



FALLS PREVENTION AT HOME

SEPTEMBER 2021

Option Paper

Physiotherapy-led independence falls prevention

Objective

This project aims to improve health outcomes by addressing the accelerating problem of falls in older adults living at home.

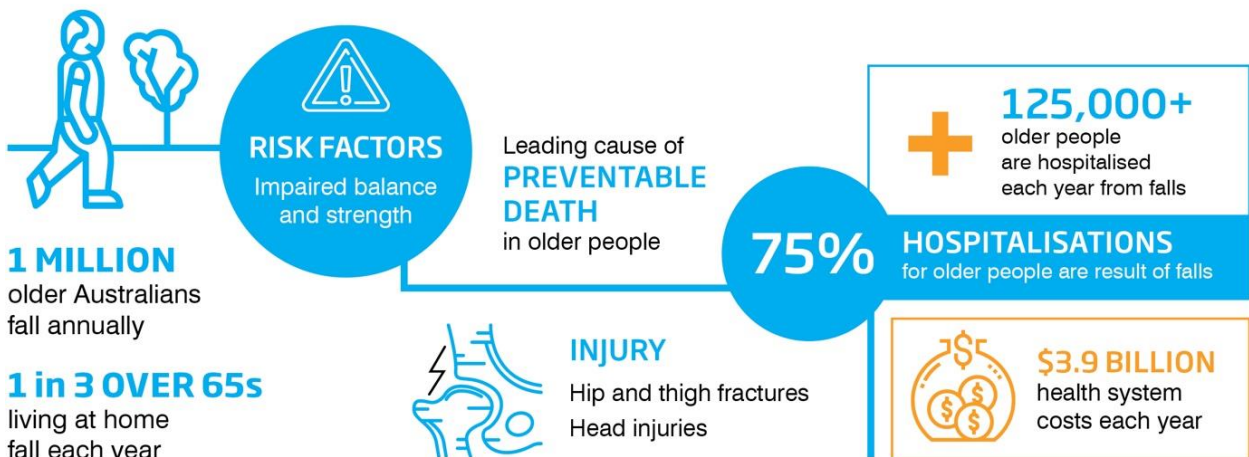
Exec summary

We propose a three-arm, pragmatic hybrid effectiveness-implementation type I randomised controlled trial of 600 older people receiving aged care services. The intervention group will receive a 3-6 month physiotherapy-led balance and strengthening program upon their entry into the aged care system. The objective is to reduce falls, falls-related fractures and hospitalisation, and to delay entry to residential aged care in community-dwelling older people.

Prepared by

Australian Physiotherapy Association (APA) – August 2021

1. Falls, falls-related fractures and hospitalisation, can be prevented in community-dwelling older people



Sources:

- Sherrington, C., Fairhall NJ, Wallbank GK, et al. (2019). Exercise for preventing falls in older people living in the community. *The Cochrane Database of Systematic Reviews*, Issue 1.
- Australian Institute of Health and Welfare (AIHW). (2019). *Trends in hospitalised injury, Australia 2007–08 to 2016–17*. Canberra: AIHW.
- Robertson, et al. (2002). Preventing Injuries in Older People by Preventing Falls: A Meta-Analysis of Individual-Level Data. *JAGS*, 50:905–911.

This project seeks to prevent falls, falls-related fractures and resulting hospitalisations, and mortality in older people in the community through a physiotherapy-led mobility, strength and balance program.

It aims to keep people mobile and functioning at home for as long as possible, delaying early entry to residential aged care.

In community-dwelling older people it is clear that exercise improves balance and strength, and prevents falls.

While substantial research has been undertaken and continues to be undertaken in a residential aged care setting, more is required to demonstrate the effectiveness and cost effectiveness, acceptability and implementation of physiotherapy-led programs in the community setting.

Our solution

A successful trial would increase the knowledge of evidence-based physiotherapy to prevent unnecessary hospital admissions and early entry into residential aged care by investigating aspects of a physiotherapy program that maximise its cost effectiveness, including length of program, use of telehealth and access issues.

2. Falls, falls prevention and physiotherapy

- Physiotherapists are highly-skilled mobility and function experts who assess condition and prescribe safe, progressive and individualised interventions for older people. Physiotherapists bring additional value beyond exercise prescription to the care of older people. They are medically-trained and qualified to diagnose deterioration in overall health including arthritis, pain, cardiorespiratory and neurological conditions.
- There is strong evidence that appropriately designed intervention programs can prevent falls in older people. A Cochrane systematic review established that 30% of falls can be prevented with exercise. It also found that exercise interventions reduce the rate of falls (number of falls per person) and risk of falling (proportion of people having one or more falls) in community-dwelling older people.

Sources:

- Sherrington, C., Fairhall, NJ, Wallbank, GK, et al. (2019). Exercise for preventing falls in older people living in the community. The Cochrane Database of Systematic Reviews, Issue 1.
- Hewitt J. (2018). Progressive Resistance and Balance Training for Falls Prevention in Long-Term Residential Aged Care: A Cluster Randomized Trial of the Sunbeam Program. Journal of the American Medical Directors Association, 19(4):361-369.
- Australian Institute of Health and Welfare (AIHW). (2010). The problem of osteoporotic hip fracture in Australia. Bulletin no. 76. Cat. No AUS 121. Canberra: AIHW.
- Watts, JJ, Abimanyi-Ochom, J, Sanders, KM. (2013) Osteoporosis costing all Australians. A new burden of disease analysis – 2012 to 2022.
- Australian Physiotherapy Association, Nous Group. (2020). Value of Physiotherapy in Australia.

3. Evidence for physiotherapy-led falls prevention

The Sunbeam Program has demonstrated the effectiveness of physiotherapy-led exercise interventions, and should be used to guide future policy.

The results of the trial demonstrated a 55 per cent reduction in falls by people who participated in the Sunbeam physiotherapy-led exercise program and a projected cost saving of \$120 million per year for the Australian health economy.

The Value of Physiotherapy in Australia report, commissioned by the Australian Physiotherapy Association and produced by The Nous Group, synthesised key clinical research and compared the benefits they deliver with estimates of the cost of delivering the treatments.

An economic analysis of the cost of a physiotherapy-led falls prevention program compared to the cost of not undertaking the program, resulting in a fall, was conducted. The average quality of life benefits of physiotherapy-led programs was calculated at \$3,000 per episode. The total cost of physiotherapy treatment averaged \$1,680 per falls episode.

Nous concluded that the benefit of physiotherapy-led falls prevention programs (i.e. quality of life benefit minus the cost) equalled \$1,320 per falls episode.

4. The Independence program

What

The Independence program, a longitudinal study of short-term physiotherapy-led restorative care. It will have three arms:

- **Intervention group 1:** three-month tailored physiotherapy restorative program
- **Intervention group 2:** six-month tailored physiotherapy restorative program
- **Control group:** receive educational material on falls prevention only

Intervention

Each intervention group will receive 12 one-hour physiotherapy sessions over the intervention period that will include tailored and progressive balance and strengthening programs based on the Sunbeam program. It will involve local support by carers, volunteers and/or aged care support staff to do a home exercise program two hours per week.

It will commence with a face to face assessment than may involve telehealth to ensure equity of access. It will also introduce online exercise programs designed for older people to reduce falls to improve adherence to quality exercise.

Outcomes

The primary effectiveness outcome is falls at 12 months. Secondary effectiveness outcomes are injurious falls, falls requiring hospitalisation, and entry in residential aged care and quality of life at 12 months.

An economic analysis will also be performed to assess the cost-effectiveness of the intervention compared to usual care from the perspective of the health and aged care service providers.

Implementation related outcomes are: interventions reach, feasibility delivered via Primary Health Network (PHN) model, adherence, acceptability, barriers, and facilitators determined using quantitative and qualitative methods.

Sources:

- Hewitt, J. (2018). Progressive Resistance and Balance Training for Falls Prevention in Long-Term Residential Aged Care: A Cluster Randomized Trial of the Sunbeam Program. *Journal of the American Medical Directors Association*, 19(4):361-369.
- Australian Physiotherapy Association, Nous Group. (2020). *Value of Physiotherapy in Australia*.

Where

Commonwealth home support and home care.

When

3-year trial commencing 2022.

Who

People aged 65 years or older entering the aged care system via Commonwealth home support or home care. Able to transfer independently from sitting to standing with or without assistance. Sufficient language skills to participate safely in the intervention as determined by their GP.

Exclusion criteria: Severe cognitive impairment that would prevent reasonable involvement as defined by the Telephone Interview for Cognitive Status (TICS) score of less than 10; known terminal illness with estimated life expectancy of less than 6 months as determined by their GP.

Expected budget

\$2 million dollars

(includes a full-time project manager, research assistant, physiotherapists, iPads for telehealth connectivity over the three-year time frame).

Evaluation

Measuring number and severity of falls, number of hospitalisations, entry into residential aged care and quality of life at 12 months.

5. Fewer falls and injuries, and enhanced quality of life for older people within a sustainable aged care system

KEY BENEFITS

CONSUMERS

+ Achieve greater independence to undertake activities they enjoy and live in their homes as long as possible



+ Improved strength, balance and mobility results in fewer falls, injuries and preventable death – enhancing quality of life

+ Gain highly qualified health professionals as part of their care team



AGED CARE PROVIDERS

Reduced staff costs to manage deteriorating mobility and falls, improve length of stay in more affordable home care program

DEPARTMENT OF HEALTH AND AGEING

Understand key levers to maintain sustainability of aged care system



PHYSIOTHERAPISTS

Increased job satisfaction as have the funding to support evidence-based practice, increase workforce retention in this area of practice



Significantly reduced costs – estimated at **\$1,380** per falls episode to the health care system