AROC Information Series

2020 **1AU**

INPATIENT REHABILITATION FOR OLDER PEOPLE IN AUSTRALIA

KEY MESSAGES

- **The 90 year and older cohort is growing as a proportion of people receiving inpatient rehabilitation.**
- **Patients aged 90 years and older demonstrated improvement in function after participating in an inpatient rehabilitation program, particularly motor function, and therefore should not be excluded from participating in a rehabilitation program based on age alone.**
- **The majority of patients aged 90 years and over are discharged back to their private residence, indicating rehabilitation is facilitating their functional independence in the community.**

Older people for this paper is defined as those aged 90 years and older

DATA USED: *patients aged 90 years or older, discharged 1 January 2009 to 31 December 2018 and reported in the AROC adult inpatient rehabilitation dataset*

Suggested acknowledgement:

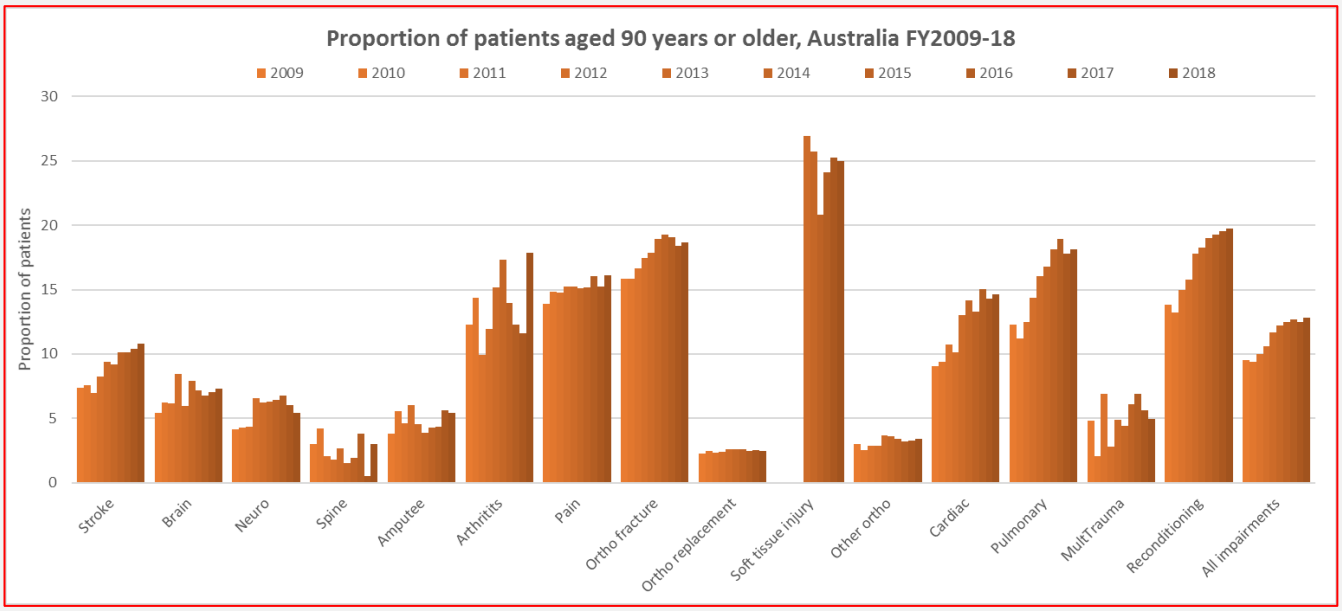
Inpatient rehabilitation for older people in Australia. AROC Information Series No.1 AU (2020). Australasian Rehabilitation Outcomes Centre.

Overall picture

The proportion of older people (aged 90 years or older) receiving inpatient rehabilitation in Australia has been increasing over time accounting for 9.5% of total episodes submitted to AROC in 2009 to 12.8% in 2018. The impairments with the highest proportion of patients aged 90 years or older in Australia are orthopaedic soft tissue injuries (STI), reconditioning, orthopaedic fractures and pulmonary disorders.

Figure 1 shows the proportion of patients aged 90 years and older admitted for rehabilitation by impairment over time. The proportion of patients in this age group has increased over the last ten years in most impairments. STI has a relatively small volume in comparison to reconditioning and orthopaedic fractures, accounting for 2% of all episodes, however, over time the proportion of older patients receiving rehabilitation for STI has remained the highest at over 20%.

Figure 1 Proportion of patients by impairment and year, aged 90 years and older



In 2018, 9% of males and 12% of females admitted for inpatient rehabilitation were aged 90 years and older. This represented 11,487 episodes, with 87% of these patients returning to the community after completing their rehabilitation program. The average length of stay (LOS) across all impairments for these older patients was 18.7 days; however these patients stayed 2.3 days less, on average, than was expected after controlling for the mix of impairments and level of function.

The majority of patients (94%; 10,266 patients) were admitted from a private residence. Most were discharged back to their private residence; however, 11% were discharged to residential aged care. Among patients admitted from residential aged care, most (89%) were discharged back to residential aged care.

Among those patients admitted from and discharged back to a private residence that did not have or need a carer, three in four patients maintained this status after inpatient rehabilitation. For those patients that did not have but needed a carer on admission, one in five were discharged home no longer needing a carer, demonstrating an improvement in functional status.

Just over half of the older patients (54%) admitted to inpatient rehabilitation did not require any services prior to their impairment and on discharge continued not to require services. This shows that completing a rehabilitation program can preserve functional independence, which is important to patients.

FIM change, the absolute difference between admission FIM and discharge FIM scores, does not take into account the admission FIM score and therefore the amount of change that is possible. The amount of FIM change achieved divided by the amount of FIM change possible, is known as Relative Functional Gain (RFG).

Figure 2 shows the RFG in motor function made across all impairments by age group, demonstrating that as patient age increases, a greater proportion of people achieve a smaller RFG. However, 73% of the over 90 year old patients achieve greater than 26% relative functional motor gain (80% in the over 80 year old patients; 85% in the over 70 year old patients).

Figure 2: Relative motor functional gain by age group in CY2018

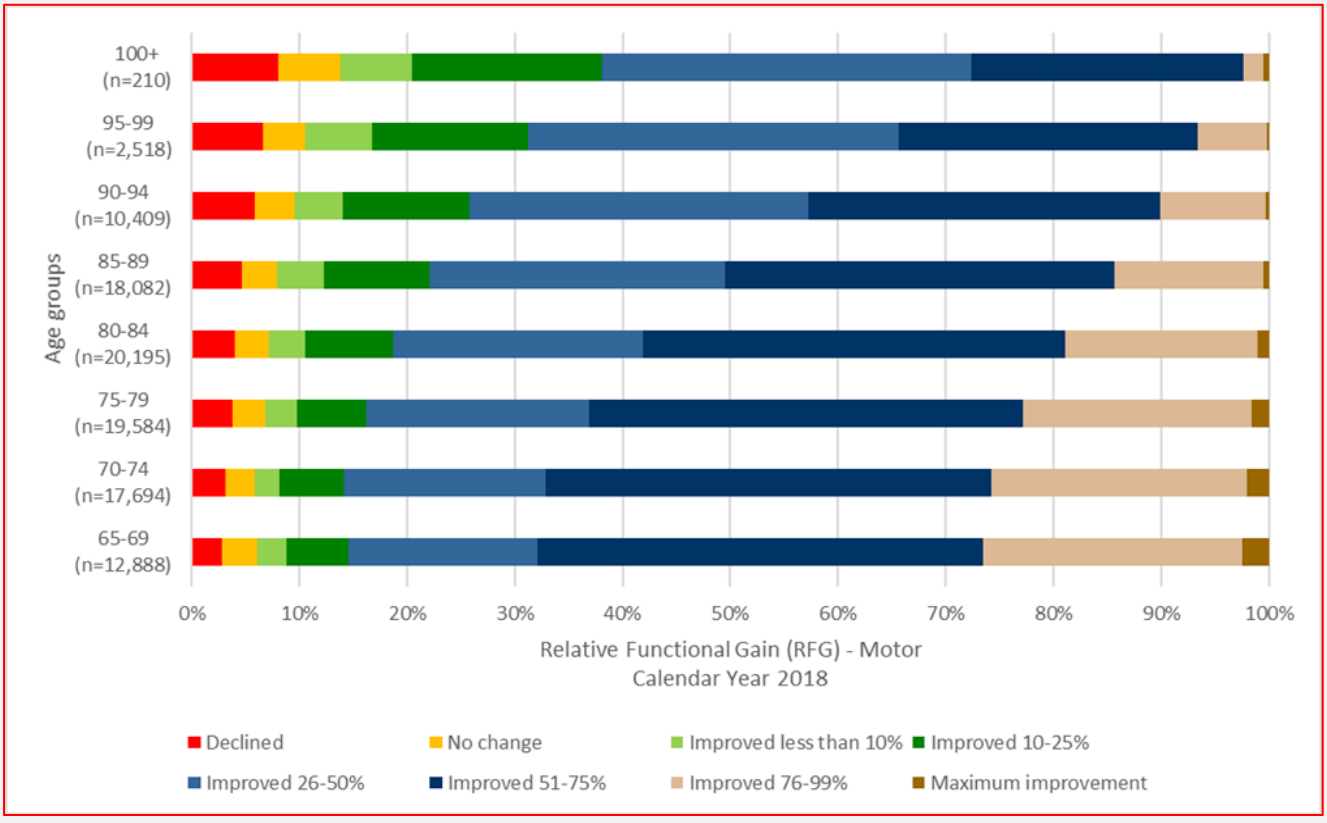
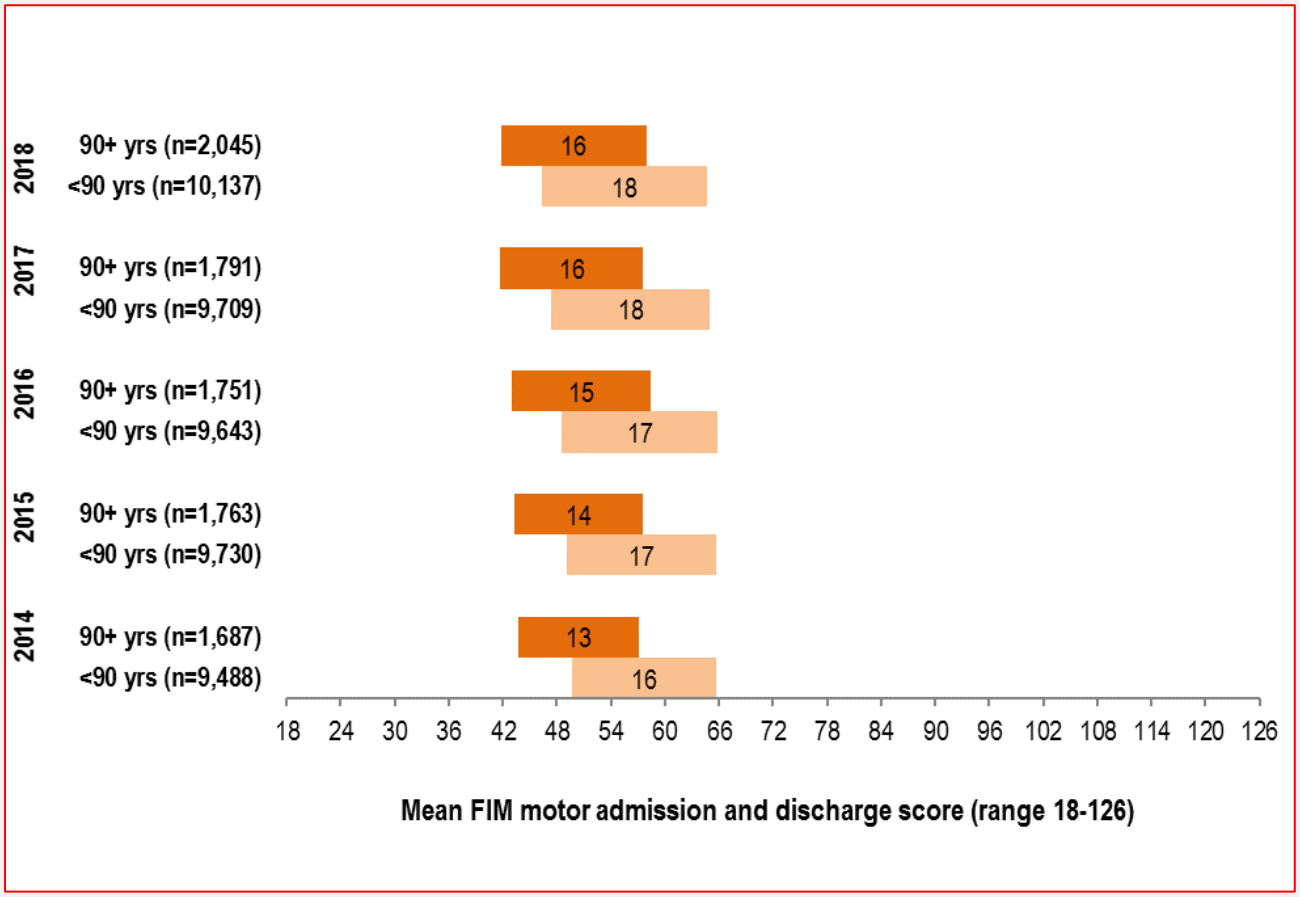


Figure 3 compares mean total FIM change achieved over the last five years for patients aged 90 years and older, compared to patients aged less than 90 years of age. While older patients start their rehabilitation program with a lower total FIM admission score (11 points lower than the younger cohort) they achieve similar, although slightly lower functional gains.

Figure 3: Comparison of mean total FIM change over 5 years by age group



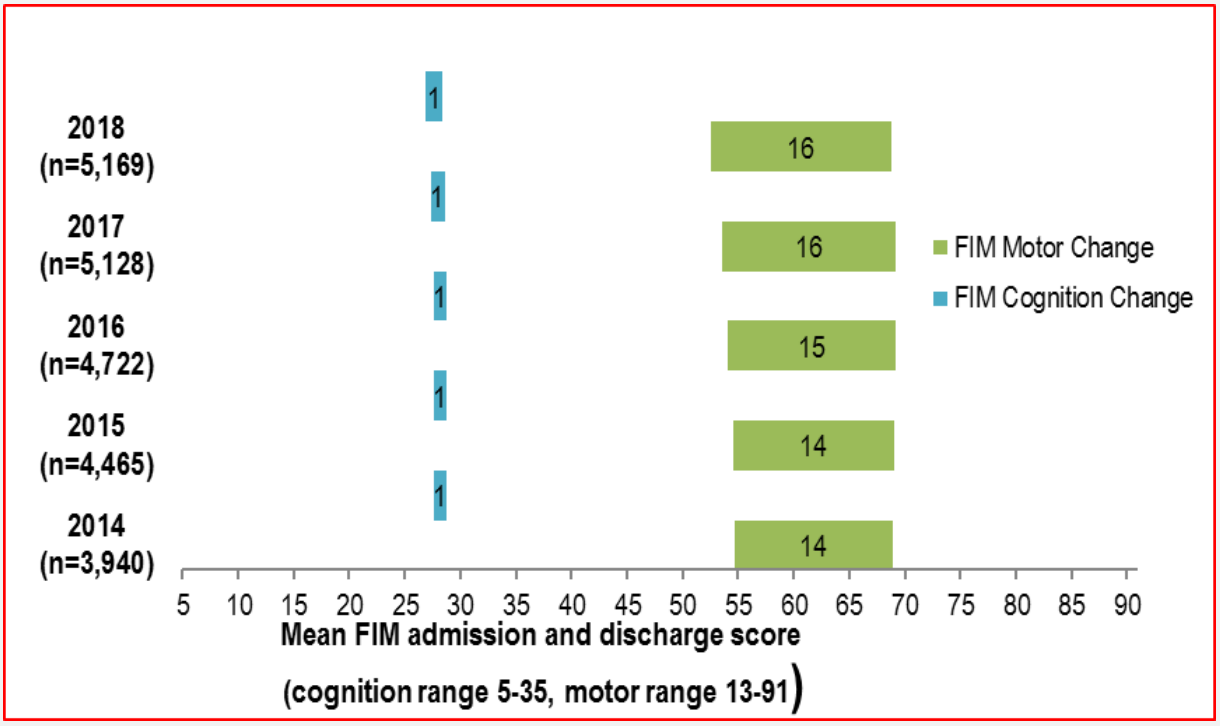
Reconditioning outcomes

Over the past five years, the impairment with the highest volume of patients aged 90 years and older is reconditioning. In 2018, the majority of the older patients in reconditioning were admitted from a private residence (96%; 4,689 episodes) and 84% were discharged back to their private residence. This is reflective of the population of older patients across all impairments.

Functional improvement in older patients is mainly in motor function; cognitive function is mostly unchanging.

Figure 4 shows five years of FIM motor and cognition change achieved by older reconditioning patients. The number of episodes has increased over the years, FIM admission scores have decreased by two points, and the average functional motor gain achieved during rehabilitation has increased by two points, highlighting the benefit of inpatient rehabilitation for older patients.

Figure 4 Comparison of motor and cognitive FIM change over 5 years for reconditioning episodes



Further Reading:

Cameron ID et al (2012) Outcomes of rehabilitation in older people – Functioning and cognition are the most important predictors: an inception cohort study *Journal of Rehabilitation Medicine* vol.44 pp. 24-30

Cameron ID and Kurrle SE (2002) Rehabilitation and older people *Medical Journal of Australia* vol.177 (7) pp. 387-391

Coleman SA et al (2011) Outcomes among older people in a post-acute inpatient rehabilitation unit. *Disability & Rehabilitation* vol.34 (15) pp.1333-1338

Timmer AJ et al (2014) Rehabilitation interventions with deconditioned older adults following an acute hospital admission: a systematic review. *Clinical Rehabilitation* vol.28 (11), pp. 1078-1086