BOOST 2.0: Budget impact analysis of boosting inpatient exercise in subacute care

Dr Seema Radhakrishnan [1,4,5], Dr Marie March [2], Ms Christina Eagleton [1], Ms Minh Pham [1], Ms. Sarah Faulds [1], Ms Robyn El-Khair [1], Ms. Kate Gilbert [3], Ms. Carmen Lazar [1,] Prof Friedbert Kohler [1,4,] Prof Rebecca Ivers [4,5]

1- Fairfield Hospital, 2-Bankstown Hospital, 3-Future Work Force support, SWSLHD, 4-UNSW, 5-Ageing Futures Institute

1. Background

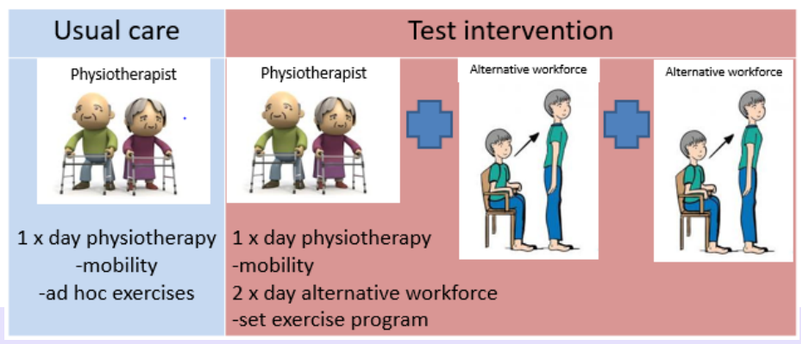
High frequency inpatient exercise reduces hospital length of stay (LOS) but may incur increased costs. Using an alternative workforce to implement therapy may be effective at a lower cost[1]. We implemented a high frequency exercise program (BOOST 2.0) delivered by allied health assistants and nursing students for subacute older patients at Fairfield Hospital.

2.Objectives

To determine budget impact of implementing BOOST 2.0- a high frequency exercise program delivered by nursing students and allied health assistants for older people in subacute care.

3. Methods

We implemented two additional exercise sessions based on sit-to-stand practice prescribed by a physiotherapist and implemented by the alternative workforce.



Hospital LOS was determined from electronic medical records.

Implementation costs were staff time to provide orientation and training of nursing students, and additional weekend allied health assistants.

Cost savings were calculated by reductions in hospital LOS multiplied by the facility Price guide based on national weighted average of $826.14(acute) and $756.71 (subacute) care. Per patient costs were calculated by dividing the total implementation costs by the number of patients[2]

4. Results

115 patients participated in the implementation period over 23 weeks in 2023.

Mean hospital LOS

Pre
30.6 days
(SD 16.4)

Post
26.7 days
(SD 16.0)

Per patient	Implementation cost	Cost benefit
	$92	$3066

Table 1: Implementation cost breakdown

Personnel	Hours allocated	Award rate	Total costs (AUD)
Level 3 Physiotherapist	4 hours per fortnight	56.34/hr x 12 weeks	$1352
Allied Health Assistant	16 hours per fortnight, 4 hours Saturday and Sunday	57.23/hour average spread over 14 Saturdays and 22 Sundays	$9190
		Total	$10542

5. Conclusion

Using an alternative workforce to provide increased exercise in subacute care leads to improved hospital LOS and is cost-efficient. Improved the patient flow from acute to subacute reducing the total length of stay possibly accounts for the cost benefit. Future implementation at scale needs to consider sustainability of implementation and long-term budget impact.

Contact

Seema.Radhakrishnan@health.nsw.gov.au
Marie.March@health.nsw.gov.au

References

1) March, M.K., Dennis, S.M., Caruana, S. *et al.* Boosting inpatient exercise after hip fracture using an alternative workforce: a mixed methods implementation evaluation. *BMC Geriatr* **24**, 149 (2024).
2) Eisman, A. B., et al. Economic evaluation in implementation science: making the business case for implementation strategies. *Psychiatry research* 283 (2020): 112433.