

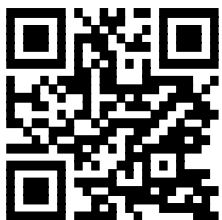


STARRT

Stroke Toolkit for Aquatic Rehabilitation and Recreation Therapy



Designers: [Andresa R. Marinho Buzelli](#), Ron Reddam, Catherine Gareau, Hasnain Mawji, Audrey Collins, Robin Chernick, Elizabeth Linkewich, Abirami Vijayakumar, Marina B. Wasilewski, Sander L. Hitzig



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Canadian Institutes of Health Research Instituts de recherche en santé du Canada



Objectives of this Presentation

- Understand why aquatic therapy can be a powerful therapeutic tool for stroke rehabilitation
- Explore the Stroke Toolkit for Aquatic Rehabilitation and Recreation Therapy (STARRT) features and applications to aquatic therapy practice post-stroke
- Consider implementation factors of aquatic therapy post-stroke

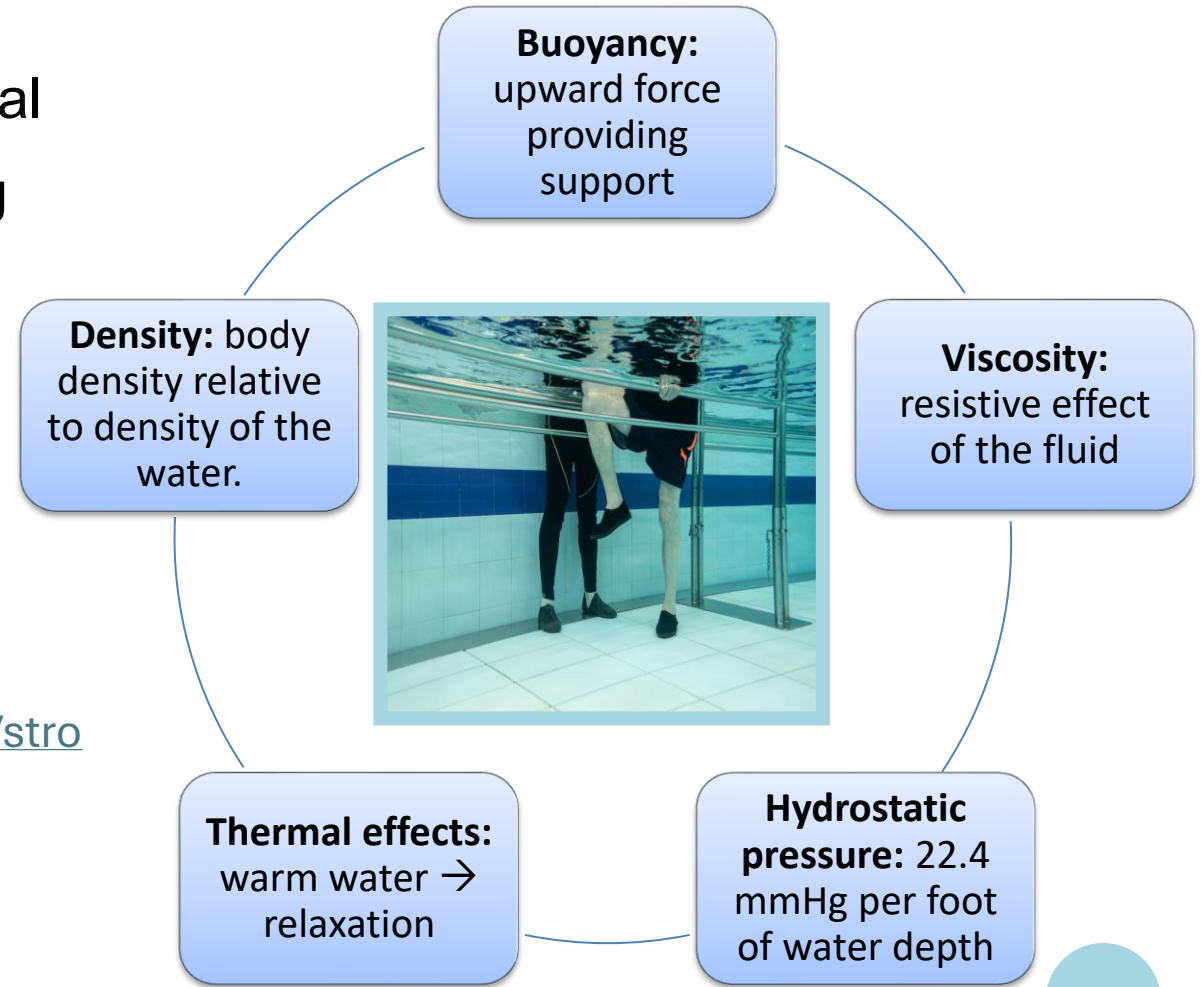


Aquatic Therapy

- Aquatic therapy (AT) is better than conventional therapy to improve balance ability and walking speed after stroke.

(Canadian Stroke Best Practices)

<https://www.strokebestpractices.ca/recommendations/stroke-rehabilitation-delivery/4-lower-extremity-balance-mobility-and-aerobic-training>





Aquatic Therapy Approaches

- Traditional aquatic approaches

Bad Ragaz Ring Method



Halliwick



Ai Chi



(Gento-Andres et al., 2026/
Ivaldi et al. 2026)



Aquatic Therapy Approaches

- Functional approaches

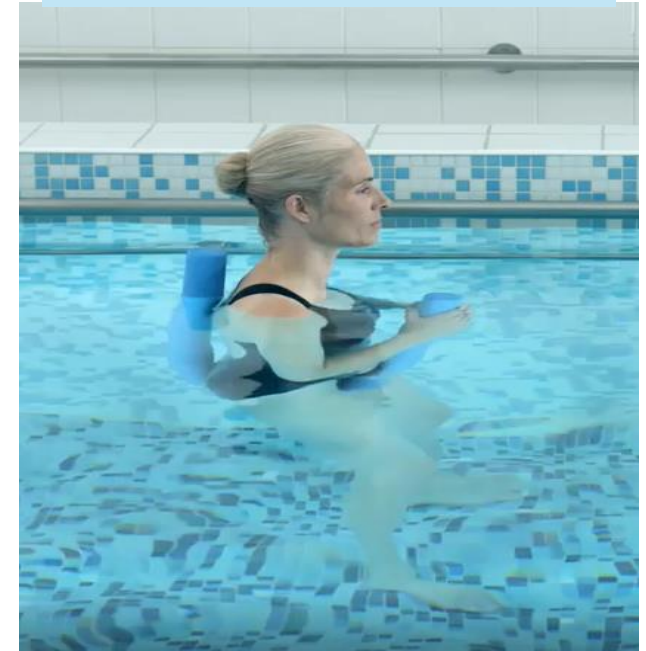
Underwater Treadmill



Walking in water



Trunk mobility



(Gento-Andres et al., 2026/
Ivaldi et al. 2026)



Stroke Toolkit for Aquatic Rehabilitation and Recreation Therapy

An education and information initial guide to optimize the access and use of aquatic therapy for healthcare professionals and persons who have experienced a stroke



Toolkit Goals

- To educate clients, caregivers, and professionals about aquatic therapy post-stroke
- To increase aquatic therapy participation by informing clients, caregivers and professionals on how to access aquatic therapy

Please select one of the options below to get the necessary information you need to help guide you with your aquatic therapy needs:

I am a person who had a stroke
OR a caregiver

I am an aquatic therapy
provider

Meet the co-design team

The process of co-design

Evidence-Based Practice





Meet the Co-design Team



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A person with stroke experience
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A person with stroke experience
Toronto Stroke Network



Ron R

A person with stroke experience
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Aquatic Therapist and Physiotherapy Assistant
Owner at Audrey's Aquatic Therapy and Rehabilitation



Beth Linkewich

Regional Director, North & East GTA Stroke Network
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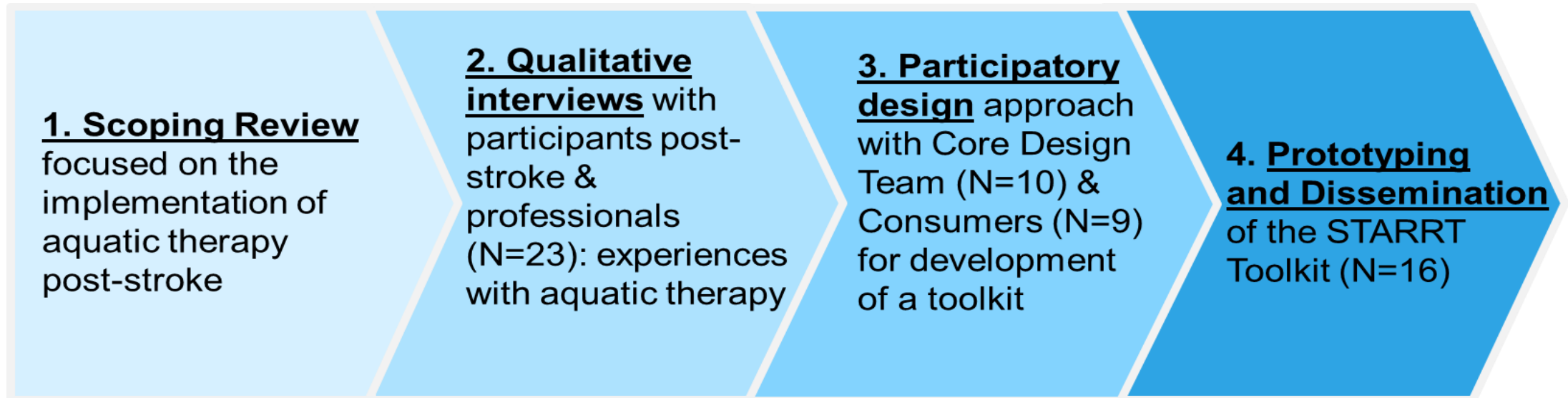
Abirami Vijayakumar

Research Coordinator & STARRT Research Analyst
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Co-design process

Four-step approach to the STARRT toolkit





Education Guide

Education Guide

<https://www.starrt.ca/en/c/provider/education-guide>

About stroke

About aquatic therapy

Understanding the properties of water

Stroke and Aquatic Therapy from the Indigenous Perspective

Benefits of aquatic therapy for stroke recovery

Types of exercises you could do in the water

How caregivers can help with pool therapy

Theoretical
Questions



Information Guide

[Information Guide](https://www.starrt.ca/en/c/provider/information-guide)

<https://www.starrt.ca/en/c/provider/information-guide>

Am I eligible for aquatic therapy?

How do I get ready for a pool session?

How do I manage the fear of water?

Where can I find a certified aquatic therapist?

Where can I find a pool?

What are the risks and safety considerations?

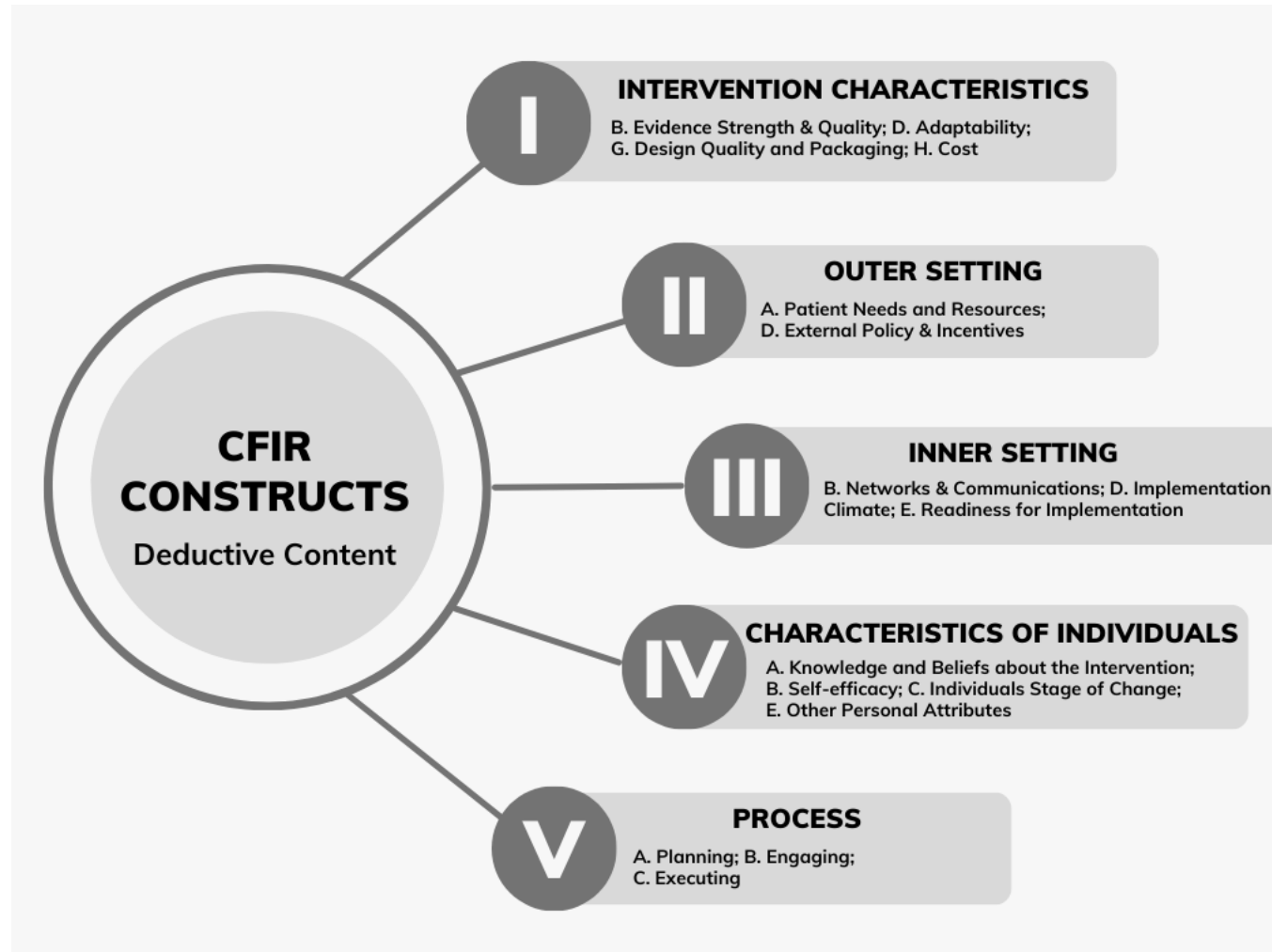
What are the contra-indications and precautions?

Practical
Questions



Implementation Considerations

- 9 persons who experienced a stroke and 14 HCPs from across Ontario





Intervention Characteristics – CFIR Construct I

Evidence Strength and Quality

“Aquatic Therapy had so many different layers, just what it does physically, there's also an emotional and a social component, building confidence, decreasing anxiety, just the creation of friendships”

(HCP07, Woman, 60-70 years old, Recreation Therapist)

Design Quality and Packaging

“But there's really no designated person that would be in charge of looking at how optimal is the pool used? Are we maximizing its use and its value, should we be providing easy access, or should we be organizing a course for everyone?”

(HCP04, Woman, 30–40 years old, Physiotherapist)

Cost

“Private health care, it's doable, it's realistic, public not so realistic because three times a week when we're saying at a minimum of \$100 a session, we're now talking \$300. I highly doubt that the government will come up with some funds for that.”

(HCP09, Woman, 30–40 years old, Physiotherapist)



Outter Setting - CFIR Construct II

Patient Needs and Resources

“I did it for about six months, but the travelling to get there was becoming a real hard thing to do because you have to take ‘Wheel-Trans’ and then transfer to a ‘TransHelp’. If you missed one ride, you were stuck because they weren’t always on time.”

(S02, Man, 60–70 years old, 10 years post-stroke)

External Policies and Incentives

“There are certain guidelines and expectations with the bundle of care in terms of access and what sort of an interprofessional team should offer and what it should consist of. I think a lot of it is based on that just purely because of the amount of resources that we have to dictate our care here. A lot of the focus is first on meeting expectations from the bundle of care and it’s not that clinicians aren’t open to understanding newer different ways of treating, but again if you only have a short amount of time to accomplish what you need.”

(HCP08, Man, 30-40 years old, Outpatient Project Manager)



Inner Setting – CFIR Construct III

Readiness for Implementation

“I approached him with a possibility of starting a program for post-stroke in the community and he was a little concerned, but he said, okay.”

(HCP01, Woman, 70-80 years old, Aquafitness Instructor)

Relative Priority

“We need more of this. Whatever money it takes to pour into the healthcare system, we should have more rehab hospitals. More therapy swimming pools. More to help stroke survivors.”

(S06, Man, 70-80 years old, 10 years post-stroke)

Access to Knowledge and Information

“But I think in order for aquatic therapy to be more well utilized and well understood, I think if there were more specific guidelines as to what’s the best practices as to how aquatic therapy can be utilized with stroke patients but also how that complements land-based therapy.”

(HCP08, Man, 30-40 years old, Outpatient Project Manager)



Characteristics of Individuals – CFIR Construct IV

Knowledge and Beliefs About the Intervention

“Well, I used to be a lifeguard and swim instructor part-time before, while I was working as a flight attendant because I loved teaching swimming. So I knew all the benefits of water exercise that people who can't exercise anywhere else can exercise in the water.”

(S08, Woman, 50-60 years old, 7 years post-stroke).

Individual's Stage of Change

“Probably the biggest thing is whether or not they're interested in it. Some of our patients are very fearful and we're not going to put them in that position, if they're fearful. A lot of our patients are very excited to go in. We have patients of all levels.”

(HCP05, Woman, 30-40 years old, Occupational Therapy/Physiotherapy Assistant)



Process – CFIR Construct V

Planning

“There’s a couple of issues when it comes to booking the pool. So, it depends on resources up on the unit, depending on the nurse’s caseload and whether or not they can shower and get the patients ready for their session for that day.”

(HCP02, Woman, 40-50 years old,
Physiotherapy Assistant)

Engaging

“Well, no one knows about it. Therapists don’t know about it. Hospital therapists don’t know about it. They know their own little world in the hospital. They don’t know outside the hospital. That’s where stroke survivors, as peer support, can help guide people to the right spot.”

(S02, Man, 60-70 years old, 10 years
post-stroke)



Implementation Considerations

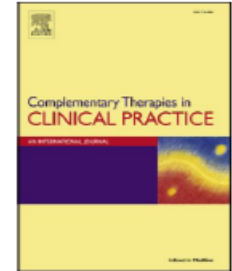
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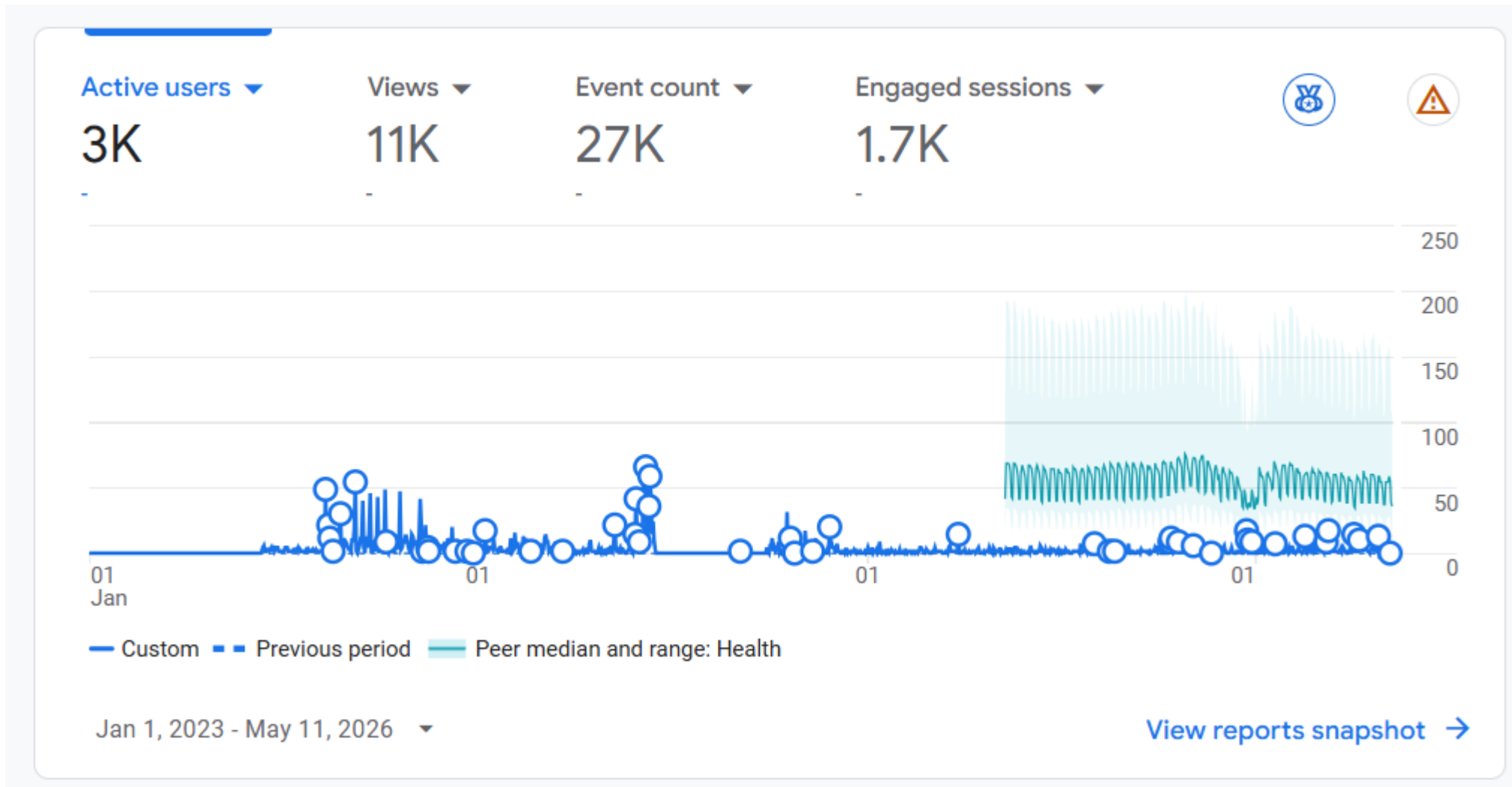


Implementation considerations of aquatic therapy post-stroke: A qualitative study from Ontario, Canada

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Elizabeth Linkewich ^{b,d,e} , Sander L. Hitzig ^{a,b,c} 

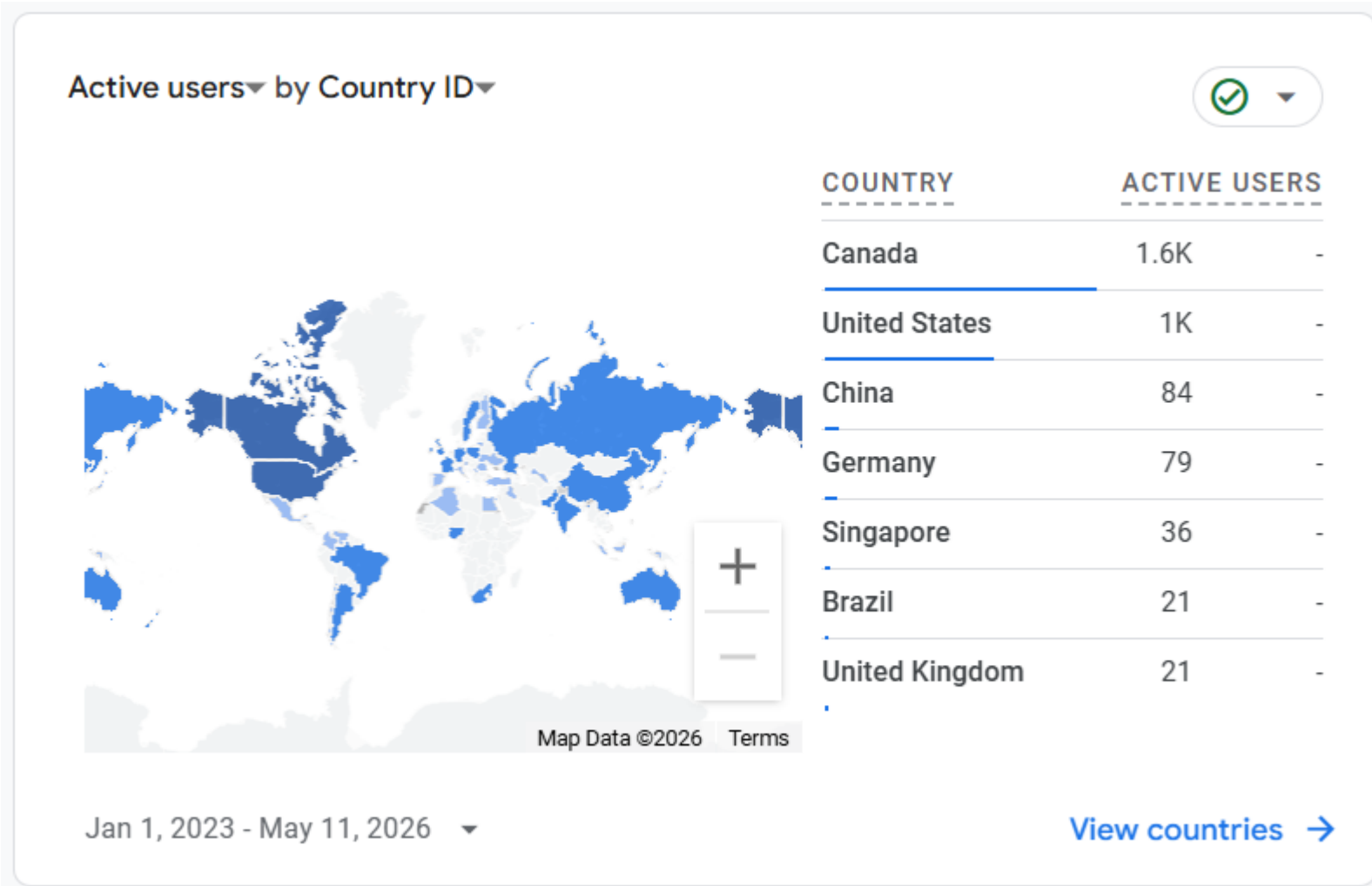


We have STARRT-ed to Make an Impact





We have STARRT-ed to Make an Impact





We have STARRT-ed to Make an Impact

“I loved swimming. After my stroke, I felt unsettled on my feet and avoided the pool. As I co-designed the STARRT Toolkit, I was encouraged to try aquatic therapy again. It felt so natural. Since then, I have taken swimming lessons to improve my strength. My confidence has improved 101%.

I invite you to get STARRTed!”

Catherine Gareau

(Member of our Co-design Team)





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Canadian Institutes of Health Research & The Sunnybrook Education & Advisory Council
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Thank You!

Contact Us at:



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QUESTIONS

