

INPATIENT REHABILITATION FOR OLDER PEOPLE IN NEW ZEALAND

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.
- Of the patients aged 90 years and over, two thirds are discharged back to their private residence, with 70% of these patients receiving support services to facilitate 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:

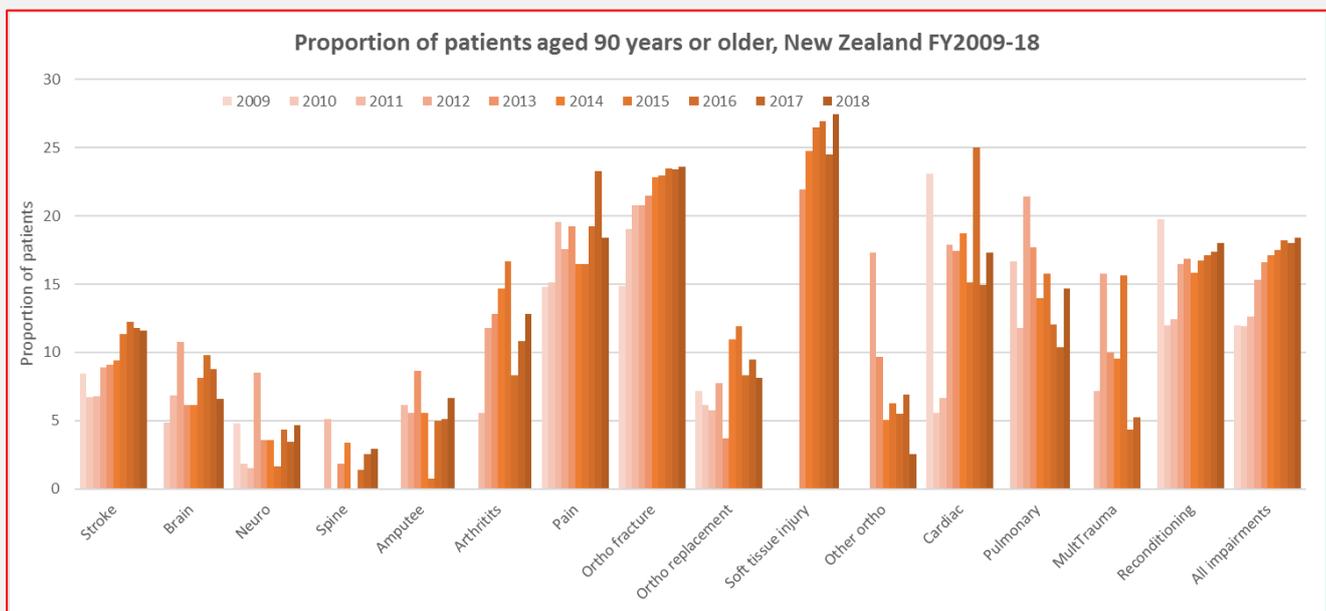
Inpatient rehabilitation for older people in New Zealand. AROC Information Series No.1 NZ (2020). Australasian Rehabilitation Outcomes Centre.

Overall picture

The proportion of older people (aged 90 years or older) receiving inpatient rehabilitation in New Zealand has been increasing over time, accounting for 12% of total episodes submitted to AROC in 2009 to 18% in 2018. The impairments with the highest proportion of patients aged 90 years or older in New Zealand are orthopaedic soft tissue injuries (STI), orthopaedic fractures and pain 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, whilst fluctuating, has increased over the last ten years in most impairments. STI has a relatively small volume in comparison to orthopaedic fractures, accounting for 5% of all episodes, however, over time the proportion of older patients receiving rehabilitation for STI has remained the highest at between 20% and 25%.

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



In 2018, 12% of males and 20% of females admitted for inpatient rehabilitation in New Zealand were aged 90 years and older. This represented 2,035 episodes, with 95% 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 18.4 days; however these patients stayed three days less, on average, than was expected after controlling for the mix of impairments and level of function.

Most patients (85%; 1,701 patients) were admitted from a private residence, with two thirds of these patients discharged back to their private residence and the remaining third discharged to residential aged care. Among patients admitted from residential aged care, the majority (95%) 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, half the 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.

Of the older patients admitted from and discharged back to their private residence after rehabilitation, 70% (761 patients) continued with services post discharge. An increase in services provided occurred to 60% of these patients, whilst 34% retained the same number of services. Regardless of the service received prior to rehabilitation, personal care was a service that most of the patients received on discharge.

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, 62% of the over 90 year old patients achieve greater than 26% relative functional motor gain (67% in the over 80 year old patients; 71% in the over 70 year old patients).

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

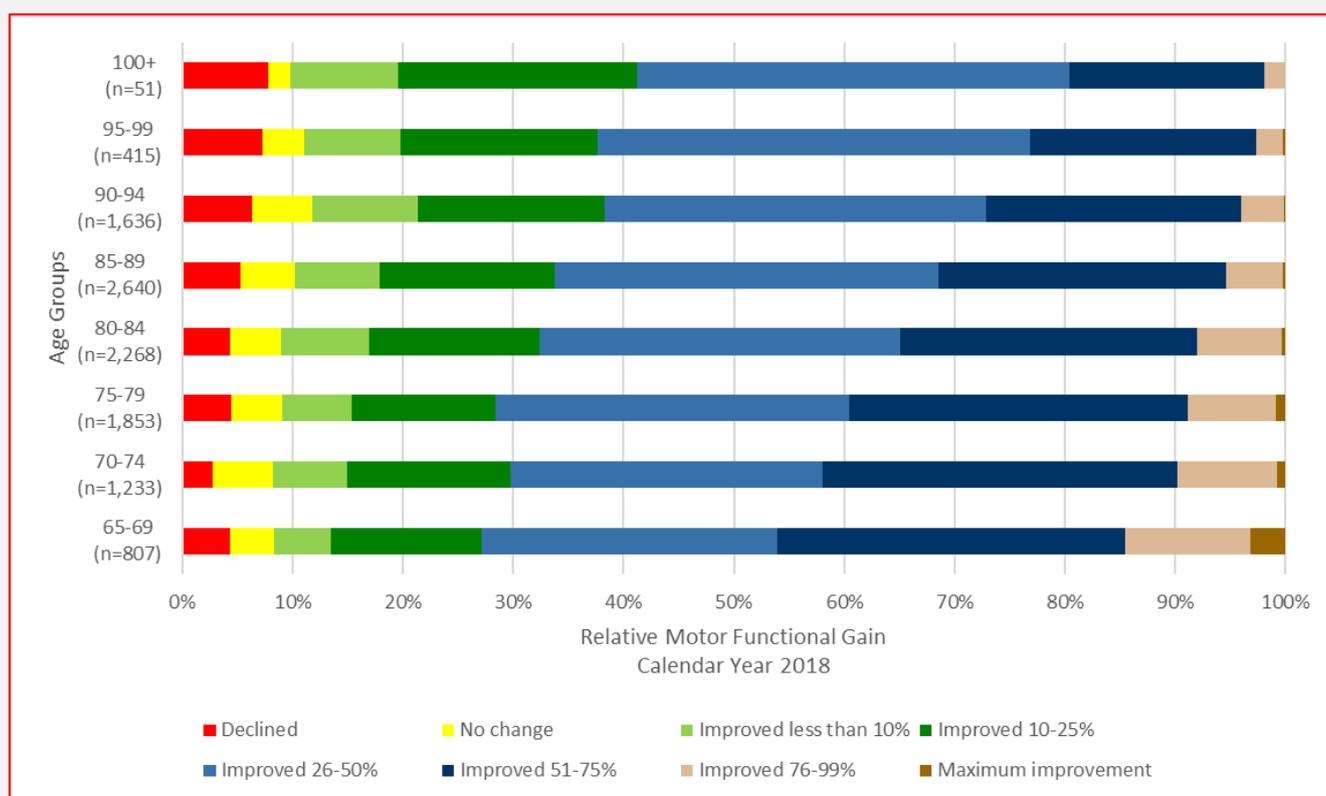
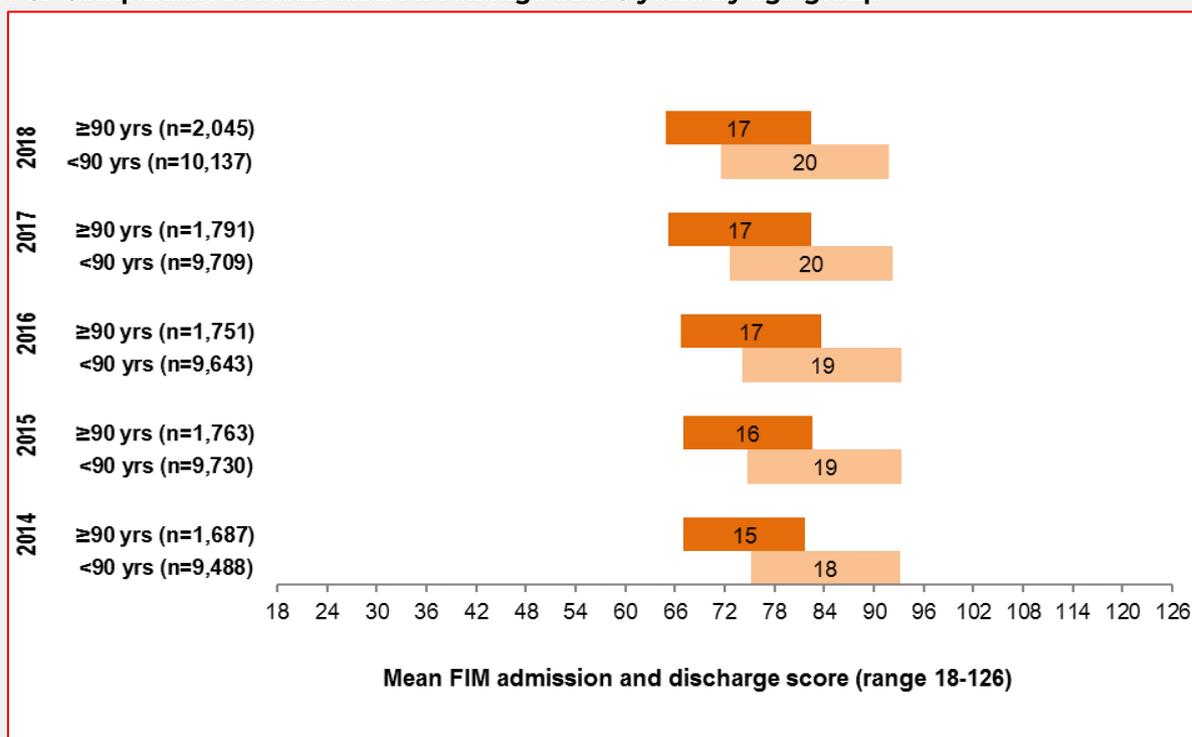


Figure 3 compares mean total FIM change achieved over the last five years for patients aged 90 years and older, compared to patients aged less than 90 years of age. While older patients start their rehabilitation program with a lower total FIM admission score, (seven points lower than the younger cohort)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

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



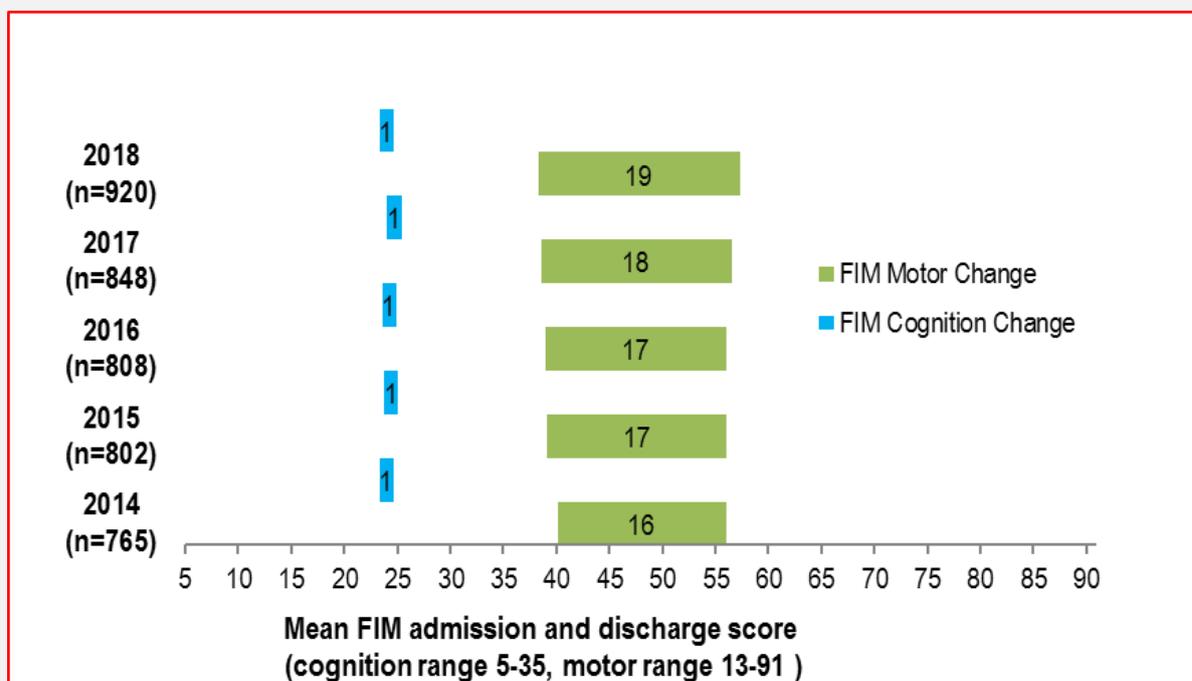
Orthopaedic fracture outcomes

Over the past five years in New Zealand, the impairment with the highest volume of patients aged 90 years and older is orthopaedic fractures (23% of total episodes). In 2018, 70% (712 episodes) of older patients with orthopaedic fracture were admitted from a private residence and 80% of these were discharged back to their private residence. Orthopaedic fracture patients are more frequently discharged back to their private residence than older patients in other 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 orthopaedic fracture patients. The number of episodes has increased over the years, FIM admission scores have decreased by one point, and the average functional motor gain achieved during rehabilitation has increased by three points, highlighting the benefit of inpatient rehabilitation for older patients.

Figure 4 Comparison of motor and cognitive FIM change over 5 years for orthopaedic fracture 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