

Background

We increasingly face challenges addressing the health care needs of citizens, particularly those living and aging with complex conditions. Health care costs are growing and leading to centralization of services, impacting those in rural/remote communities. Budget constraints have led to reductions in programs and services intended to address the needs of the most vulnerable populations.

At the same time, we are experiencing a rapid pace of technological change in all areas, including assistive technologies which promote independence. Assistive technologies are broadly defined as the technology, services, policies, and structures which support independence for people with limitations in completing daily activities, or participating in their communities. They are mediators for independence and can help reduce health related costs.

The InNovATE project comprised 2 days of stakeholder meetings with leaders in assistive technology research, education, and health service in Western Canada and the Pacific Northwest USA, to increase awareness of innovations and initiatives in assistive technology in our region, develop networks focused on collaboration, and establish next steps addressing the key priorities identified during discussions.

The World Health Organization estimates 1 billion people in the world need access to assistive technologies, and expects that number to double by 2050.

Why Western Canada and the Pacific Northwest USA?

International challenges require international solutions. To help address the assistive technology challenge in our region, we engaged in a cross-border collaboration (British Columbia, Alberta, and Washington) to identify the needs specific to our region, identify our strengths in solving these challenges for ourselves and for others, and seek innovative solutions.

Objectives

The objectives of the InNovATE meetings were to...

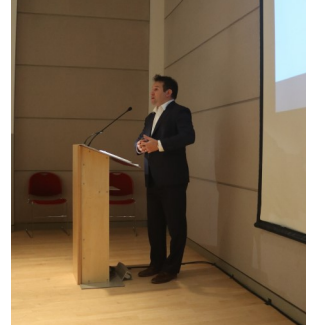
- **Identify collaborative opportunities** among academic, policy, public, and private sector players in the assistive technology field in Western Canada and the Pacific Northwest USA
- **Share global and regional innovative work and best practices** in assistive technology Research, Education, and Service Provision
- **Explore the creation** of a World Health Organization affiliated **Assistive Technology Regional Hub**, engaging leaders in assistive technology throughout Western Canada and the Pacific Northwest USA
- **Identify funding opportunities** to advance assistive technology research, education, and health services



Assistive Technology

Global Developments to Local Impacts

The keynote address was provided by Mr. Antony Duttine, Advisor for Disability and Rehabilitation for the Americas at the Pan American Health Organization. The following is a summary of his address.



The Pan American Health Organization (PAHO) is the regional office for the Americas for the World Health Organization (WHO), and the specialized health agency of the inter-American system. Within these organizations, programs related to assistive technology are conducted in close collaboration between Disability and Rehabilitation teams, and Medicines and Health Technologies.

Historically, when considering health actions globally, the Millennium Development Goals provided a framework for the priorities of PAHO and the WHO. However, the focus on mortality as an outcome of interest has not prioritized a focus on rehabilitation, including assistive technology.

The ratification of the United Nations Convention on the Rights of Persons with Disabilities has precipitated a shift in thinking. Disability, and related issues, are more represented in the United Nations Sustainable Development Goals, in the areas of Good Health, Quality Education, Reduced Inequalities, Sustainable Cities and Communities, and Partnerships. The agenda set forth by the SDGs is ambitious, targeting the key issues which prevent sustainable development, and requires participation of a broader range of stakeholders.

There are changing global patterns of health. In particular, there has been a decline in the prevalence of infectious diseases, and improvements in emergency care and medical interventions. While the consequences of injury and illness are reduced, the increased use of motor vehicles and associated accidents has resulted in a relatively stable prevalence of injuries.

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We are also experiencing a rise in noncommunicable diseases, including diabetes, stroke, cancer, cardiovascular and respiratory disease, and mental health conditions. Due to these factors, and an ageing global population, the total number of people living with disability is increasing. Rehabilitation and access to assistive technologies are critical factors to promote health and wellness, to meet the SDG to “Ensure healthy lives and promote well-being for all at all ages.”

Assistive Technologies are needed at some point during the lifespan by all individuals. Consequently, it is an area of importance. The global demand for these technologies, including glasses, hearing aids, cognitive aids, prostheses and orthoses, mobility aids, and wheelchairs, is estimated to exceed one billion individuals today, with an expected increase to 2 billion by 2050. However, only 10% of the individuals who require these technologies around the world have access to them.

The GATE initiative was developed by the World Health Organization “to assist Member States to improve access to assistive technology as a part of Universal Health Coverage” in response to the UN Convention on the Rights of Persons with Disabilities. In the coming years, the GATE initiative expects to produce a global report on access to assistive technology by 2021, with progress reports in 2022, 2026 and 2030. Planning is also underway to provide policy guidance and practical tools with best practices examples to develop and strengthen national, sustainable assistive technology programs.

Local organizations, including potential Assistive Technology Hubs, will have a role to play in helping to achieve the broad and ambitious aims of the GATE initiative both within their regions, and on a global scale. These regionally focused efforts will demonstrate need, raise awareness, highlight the effectiveness of assistive technologies, and champion the GATE aims to promote equitable access to assistive technology for all.

Further information about GATE can be found here:

<https://www.who.int/disabilities/technology/gate/en/>

Innovative Work in our Region

We asked representatives from organizations doing great work in our region to share some of what they do. While we couldn't include all of the incredible work, the programs and services below are a sample of some of the assistive technology resources available in our communities.

The Presidents Group is a network of leaders in British Columbia who champion accessible, inclusive workspaces. Efforts include an inclusive interview checklist, and co-op programs and internships.

Represented by Marco Pasqua, British Columbia

Go Baby Go is an inter/national movement to develop and share open source designs for pediatric mobility devices using off-the-shelf materials customized to a child's need.

Represented by Dr. Heather Felder, Washington

The **Smart Condo™** is a research, training, and learning space used for the development and evaluation of products and technologies to promote ageing in place.

Represented by Dr. Lili Liu, Alberta

Technology for Independent Living provides access to environmental control technologies for clients with a range of conditions living in the community at no charge.

Represented by Ean Price and Ruth Marzetti, British Columbia

Innovative Work in Our Region

Regional Collaborative Service Delivery enables collaboration to address needs, coordinate systems, build capacity, and plan for sustainability for children and youth with low-incidence disabilities.

Represented by Kathy Howery, Alberta

Makers Making Change connects volunteer makers with people with disabilities to create customized, open-source assistive technologies, and maintains a database of these technologies.

Represented by Chad Leaman, British Columbia

Communication Access for Youth and Adults supports non-speaking adults in BC to communicate through the provision of augmentative and alternative communication equipment.

Represented by Lois Turner, British Columbia

The **Northwest Access Fund** provides funding and financial services to people with disabilities in Washington and Oregon to purchase assistive technology and achieve greater independence.

Represented by Emerson Sekins, Washington

CanAssist provides people who have physical or cognitive barriers with technologies, programs, and services to address unmet needs and increase independence, inclusion, and well-being.

Represented by Robin Syme, British Columbia

Key Challenges

InNovATE delegates worked together to identify and prioritize key challenges in Assistive Technology in our region. Delegates were asked to focus on challenges without consideration for solutions. In many cases, these challenges overlap, which is addressed in later stages of solution identification and consolidation.

The following ten challenges were identified as the highest priority needs to be addressed by an Assistive Technology Regional Hub.

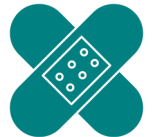
Bridging the Funding Gap



Assistive Technologies can be expensive and difficult to obtain, and there is limited funding to support the purchase of these devices. There is a gap between identified needs and available funding.

Moving Away from the Medical Model

Assistive technologies have historically been provided according to a medical model of disability, focused on an individual's limitations, and ways to reduce or accommodate impairment. This medicalization of disability and access to assistive technology results in unmet needs.



Complex and Fractured Systems



Access to assistive technology is often through complex health and social structures, which can be difficult to navigate. Challenged communication and a fractured approach between the various players in these systems leads to inadequate access to services and technologies.

Difficulty Quantifying Assistive Technology Outcomes

Justifying need, and therefore funding, for Assistive Technologies is challenged by a lack of appropriate outcome measures for assistive technology use which focus on the effectiveness of technologies in promoting participation, independence, and engagement.



Key Challenges

Awareness of Problems and Solutions



There is a general lack of awareness of the challenges assistive technology users face on a daily basis, and the potential solutions to those challenges. Those who require assistive technologies to promote participation may not be aware of available solutions.

Funding for Full Spectrum Services

While funding may be available for technology, there is limited funding available for assessment, training, follow-up, and maintenance. These are critical to the success of assistive technology outcomes.



Lack of Collaboration Across Systems



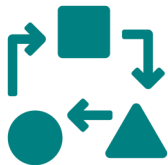
Services are often provided by clinicians and organizations working independently from one another, without coordination between services. This increases the burden on the client and the provision system, resulting in inefficient services and provision.

Knowing What Products and Services are Available

While a variety of services and products exist to meet the needs of those with disabilities, there are no single-source resources to identify and obtain these products and services.



Continuity of Service Provision



Most services are provided on a time-limited basis, with limited funding for follow up and ongoing service, leading to a lack of continuity of service provision, which may be inefficient or ineffective.

Putting Research Into Practice

Despite excellent research and development throughout the region, it is difficult to bring new products and services into the market, and to create change in practice.



Delegates began by identifying key challenges, followed by a process of identifying potential solutions, which were consolidated into six activities a regional hub should prioritize. Brainstorming and small group discussion sessions, combined with the use of technology, provided opportunities for all voices to be heard and acknowledged,.

Challenges



Solutions



Activities



Activities



Develop a **database** of available **assistive technology services, products, and funding** for assistive technology users, potential users, and clinicians.



Create a **centralized, 'live', peer-led information resource** for assistive technology users to seek information and support to access assistive technologies and related services.



Develop an **evidence resource** to promote and support integrated knowledge translation of assistive technology research, using consistent outcome measurement.



Engage in **evidence-based advocacy** at the federal level which promotes **rights-based access to assistive technology**, focused on holistic quality of life and social citizenship, moving away from the model of medical necessity.



Establish, promote, and advocate for a **funding model which promotes assistive technology as a service**, including assessment, provision of technology (including recycle, upcycle, and rapid development), training, and follow-up.



Develop and maintain a **Community of Assistive Technology Practice** to promote knowledge exchange, clinical education, collaboration, and assistive technology user engagement in research.

The Roles of a Regional Hub



Advocacy



**User
Engagement**



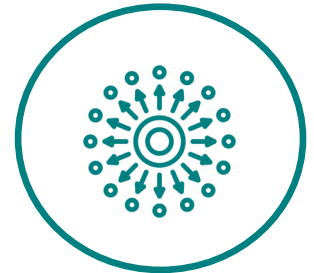
**Professional
Development**



**Regional
Coordination**

InNovATE

Innovations in the Northwest to advance
Assistive Technology Excellence



**Dissemination
of Knowledge**

Delegates identified the opportunity for a Regional Hub to improve communication between jurisdictions, reduce duplication of efforts, and work towards advancing access to assistive technology products and services. In particular a Regional Hub was identified as an opportunity to share resources and magnify the impact of activities currently undertaken by individual organizations and groups.

Moving Forward

There is support for the development of an Assistive Technology Regional Hub, aligned with the WHO GATE initiative, and addressing key needs within the region. A number of considerations were discussed to inform the next steps:

Funding

Obtaining and maintaining adequate funding is critical to the success of an initiative of this size to move forward. Delegates identified opportunities to obtain funding through private businesses or industry, membership fees, governmental support, support from charitable foundations, social impact funds, and granting agencies or universities.

Communications

Ongoing communications among delegates and others in the area were identified as critical to moving the InNovATE agenda forward. Communication avenues, including potential opportunities for face to face meetings were explored.

Partnership

To reduce start-up and operational costs, delegates discussed the option of embedding a staff person within a partner organization who would act as a host for the Assistive Technology Regional Hub. A partnership of this nature would provide support for the work within an existing national or regional infrastructure.

Structure and Governance

The structure of the Regional Hub should be as a coordinating body which recognizes and acknowledge the excellent work being done by existing organizations in the region, with the aim to maximize their impact, towards a common aim. A Collective Impact Governance Model is well suited to this approach.

Our Partners



THE UNIVERSITY
OF BRITISH COLUMBIA



Advisory Committee

Dr. Bill Miller	University of British Columbia
Ms. Emma Smith	University of British Columbia
Ms. Ruby Ng	The Disability Foundation
Dr. Mark Harniss	University of Washington
Dr. Kim Adams	University of Alberta
Mr. Ian Denison	GF Strong Rehab Centre
Dr. Cheryl Beach	Fraser Health Authority
Dr. Ben Mortenson	University of British Columbia
Dr. Ian Mitchell	University of British Columbia
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A special thank you to Mr. Jeff Riley, for his excellent guidance as our facilitator, and to our graduate student volunteers, for their commitment to the project.

WHY?

1 billion people worldwide need assistive technologies

2 billion will need access to these technologies by 2050

Our regions are well positioned to address this challenge

4

AREAS OF FOCUS



Policy



Provision



Education



Research

60 EXPERTS

Assistive Technology Users

Service Providers

Researchers

Educators

Not for Profits

Funders & Advocates

Industry Representatives

3 REGIONS

British Columbia

Alberta

Washington



2 DAYS

Networking

Brainstorming

Problem Solving

GET SOCIAL!



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