

# Fall-proof and fabulous

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Measuring the effectiveness of an exercise program on the mobility confidence, strength and gait of aged care home residents using the Short Performance Physical Battery test.

## Background

Falls are a leading cause of injury-related death in older adults. They occur three times more often in residential aged care homes (RACHs) than in the community. As part of the Victorian Department of Health's response to COVID-19 outbreaks in RACHs, North Western Melbourne Primary Health Network (NWMPHN) first commissioned the Allied Health in RACHs program in 2021.

Modelled on the evidence-based, [Sunbeam program](#) and led by allied health clinicians, it aimed to reduce falls by providing bi-weekly small group exercise sessions to residents. The program began as a 26-week intervention and was later shortened to 13. Between 2021 and 2024, NWMPHN collaborated with 20 physical therapy providers to deliver services to 123 RACHs in Melbourne's CBD, north and west.

Funding for the program has ceased, but its impacts are being sustained, with several RACHs using alternative funding sources to continue to deliver it. NWMPHN is currently planning for the development of a resource pack to support other RACHs to offer similar falls prevention exercise programs.

Pre- and post-program testing using the Short Performance Physical Battery (SPPB) test demonstrated significant improvements in strength, gait and balance. Furthermore, residents, staff and allied health providers reported increased resident independence within homes, leading to improved wellbeing and socialisation.

## Impacts and outcomes

Participating in the program showed statistically significant improvements in physical performance and confidence, confirming its overall effectiveness.

The results provided strong evidence that the program produced clinically meaningful improvements, especially in physical performance (SPPB), with slightly smaller but still meaningful improvements in confidence (Short FES-I).

A dose-response relationship was evident: higher attendance was associated with greater improvements, reinforcing the value of ensuring sufficient session attendance.

## Methods

Data were collected from 1,473 residents, with a final analytic sample of 1,239 classified into two groups:

A (first-time participants in 2024) and B (repeat participants from 2022 or 2023).

Analyses included these outcome measures:

- Fear of falling was measured using the Short Falls Efficacy Scale International (Short FES-I), focusing on residents with low levels of mobility.
- Physical performance was assessed by the SPPB, which evaluates balance, strength, and gait with scores ranging from 0 (poor) to 12 (best).

Inferential statistical tests were conducted based on each research question to evaluate differences in outcome measures before and after program participation.

These tests assessed the statistical significance and practical importance of observed changes.



## The program in numbers

13  
weeks  
duration

20  
physical therapy  
providers

123  
RACHs participating  
in the NWMPHN  
catchment

1,239  
participants in the  
2023-24 study;  
mobility and physical  
performance

5,048  
participants  
completed the  
program between  
2021-24

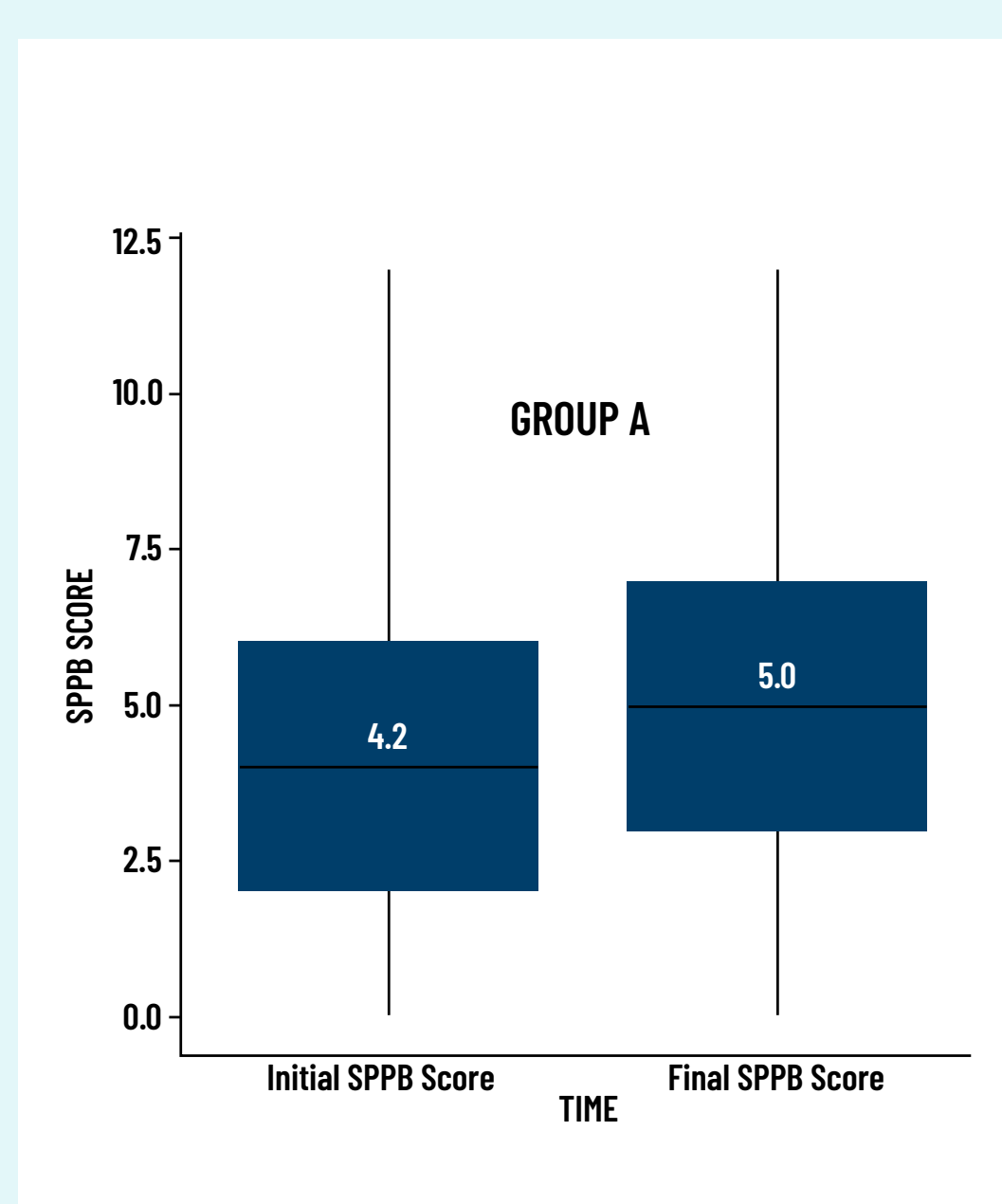


Figure 1. Group A pre- and post-program SPPB scores

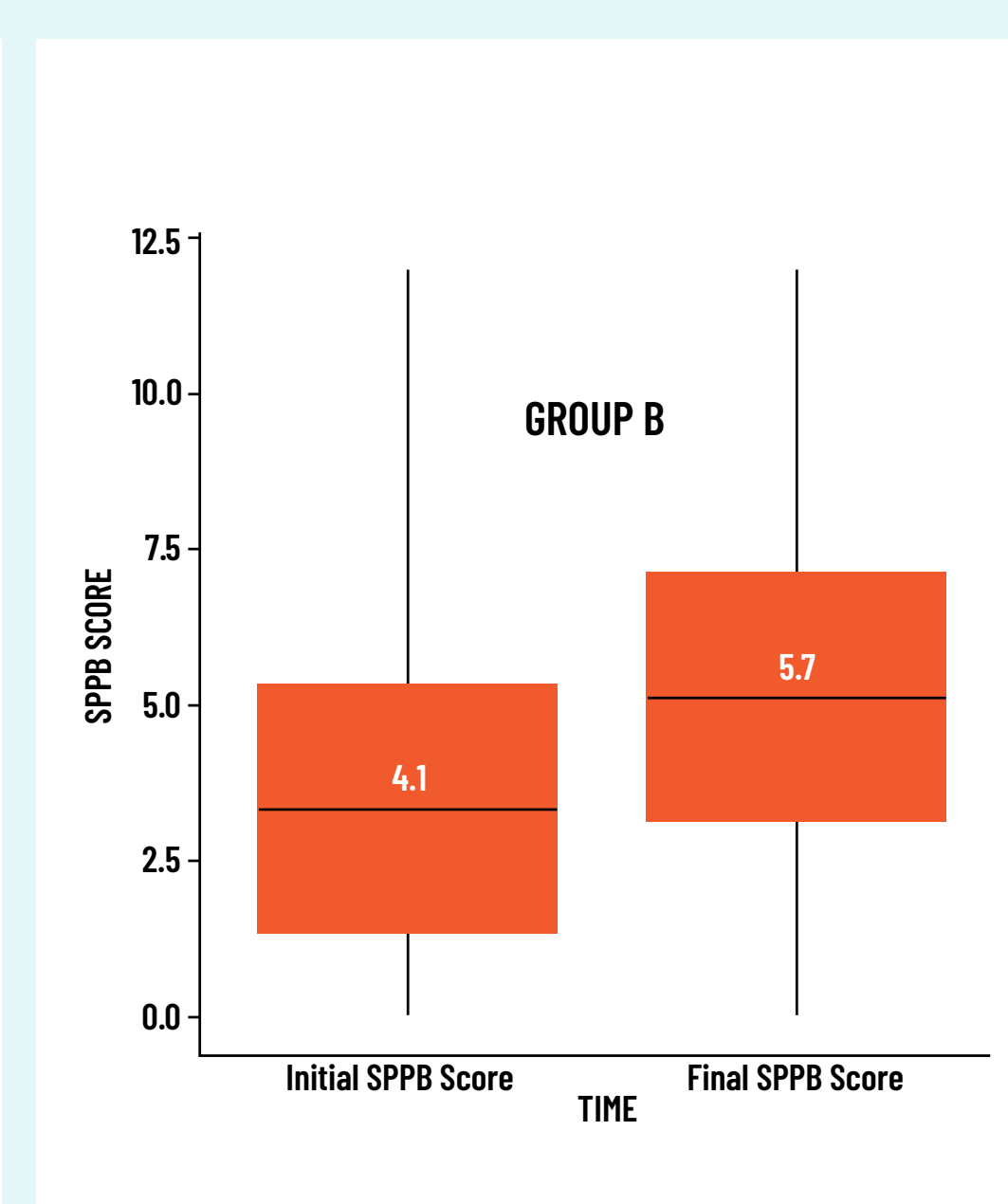


Figure 2. Group B pre- and post-program SPPB scores

Key limitations: • Limited control over study design, delivery and confounding variables.  
• Falls data could not be meaningfully interpreted

## Client feedback

“The physio is the best part of the week. I wasn't walking before and needed a hoist and now I can walk. I am very happy with you all.” – Meadow Heights resident.

“My health declined a lot after having covid. Doing this program gave me the confidence to go out in the community and socialise again.” – Pascoe Vale resident.

## Key takeaways

1. Demonstration of how an evidence-based exercise program can be translated into RACH settings at scale.
2. Demonstration of the effectiveness of an exercise program in RACH settings for reducing falls and improving quality of life among residents.

## Next steps

A suite of implementation resources will be available for use by other PHNs, RACHs and allied health clinicians when finalised.

