



## Reducing hip and non-vertebral fractures in institutionalised older adults by restoring inadequate intakes of protein and calcium is cost-saving

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Older adults in aged care homes account for 30% of the population burden of hip fractures<sup>(1)</sup>. Nutritional interventions to correct protein and calcium inadequacies reduce these and other debilitating fractures, perhaps partly by reducing falls and slowing deterioration in bone morphology. We aimed to determine whether a nutritional approach to fracture risk reduction in aged care homes is cost-effective. Costing was estimated based on results of a prospective two-year cluster-randomised controlled trial involving 3313 residents in 27 aged care homes (intervention using high dairy menus), 3911 residents in 29 aged care homes (controls consuming from normal menus) and cost of ambulance, hospital, rehabilitation, and residential care incurred after fracture. The incremental cost-effectiveness ratios per fracture averted within a 2-year time horizon were estimated from the Australian healthcare perspective applying a 5% discount rate on costs after the first year. Intervention resulted in a total of 3.5 servings of milk, yoghurt and/or cheese daily, achieving 1,142mg calcium and 69g protein versus usual daily intakes of 700mg calcium and 58g protein consumed by controls. This intervention reduced all fractures by 33% at a daily cost of AU\$0.66 per resident. The base-case results showed that intervention was cost-saving per fracture averted, with robust results in a variety of sensitivity and scenario analyses. Scaling the benefits of intervention to the Australian community equated to a saving of AU\$66,780,000 annually in Australia and remained cost saving up to a daily food expenditure of AU \$1.07 per aged care resident. Averting hip and other non-vertebral fractures in older adults in aged care homes by restoring nutritional inadequacies of protein and calcium is cost saving and supports the wide-spread implementation of this type of nutritional intervention in similar settings.

**Keywords:** aged care; cost-effectiveness; fracture prevention; nutrition

### Ethics Declaration

Yes

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### Reference

1. Bischoff-Ferrari HA *et al.* (2008) *Bone* **42**, 597–602.