

Vitamin D supplementation and falls in residential aged care: A longitudinal multisite cohort study

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Background



- **Falls** pose a major challenge in Residential Aged Care (RAC) settings, requiring ongoing monitoring for effective prevention.

- **Vitamin D** is crucial for musculoskeletal health, and **supplementation may reduce fall incidence.**

Aim

1. To determine factors influencing **the optimal adherence** to vitamin D supplement usage
2. To assess the **association between use of vitamin D supplements and falls** incidents over 36 months

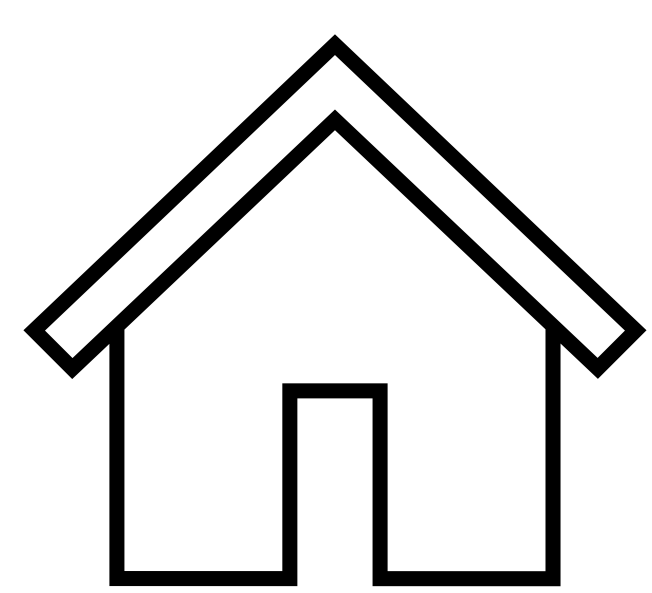
Methods

Design: Longitudinal cohort study (2014-2022)

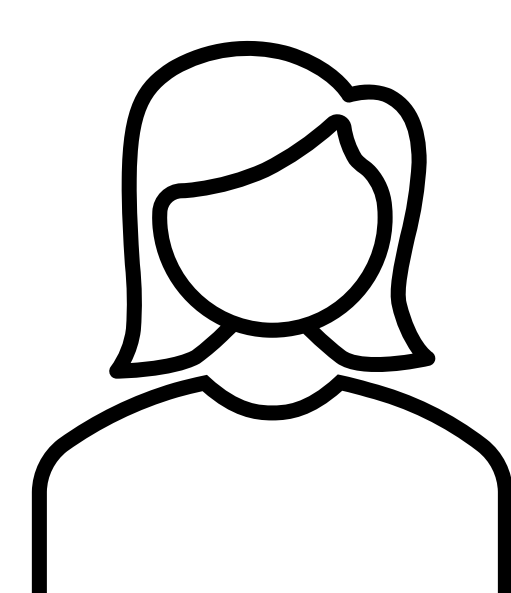
Data Source: De-identified electronic data

Outcome Measures: All falls and injurious falls

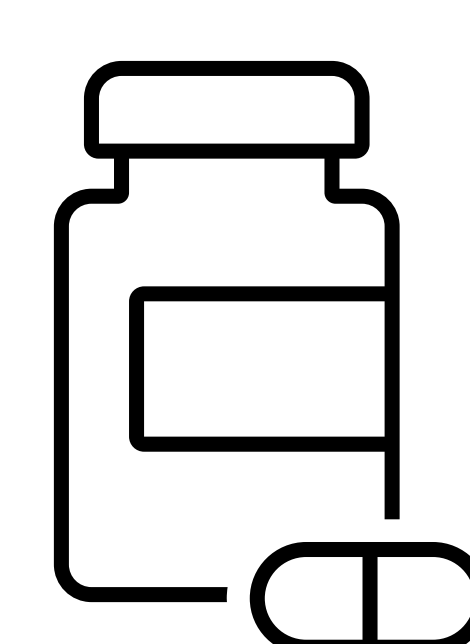
Statistical Analysis: Time-varying predictor outcome approach, generalized estimating equations



27
RAC facilities

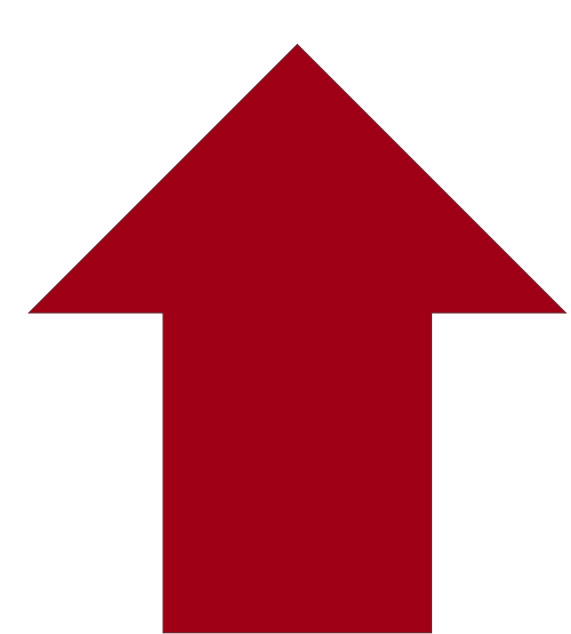


4520
residents

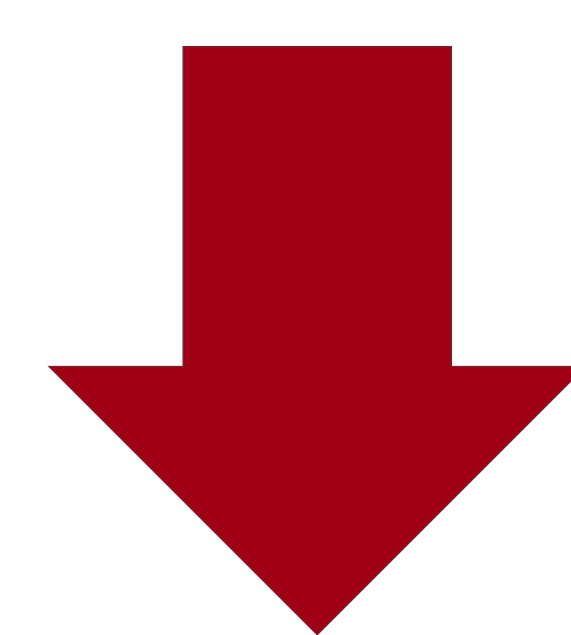


44%
optimal vitamin D
adherence

Results



Increased likelihood of optimal adherence with **age, osteoporosis and fracture history, dementia**



Decreased likelihood of optimal adherence with presence of **diabetes, anxiety disorders and cancer**

CONCLUSIONS

Vitamin D supplementation alone is not effective for fall prevention in RAC settings.

Future research should explore the role of vitamin D in fall-related fractures and consider the impacts of varying dosages.

References

1. Australian Institute of Health and Welfare. Falls in older Australians 2019–20: hospitalisations and deaths among people aged 65 and over. AIHW. <https://www.aihw.gov.au/reports/injury/falls-in-older-australians-2019-20-hospitalization>
2. Feehan, O., Magee, P.J., Pourshahidi, L.K., Armstrong, D.J., McSorley, E.M., 2023. Vitamin D deficiency in nursing home residents: a systematic review. Nutr. Rev. 81 (7), 804–822. <https://doi.org/10.1093/nutrit/nuac091>.

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No association between use of vitamin D supplements and falls

No association between use of vitamin D and falls for those with history of osteoporosis or fractures.