am	Breakfast
9:00 am	Opening remarks
9:15 am	New project pitch #1 – <b>Carrie McGinn</b> , Université Laval
9:45 am	New project pitch #2 – <b>Mirjam Garvelink</b> , Université Laval
10:15 am	Break
10:30 am	New project pitch #3 – <b>John Best</b> , University of British Columbia
11:00 am	New project pitch #4 – <b>Chris Shaw</b> , Simon Fraser University
11:30 am	Discussion: The next step for projects & knowledge translation
12:00 pm	Wrap-up

## Appendix C: Summary of ICON Presentations (Day 1)

### Project updates

Presenter	Project Title	Background	Progress	Next Steps
<p><b>Cheryl Koehn,</b> <i>Position: President, Arthritis Consumer Experts</i></p> <p><i>Project Role: Knowledge User Lead</i></p> <p><i>Knowledge User Co-leads: Alzheimer's Society of BC, CARP</i></p> <p><i>Investigator Co-Leads: Linda Li, Teresa-Liu-Ambrose, Alison Hoens, Lynne Feehan</i></p> <p><i>Trainees: Jonathan Lee (Centre for Digital Media)</i></p>	<p><a href="#">Walk10Blocks</a></p>	<ul style="list-style-type: none"> <li>Inspired by research supporting the benefits of walking a minimum of about 2,000–3000 steps or 1 km a day</li> <li>Conceptualized as a knowledge-to-action strategy to motivate people to meet this minimum recommended daily goal</li> <li>Simple user-friendly app to help people meet this goal, the first of its kind in Canada</li> <li>User-Centric Design, embedded research functionalities</li> <li>Features a fun block visualization dashboard, badges, and notifications to get up and walk, complete surveys</li> <li>Passive and active data collection (Survey Data, Walking Data, Walking Log, App Use)</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Walk10Blocks</a> released in App Store October 20<sup>th</sup>, 2016</li> <li>Feasibility study embedded in the app will test user engagement/interactions as well as survey (research engagement).</li> <li>Primary interest is to look at relationships between notifications and user engagement.</li> </ul>	<ul style="list-style-type: none"> <li>Building an Android-compatible version of Walk10Blocks</li> <li>Proof-of-Concept randomized control trial to demonstrate effectiveness in increasing activity, decreasing sedentary behaviour</li> </ul>
<p><b>Mirjam Garvelink, PhD</b> <i>Position: Post-Doctoral fellow (Dr. France Légaré), Laval University, Leiden University</i></p> <p><i>Project Role: Principal Investigator,</i> <i>Investigator co-leads: France Légaré, Allyson Jones, Patrick Archambault</i></p>	<p><b>SPINACH</b> (SupPorting SeNIors And Caregivers to stay mobile at Home)</p>	<ul style="list-style-type: none"> <li>Seniors and Canadian policy makers see many benefits to staying at home and maximizing independence</li> <li>Options how to stay independent at home not clear</li> <li>Knowledge about options could increase chances that senior could successfully continue living in community</li> <li>SPINACH: User-centric design for a bilingual, video-based decision support module that shows options</li> </ul>	<ul style="list-style-type: none"> <li><u>Needs assessment:</u> Semi-structured interviews with seniors, caregivers, professionals; n=29 (4 seniors, 3 caregivers, 22 professionals); <b>themes:</b> cognitive autonomy, psychological wellbeing, functional autonomy, financial autonomy, social autonomy, people involved</li> </ul>	<ul style="list-style-type: none"> <li>Adaptation of the module based on results acceptability test (and ongoing research)</li> <li>Evaluation of effectiveness module, wiki-structure to update it, and implementation strategies</li> </ul>

Presenter	Project Title	Background	Progress	Next Steps
<b>Mirjam Garvelink, PhD</b>		<p>on how to stay independent at home for the elderly, their caregivers, and health professionals</p> <ul style="list-style-type: none"> <li>Bilingual: Alberta and Quebec</li> </ul>	<ul style="list-style-type: none"> <li>Development of the module (videos and user interface)</li> <li>Acceptability test of module (14 item online survey (link + questions))</li> </ul> <p><b>Initial findings:</b> SPINACH is easy to update (wiki platform), acceptable for end-users, has potential to be helpful, scalable</p>	
<p><b>Chris Shaw, PhD</b> Position: Professor, School of Interactive Arts and Technology, Simon Fraser University</p> <p><i>Project Role: Principal Investigator</i> <i>Investigator co-leads: Diane Gromala, Linda Li</i> <i>Trainees: Ankit Gupta, Tim Heng (SFU)</i></p>	<b>UltraAdvertising</b>	<ul style="list-style-type: none"> <li>Primary motivating concept of reminders and competition incorporated with wearable technology and social network</li> <li>FitViz, a web application currently being developed to synch data from a Fitbit, displaying data based on customize exercise targets (set by users and clinicians)</li> <li>UltraAd uses a Chrome Plug which a user can add to replace YouTube ads and replace with motivating messages by clinician</li> <li>Message appears when user is below set-target, user can click on ad and linkout to FitViz to visualize activity data</li> </ul>	<ul style="list-style-type: none"> <li>Prototype of FitViz built and UltraAd plug in</li> <li>Mock-up of dialogue box for communicating with 'friends' on Fitbit</li> <li>FitViz is being incorporated into the OPERAS program</li> </ul>	<ul style="list-style-type: none"> <li>Usability test of prototype</li> <li>Development of Plug ins for other browsers (i.e. Mozilla)</li> </ul>
<p><b>Linda Li, PhD</b> Professor, University of British Columbia Department of Physical Therapy Senior Research Scientist, Arthritis Research Canada</p> <p><i>Project Role: Principal Investigator</i></p>	<b>OPERAS Pilot</b> On-demand Program to Empower Active Self-management	<ul style="list-style-type: none"> <li>Recent physical activity recommendations are moderate-to-vigorous activity at least 30 mins on most days of the week, in sessions of 10 or more mins</li> <li>For people with RA, more may not be better</li> <li>FitViz interface allows clinicians and patients to set appropriate duration and intensity goals;</li> </ul>	<ul style="list-style-type: none"> <li>FitViz Prototyping (April 2015)</li> <li>User testing/refining</li> <li>Piloting FitViz in a physical activity counselling intervention-Inflammatory arthritis: Pilot recruitment completed (n = 10); Knee Osteoarthritis: Recruitment</li> </ul>	<ul style="list-style-type: none"> <li>RCT with inflammatory patients starts in November 2016 (n = 120)</li> <li>RCT with Knee osteoarthritis recruitment ongoing (n = 10) RCT starts in February 2017 (n = 60)</li> <li>RCT in arthritis patients for OPERAS program which will incorporate <b>Arthritis Health</b></li> </ul>

Presenter	Project Title	Background	Progress	Next Steps
<p><i>Investigator co-leads: Chris Shaw, Lynne Feehan, Alison Hoens, Paul Adam</i></p> <p><i>Trainees: Ankit Gupta</i></p>		<p>patient is able to see data from Fitbit in terms of intensity, frequency</p> <ul style="list-style-type: none"> <li>To be used in conjunction with physical activity counselling intervention with physiotherapist</li> </ul>	<p>ongoing (n = 10) RCT starts in February 2017 (n = 60)</p> <ul style="list-style-type: none"> <li>Successfully applied for and received an operating grant (The Arthritis Society, April 2016) to conduct RCT by combining <b>FitViz</b> with <b>Arthritis Health Journal</b> (Diane Lacaille)</li> </ul>	<p><b>Journal, FitViz with Remote Physical Activity</b> counselling</p>
<p><b>John Best, PhD</b> (Post-Doctoral Fellow, Research Associate, Dr. Teresa Liu-Ambrose) Djavad Mowafagian Centre for Brain Health, PEOPLE Lab</p> <p><i>Project Role: Co-I</i> <i>Investigator Leads: Teresa-Liu-Ambrose, Linda Li</i></p>	<p><b>SuPA Brain (SuPporting Physical Activity)</b></p>	<ul style="list-style-type: none"> <li>Improving physical activity adherence is important in order to see benefits in cognitive health</li> <li>Physical activity behavior (e.g. planning and intention) is also related to executive function</li> <li>SuPA is a cognitive function subcomponent of <a href="#">MONITOR-OA</a>, an integrative Fitbit and physical activity counselling program RCT with OA patients (delayed 2 months vs. immediate intervention)</li> <li>Goal is to determine whether individuals in the immediate group will show improved cognitive function over the intervention period compared to delayed group</li> </ul>	<ul style="list-style-type: none"> <li>MONITOR-OA study includes fMRI scans at baseline followed by 4 cognitive tests</li> <li>Goal is to recruit 60 individuals for baseline, month 2, month 4 and month 6</li> <li>Baseline cognitive test and fMRI data: 61 with cognitive data, 32 with MRI data <u>Month 2</u>: 47 with cognitive data. <u>Month 4</u>: 45 with cognitive data. <u>Month 6</u>: 36 with cognitive data. Data collection will end in May 2017.</li> </ul>	<ul style="list-style-type: none"> <li>Use fMRI to predict exercise adherence</li> <li>Add physical activity messaging component to determine whether it changes adherence to exercise as well as cognitive function</li> </ul>

## Partner and Collaborator Updates

Representative	Background	Activities and Updates	Opportunities for Collaboration
<p><b>Patrick Pennefather</b> Senior Faculty and PhD candidate <b>Centre for Digital Media</b> [Education Partner]</p> <p><b>Facebook:</b> <a href="#">@CentreforDigitalMedia</a></p>	<ul style="list-style-type: none"> <li>The Centre for Digital Media is a training, research and development hub, founded in 2001</li> <li>Offers Masters of Digital Media program (collaboration with SFU, BCIT and UBC), teaching students to develop and manage create digital media tools for a variety of industry clients</li> </ul>	<p><b>Virtual Escape Room project for Older Adults</b></p> <ul style="list-style-type: none"> <li>Increase in adoption of online games for older adults to stay connected</li> <li>13-week student project to design interactive story narrative and puzzle through a virtual “escape room”</li> <li>Currently undergoing user testing with tablets, laptops and Virtual Reality (VR) interfaces</li> </ul>	<ul style="list-style-type: none"> <li>Providing trainee and recent graduate opportunities to be involved in the development phase of ICON projects (e.g. Walk10Blocks)</li> <li>Providing in kind support/space to host meetings</li> </ul>
<p><b>Allan Hennigar</b> Product Specialist <b>Kinduct Technologies Inc.</b> [Industry Partner]</p> <p>Twitter: <a href="#">@Kinduct</a></p>	<ul style="list-style-type: none"> <li>Kinduct is a Software-as-Service company, providing a customizable physical activity application program interface (API)</li> <li>Aggregate health, wellness and human performance tools, content and data, in one centralized platform</li> <li>Facilitate more effective collaboration amongst multiple roles within an organization</li> <li>Provide tools to develop, deliver, monitor and measure unique, personalized programs delivered to individual users</li> </ul>	<ul style="list-style-type: none"> <li><b>New launch</b> of the Kinduct Clinic Platform (Nov 2016), with built-in capacity to collect, integrate, analyze and transform data with customizable report widgets</li> <li>Can support survey-based data, passively collected data from wearables (e.g. Fitbit)</li> <li>Messaging widget to promote communication between provider and client</li> </ul> <p><b>Commercialization opportunities:</b></p> <ul style="list-style-type: none"> <li>Emerging niche market for fitness facilities with embedded PT clinics</li> <li>Expanding fitness module for family units and veterans</li> <li>US market: Incentivisation in US through new chronic care management benefit</li> <li>Nova Scotia: NS Health Orthopedics &amp; Physiotherapy - province-wide central intake</li> <li>Opportunities to partner with corporate wellness factions of Nike, Intel</li> </ul>	<ul style="list-style-type: none"> <li><b>Walk10Blocks</b> Integration with Kinduct for consolidation of the data Using API push integration</li> <li><b>OPERAS:</b> Can be supported by Clinic platform for patients and clinicians to remotely and securely view and communicate about physical activity and health trends</li> <li><b>Ultra-Customized Health Advertising:</b> Integration could enable these types of notifications driven by broader range of data within Kinduct</li> </ul>

Representative	Background	Activities and Updates	Opportunities for Collaboration
<p><b>Eva Boberski</b>  <i>Research Coordinator</i>  <b>Alzheimer's Society BC</b>  <b>[Collaborator]</b></p>	<ul style="list-style-type: none"> <li>• <b>Mission:</b> The Alzheimer Society of B.C. exists to alleviate the personal and social consequences of Alzheimer's disease and other dementias, to promote public awareness and to search for the causes and the cures</li> <li>• Key support provided by delivering education and support through resource centres and information series, helplines, exercise and social programs, support groups</li> <li>• Funds Quality-of-Life and Biomedical Research Programs, funding over \$50 million in grants and awards since its inception in 1989</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">FirstLink</a> Helpline and Program: Connects individuals and families affected by Alzheimer's disease or another dementia to a community of learning, services and support at any stage of the journey</li> <li>• <a href="#">Minds In Motion</a>, Weekly exercise and social program for people with early symptoms of dementia and a care partner</li> <li>• Growing priority to build dementia-friendly communities to help people with dementia feel included and supported by businesses, community builders and members</li> </ul>	<ul style="list-style-type: none"> <li>• Promoting ongoing projects by engaging Alzheimer's BC education and community network</li> </ul>
<p><b>Ramona Kaptyn</b>  <i>Chair, White Rock/Surrey Chapter</i></p> <p><b>CARP</b>  <b>[Collaborator]</b></p> <p><b>Twitter:</b> @CARPNews  <b>Facebook:</b> @CARP</p>	<ul style="list-style-type: none"> <li>• <b>Advocacy:</b> national, non-partisan, non-profit organization fighting for financial security, improved health care and against age-discrimination for older Canadians</li> <li>• <b>Advocacy priorities include:</b> <ul style="list-style-type: none"> <li>○ Retirement income security</li> <li>○ Investor Protection</li> <li>○ National Pharmacare</li> <li>○ Healthcare Transformation</li> <li>○ Support for Caregivers</li> <li>○ Dementia Care</li> </ul> </li> <li>• <b>Benefits:</b> CARP provides exclusive deals and offers for members</li> <li>• <b>Community:</b> nearly 50 chapters and 300,000 members; very active in social media and features a successful digital and hardcopy magazine, <a href="http://www.everythingzoomer.com/">http://www.everythingzoomer.com/</a></li> </ul>	<ul style="list-style-type: none"> <li>• Providing information, talks and resources to address advocacy priorities:</li> <li>• Collaborating with like-minded organizations (e.g. Physicians Advisory Council, BC Civil Liberties Association, Minister of Finance among many others)</li> <li>• Opportunities for fundraisers, social gatherings, meet and greets</li> </ul>	<ul style="list-style-type: none"> <li>• Caregiver Wellness Series – CARP and ICON partners can collaborate to make an educational series on the importance of physical activity for the physical and mental health of caregivers</li> <li>• Promote and educate CARP membership about the Walk 10 Blocks App</li> <li>• Form a Walk10Block App user groups to share progress and support</li> </ul>
<p><b>Leslie Soever</b>  <i>President</i>  <b>Arthritis Health Professions Association (AHPA)</b>  <b>[Collaborator]</b></p>	<ul style="list-style-type: none"> <li>• Society of health professionals who work in the field of rheumatology, coming from a variety of clinical and administrative settings</li> <li>• Focused on promotion of education and support of research among its members</li> </ul>	<ul style="list-style-type: none"> <li>• <b>NEW</b> website: <a href="https://www.ahpa.ca/">https://www.ahpa.ca/</a></li> <li>• Updated mission and vision</li> <li>• Increased participation and panel discussion at conferences (Ontario Rheumatology Association), American AHPA</li> </ul>	<ul style="list-style-type: none"> <li>• Reaching out to members via Eblasts, Newsbriefs and website to promote current and future studies,</li> <li>• Opportunities for presentation at AHPA sponsored education activities (potential for workshop at CRA/AHPA)</li> </ul>

Representative	Background	Activities and Updates	Opportunities for Collaboration
<p>Twitter: <a href="#">@ahpaconnect</a></p> <p><b>Leslie Soever (AHPA)</b></p>	<ul style="list-style-type: none"> <li>• Volunteer board members across Canada that meet on a monthly basis</li> </ul>	<ul style="list-style-type: none"> <li>• Continuing involvement in education, including pre-course at CRA Annual Scientific Meeting</li> <li>• Producing monthly Newsbrief</li> <li>• Providing networking opportunities for membership (through website and at 'Meet and Greet' cocktail reception at CRA ASM)</li> <li>• Seeking funding for research grants Collaborating with The Arthritis Society to fund research grant for our membership</li> <li>• Promoting research projects through official endorsements</li> </ul>	<p>Annual Scientific Meeting – Ottawa, February 2017)</p>

## Funding Allocation Summary (Years 1 and 2)

The ICON Network received \$600,000 in funding from CIHR for a 3-year period beginning in April 2014. Interim funding allocation to date shows that out of \$350,000 of funding spent in Years 1 and 2, over a third of the award was used to fund five projects approved by the executive committee (Figure 1).

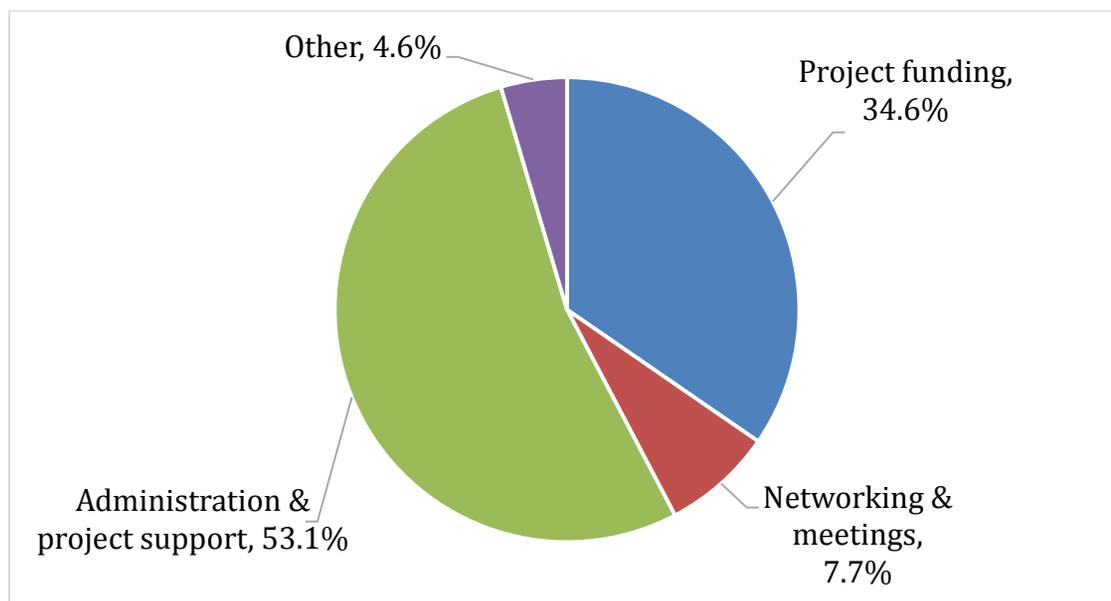


Figure 1: Fiscal distribution (April 2014 - October 2016)

## Appendix D: Summary of New Project Ideas (Day 2)

Presenter and Affiliation	Topic	Background	Project	ICON Resources Needed	Unique Contributions
<p>Carrie Anna McGinn, on behalf of <b>Patrick Archambault, MD</b> (Research-Clinician, Emergency Medicine)</p> <p>CISSS Chaudière-Appalaches Hôtel-Dieu de Lévis hospital, Université Laval</p>	<p><i>Giving voice to patients and caregivers - a qualitative analysis of facilitators and barriers of the Acute Care for Elders (ACE) Care program implementation</i></p>	<ul style="list-style-type: none"> <li>• <b>One third of Canadian seniors</b> report experiencing care coordination problems; gaps in hospital discharge planning and long waiting lists to receive home care</li> <li>• Improving care transitions reduces avoidable hospital readmissions, decreases costs, improves patient care experiences, and maintains functional autonomy</li> <li>• Acute Care for Elders (ACE): evidence-informed model of coordinated care; shows promise in reducing length of stay, readmissions and improving patient satisfaction</li> <li>• ACE has a team of clinicians, decision makers, patient-partner, and researchers in order to build capacity for a collaborative <b>Wiki platform</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Objective:</b> Understand participants' experiences &amp; satisfaction, identify elements of successful transitions and inform the construction of the ACE program &amp; wiki based KT platform</li> <li>• <b>Methods: Key informant interviews</b> elderly patients/ caregivers at local site, transition coaches, clinicians, patient partners and decision makers; <b>Qualitative analysis</b> of key project documents (meeting minutes, et cetera)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Financial:</b> The human resources to complete project (travel for in-person interviews, stipends for patients)</li> <li>• <b>Network:</b> Develop and strengthen collaborations with ICON members; create links between this project and other ICON projects; future scale-up of project via a Wiki platform to other ICON member sites</li> </ul>	<ul style="list-style-type: none"> <li>• ACE helps elderly patients retain functional autonomy and empower patients to take charge of their health care, and remain as long as possible at home</li> <li>• Innovative wiki component contributes to a) context-adaptation of geriatric knowledge tools b) networking between project partners</li> <li>• Qualitative data of project implementation indicators including improving patient engagement</li> <li>• Opportunities for graduate students to be involved in analysis and publication</li> </ul>

Presenter and Affiliation	Topic	Background	Project	ICON Resources Needed	Unique Contributions
<p><b>Mirjam Garvelink, PhD</b>            Post-Doctoral fellow (<b>Dr. France Légaré</b>)</p> <p><i>Research center of the CHU de Québec-Université Laval, Quebec; Leiden University Medical Center, the Netherlands; Radboud University</i></p>	<p><b>SPINACH 2.0</b> Helping seniors decide how to stay independent at home: preparing to launch an online tool</p>	<ul style="list-style-type: none"> <li>• <b>SPINACH 1.0</b> focused on developing a module to support decision making about ageing in place</li> <li>• First step was to build an online module with videos of options from different expert perspectives that provide specific local information and resources, bilingual and a Wiki-based structure to update specific information</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Objectives:</b> Phase I: adaptation and tailoring of the module based on results acceptability test (and ongoing research) Phase II: evaluation of the effectiveness of: the module, on informing people how to stay independent at home, the wiki-structure to update it, the implementation strategies used</li> <li>• <b>Methods: Phase I:</b> Adapt module to suggestions based on acceptability test; tailor information for target users and health condition, look for sources of technical support and other hosts  <b>Phase II:</b> Assess feasibility and acceptability using a pre-post comparison group with 2 control groups (seniors at home and seniors in a facility)  <b>Data Collection:</b> Questionnaires, web statistics of module  <b>Implementation strategies</b>            Referral (on websites of) associations &amp; community initiatives, wiki (Archambault et al); Referral by homecare teams (QB)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Financial:</b> Total funds needed: \$27,400, for Phase I (adaptation of videos, modules, personnel) and Phase II (feasibility study, web analytics)</li> <li>• <b>Network:</b> Steering committee includes ICON members in QB (France Légaré) and AB (Allyson Jones)</li> <li>• Collaboration with students at the Center for Digital Media for tailoring and implementation strategies, at Université Laval, and local organizations in QB (TELUQ, Urbal). Translation and web access support</li> </ul>	<ul style="list-style-type: none"> <li>• Has potential to improve informed decision making, autonomy and mobility in older adults using digital media tools</li> <li>• Opportunities to collaborate with other investigators, across Canada and Holland and expand to a multi-language module</li> <li>• Opportunities to link other projects (e.g. Walk10Blocks, SuPA Brain, OPERAS) to tailored module</li> </ul>

Presenter and Affiliation	Topic	Background	Project	ICON Resources Needed	Unique Contributions
<p><b>John Best, PhD</b> <i>(Post-Doctoral Fellow, Research Associate, Dr. Teresa Liu-Ambrose)</i></p> <p><b>Djavad Mowafagian Centre for Brain Health, PEOPLE Lab (Dr. Teresa Liu-Ambrose)</b></p>	Studying physical activity monitoring and adherence, after exposure of Physical Activity Messaging using fMRI	<ul style="list-style-type: none"> <li>Fundamental issue is long-term adherence to physical activity (after 6-months starts to trail off)</li> <li>Long-term effects of cognition means having to maintain physical activity</li> <li>People with OA are less likely to adhere to physical activity program</li> <li>Most studies looking at effects of health behaviour intervention using fMRIs have been on smoking</li> <li>More recent studies incorporated Physical Activity Messaging, Wearable Technology and fMRI tasks, looking at activity in the medial prefrontal cortex (mPFC), responsible for subjective evaluation</li> </ul>	<ul style="list-style-type: none"> <li><b>Objectives:</b> Who are the adherers? How does their activation differ from non-adherers? Do additional fMRI tasks and Physical Activity messaging affect activation, and adherence to FitViz program, higher activity levels and reduction in sedentary behaviour over time (in adults with OA)?</li> <li><b>Methods:</b> In addition to intervention used in SuPA, this project will add the following to study activation in mPFC:1) a Go-No-Go task 2) Physical Activity Messaging</li> </ul>	<ul style="list-style-type: none"> <li><b>Financial:</b> \$20,000 to collect multi-modal 3T brain images for ~30 individuals</li> </ul>	<ul style="list-style-type: none"> <li>Adherence to physical activity is key in maximizing its benefits on cognitive health</li> <li>This project will expand objectives of current project to help identify and target non responders. It will also add a physical activity messaging component to existing digital media/PT counselling interventions being studied</li> </ul>
<p><b>Diane Gromala, PhD &amp; Chris Shaw, PhD</b></p> <p><b>School of Interactive Arts and Technology, SFU</b></p>	Virtual Reality: Move More, Sit Less & Feel Certain; encouraging Range of Motion for arthritis patients	<ul style="list-style-type: none"> <li>VR can provide 1-to-1 simulations of your body</li> <li>mirror your movements in VR</li> <li>Applications in healthcare including: pain management, surgical training and</li> </ul>	<ul style="list-style-type: none"> <li><b>Objectives:</b> Pilot test application of VR as temporary analgesia in improving Range of Motion (RoM) in arthritis patients in clinic at home to answer a) can VR help patients increase their RoM &amp; confidence in their</li> </ul>	<ul style="list-style-type: none"> <li><b>Financial:</b> To be specified</li> <li><b>Network:</b> Leverage FitViz development to build VR component</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity to develop opportunities for positive feedback and courage in RA patients who have pain and are discouraged to be active</li> <li>Currently very few VR projects with arthritis patients</li> <li>Builds on prior experience &amp; current longitudinal study of</li> </ul>

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<p><b>Diane Gromala, PhD &amp; Chris Shaw, PhD</b></p> <p><b>School of Interactive Arts and Technology, SFU</b></p>		<p>planning, anxiety disorders, phobias, PTSD, rehabilitation following stroke, schizophrenia, Parkinson’s disease, acute pain</p> <ul style="list-style-type: none"> <li>Recent release of OculusRift re-opens possibilities as a <b>consumer-grade VR system</b> (~\$400)</li> <li>Research at Transforming Pain Lab (@SFU) looks at applying VR for <i>chronic pain</i> (<a href="#">Mobius Floe</a>)</li> <li>VR has potential to work with body image and body schema (and dysmorphia associated with pain) to better understand pain thresholds and range of motions, particularly in arthritis patients</li> </ul>	<p>RoM? b) Does RoM relate to body dysmorphia &amp; cognitive function in RA patients? c) Can VR help retrain pain behaviors?</p> <ul style="list-style-type: none"> <li><b>Methods:</b> Compare head-mounted display with and without <a href="#">Kinect</a> software (full-body)</li> <li>Conduct, focus group, participatory design and proof-of concept</li> <li>Measure: RoM, pain (VAS), cognitive function (self-reported tool)</li> </ul>		<p>VR use @home among 100 cancer survivors who have chronic pain</p> <ul style="list-style-type: none"> <li>Social connections are newly possible w/VR</li> <li>Leverage FitViz with RoM feedback</li> <li>Leverage CDM, UBC &amp; Innovation Blvd.</li> <li>NIH voiced “extreme interest” in VR</li> </ul>