



# StandingTall-Rehab: Co-designing a Comprehensive Digital Rehabilitation Program for Enhanced Patient Management and Rehabilitation Outcomes

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## Background:

Over 2 million older Australians have disabilities limiting their mobility, yet less than half receive needed rehabilitation services.<sup>1</sup> Participation rates in rehabilitation programs are low due to cost, travel and other barriers. To enhance mobility, well-designed rehabilitation exercise programs targeting balance, strength and functional tasks show promise.<sup>2-4</sup> However, delivering high doses of exercise poses challenges due to resource limitations. Given the rising demand for rehabilitation services and the strain on healthcare systems, digital health solutions can enhance accessibility, uptake, and adherence to rehabilitation services. Digital solutions can support equal and inclusive access and enhance uptake and compliance to high-quality rehabilitation. Our tailored high-dose digital exercise program, called *StandingTall-Rehab*, can reduce disability and improve quality of life in older adults.<sup>5</sup>

## Aim:

To co-design and develop a comprehensive digital rehabilitation program, that integrates a tailored high-dose exercise program with usual care. *StandingTall-Rehab* aims to improve physical mobility following stroke and will address the vital importance of physical mobility in improving health related quality of life and independence. The program will address the critical and pressing issue in rehabilitation services - their limited capacity to meet the increasing demand for improving mobility and overall health outcomes.

## Methods:

Using an integrated knowledge translation approach, this project involved extensive consumer and stakeholder engagement through interviews and focus groups. To ensure a scalable person-centred program, participants included stroke survivors (n=10), clinicians (hospital, community, n=10), administrators (n=2).

*"in the space of 6 weeks, I had 2 sessions" (talking about speech pathology)*

Community services are not resourced to meet patient needs

Outpatient services need to better support patients

*"Once they become an outpatient, we need a better team around them"*

The transition to home is a shock

*"We come home; we all say the same thing about this. We go what the Hell? What, what the F now?"*

Patients are desperate for more

***"stroke recovery is not in a straight line; it can go up and down and backwards and (involves) being consistent with daily exercises."***

***- stroke survivor***

Barriers to accessing patient care impact rehab received

*"Once they leave the hospital, patients experience barriers to accessing outpatient care, such as transport, safety, the weather"*

Digital delivery may improve patient engagement

*"I think if they know some things or some videos or, or whatever, where the patient can go after them for their progress..."*

*"Some people get really engaged with a game or a different type of moving, so you can get really creative"*

*"So yeah, I would, you know, if I can get access to this, I'd love that."*

A digital rehab program is seen as beneficial

Digital rehab will allow us to deliver improved care

*"After COVID we need to pursue it don't we. It's an access, an ability to connect with more people"*

## Discussion:

This novel idea solves a significant problem by integrating exercise and digital health. It has the potential to generate conclusive evidence of effectiveness and pave the way for implementation, addressing key challenges in rehabilitation and healthcare delivery and improving accessibility and empowering individuals to effectively manage their health-conditions.

## What this study adds:

The project represents a significant step towards co-designing a comprehensive digital-rehabilitation program that integrates exercise with usual care, and a barrier-matched implementation strategy for successful integration into clinical practice.

## This project addresses limitations of rehabilitation services by:

- **Enhancing Functional Recovery:** Global recommendations emphasise the critical importance of functional recovery within the first 6-months. *StandingTall-Rehab* delivers an evidence-based, tailored high-dose exercise approach that will improve mobility outcomes.

- **Increasing Accessibility and Adherence:** *StandingTall-Rehab* will reduce delayed access to outpatient and community rehabilitation services by addressing barriers related to cost, travel, and convenience. *StandingTall-Rehab* home-based program improves health equity, increasing access to and adherence to rehabilitation programs.

References: 1. AIHW. Australia's hospitals at a glance. 2023. 2. Diong et al. Structured exercise improves mobility after hip fracture: a meta-analysis with meta-regression. *BJSM*. 2016;50(6):346-355. 3. Peiris et al. Extra physical therapy reduces patient length of stay and improves functional outcomes and quality of life in people with acute or subacute conditions: A systematic review. *Arch Phys Med Rehabil*. 2011;92(9):1490-500. 4. Lee et al. Effect of balance training after hip fracture surgery: systematic review and meta-analysis of randomized controlled studies. *J Gerontol Biol Sci Med Sci*. 2019;74(10):1679-1685. 5. Delbaere et al. e-Health StandingTall balance exercise for fall prevention in older people: Results of a two-year randomised controlled trial. *BMJ*. 2021;373:n740.

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