

Closing the gap – pharmacists' vital role in osteoporosis management in hospital

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Background

Osteoporosis is a chronic musculoskeletal condition in older adults, marked by a gradual decline in bone mineral density and the deterioration of bone microarchitecture.¹ This progressive weakening of bones significantly increases the risk of minimal trauma fractures where even minor injuries can lead to serious breaks due to compromised bone health.¹ Osteoporotic fractures are a major concern as they are associated with increased morbidity, mortality and loss of independence leading to a significant cost to the patient and the healthcare system.² Osteoporotic fracture prevention requires timely initiation of anti-resorptive drugs to prevent further fractures.

Osteoporosis care is estimated to cost the Australian healthcare system up to \$7.4 billion per year.² In 2022, it is estimated that there were a total of 105,000 hospitalisations for minimal trauma fractures and a total of 2659 osteoporosis-related deaths in Australia.³ Despite accessible, evidence-based anti-resorptive therapies proven to reduce fracture risk, many patients leave hospitals without appropriate investigation or treatment initiation. Hospitals represent a critical opportunity for secondary fracture prevention, as admission due to fragility fractures allows healthcare professionals to address osteoporosis management. Pharmacists, being integrated into multidisciplinary hospital teams, are well-positioned to ensure timely therapy initiation and seamless communication between hospital and primary care settings.

Aim

This study aimed to evaluate the rate of initiation of anti-resorptive therapy in patients diagnosed with osteoporosis following minimal trauma fractures and to evaluate the role of the clinical pharmacist in improving post-fracture management.

Research questions

1. What proportion of patients with minimal trauma fractures are prescribed anti-resorptive therapy upon hospital discharge?
2. How effective is the communication regarding osteoporosis treatment between hospital teams and General Practitioners (GPs) through discharge summaries?
3. What role do clinical pharmacists play in ensuring osteoporosis therapy is initiated and optimised post-fracture?

Method

A retrospective audit was conducted on patients admitted to the hospital with minimal trauma fractures in 2022 and 2023. Patients were randomly selected, and their digital medical records were reviewed to collect data on the following:

- Medication history
- Relevant clinical investigations (e.g., renal function)

- Initiation of pharmacological treatment (e.g., anti-resorptive therapy)
- Written instructions provided for GPs in discharge summaries regarding osteoporosis management

Patients with fractures not due to minimal trauma or those already receiving anti-resorptive therapy before admission were excluded from the study. Data analysis was performed to determine the percentage of patients discharged with osteoporosis treatment or clear instructions for GPs.

Results

A total of 71 patients met the inclusion criteria. The findings were as follows:

- i. 31 patients (44%) were given prescriptions for anti-resorptive therapy on discharge.
- ii. 2 patients (3%) received inpatient treatment during their hospital admission.
- iii. 31 patients (44%) were discharged with written instructions for GPs to consider initiating anti-resorptive therapy.
- iv. 7 patients (10%) were neither prescribed therapy on discharge nor provided any instructions for GPs regarding osteoporosis treatment.

Discussion

The results of this audit reveal significant gaps in the management of osteoporosis post-fracture. While 44% of patients were discharged

with anti-resorptive therapy, an equal proportion relied solely on GP follow-up via discharge instructions. Alarming, 10% of patients received no guidance, posing a risk of missed treatment opportunities. This highlights a systemic breakdown in communication and a failure to capitalise on hospital admissions as an opportunity for intervention.

Clinical pharmacists are pivotal in bridging this gap. Their involvement at the point of admission and discharge can improve outcomes through the following:

- i. **Timely initiation of therapy:** Pharmacists can identify patients with fragility fractures, ensure osteoporosis is appropriately diagnosed, and collaborate with medical teams to initiate anti-resorptive treatment.
- ii. **Optimised communication:** Pharmacists can enhance discharge summaries (the medication section), ensuring GPs receive clear instructions on follow-up treatment.
- iii. **Patient education:** Pharmacists play a role in counselling patients on the importance of osteoporosis therapy adherence and fracture prevention strategies.

Current hospital guidelines recommend providing patients with a prescription for anti-resorptive therapy at the time of discharge, along with instructions for the GP to conduct bone mineral density (BMD) tests and initiate therapy. However, this audit has revealed a discrepancy between the recommended guidelines and actual practice, with a significant proportion of patients not receiving timely intervention. To address this gap, a review of the service policy regarding osteoporosis treatment initiation within the hospital may be beneficial. This could include developing new hospital guidelines to initiate anti-resorptive therapy for those presenting with minimal trauma fractures and providing education to healthcare professionals on the importance of early intervention.

There were some limitations in this audit. These include not assessing the prescribing practices of vitamin D and calcium, which are integral to optimal osteoporosis management. Other limitations

include the small sample population size and the retrospective nature of the study design, which may introduce bias.

This audit demonstrates the need for a multidisciplinary approach, with pharmacists acting as advocates for osteoporosis care, ensuring continuity between hospital and community settings.

Conclusion

The findings highlight missed opportunities in initiating osteoporosis management following minimal trauma fractures. Pharmacists can play a critical role in improving these outcomes through timely therapy initiation, improved communication in discharge summaries, and patient education. Moving forward, integrating pharmacists into fracture care pathways can reduce the risk of secondary fractures and enhance patient outcomes. A focus on pharmacist involvement at key transitions of care—admission and discharge—will help close the gap in osteoporosis management.

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None.

Conflicts of interest

The author declares that there are no conflicts of interest.

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