Description of clinical condition

Osteoporosis is a chronic disease characterised by reduced bone density and strength, which predisposes a person to minimal trauma fractures (MTF). An MTF (also known as a fragility, low-impact, or osteoporotic fracture) results from an event which would not be expected to fracture a healthy bone; for example, a trip and fall while walking. These fractures lead to people living with ongoing pain, reduced mobility, loss of function and quality of life, and the real possibility of further fractures.1,2 The Dubbo Osteoporosis Epidemiology Study found that 24% of women and 20% of men sustained a refracture within five years of their initial fracture.3

Much evidence has been published in the literature, including government-sponsored reports, regarding the high incidence of osteoporosis in the Australian community. The AIHW reports on its online snapshot 4 that in 2014-15 more than 720,000 Australians self-reported a diagnosis of osteoporosis or osteopenia. However, the AIHW conceded this is a gross underestimate of the incidence, as people are not necessarily told they have osteoporosis, even if it has been diagnosed on bone mineral density scanning or they may have already sustained a minimal trauma fracture. It has been estimated that over 4.74 million Australians over 50 years of age live with osteoporosis, osteopenia and poor bone health; this equates to 19% of the population.5

MTFs are relatively common in people aged 50 and over: it is estimated that one in four men and two in five women in this category will experience an MTF in the future.6 In both men and women, the main cause of MTF is osteoporosis or osteopenia, a precursor to osteoporosis.7 People who sustain an MTF have a high risk for subsequent fractures.1 An MTF fracture of any bone site predisposes to premature mortality, and markedly so with hip fractures.1,3

What clinical processes need to change?

Despite the burden osteoporosis and fractures have on society, osteoporosis remains a largely undertreated chronic disease both in the primary and secondary care settings.8-12 Given the frequency of such fractures and the associated reduced life expectancy,1 there is an urgent need to identify those with MTF, and to assess and, as necessary, treat people with osteoporosis.

Internationally, nationally and in NSW it is well known that no one discipline or specialty identifies MTFs in any form of consistent manner.8,10 It is well accepted that all health systems treat the acute event (the fracture) in an appropriate manner but to consider a fracture may be as a result of minimal trauma or fragile bones is very uncommon outside of specific Osteoporosis Refracture Prevention (ORP) services.8,11-15 Targeting those aged 50 and over when the first MTF occurs (also known as index, or incident fracture, and often a fracture of the wrist or vertebra), will enable health services to prevent many of the larger bone fractures that occur in older age.16,17
In consideration of the lack of identification and subsequent positive response to the treatment needs of this patient cohort, the model of care for ORP targets people aged 50 years and over who present with an MTF. The model of care was designed to guide best practice coordinated, multi-disciplinary care to improve outcomes for people with MTF, resulting in reduced refracture rates and the resultant health usage, morbidity and mortality that refracture causes.

What will the clinical change process look like?

The model of care is based on national and international published evidence, and advice from clinical, research and management experts across NSW. These sources agree that the best approach to improve early diagnosis and access to appropriate services is through the appointment of dedicated fracture liaison coordinators, who will work alongside medical practitioners.

Fracture liaison coordinators

- Provide overall coordination of the osteoporotic refracture prevention service.
- Provide coordination of care for people accessing the osteoporotic refracture prevention service.
- Find the people who require the service.
- Initiate access to investigation of people’s bone health as required, including bone density screening and blood testing.
- Facilitate access to comprehensive disease and psychological assessment.
- Coordinate with a medical practitioner to initiate appropriate medical management as required.
- Provide disease management education to help people understand the need for managing and improving their bone health, and support self-management and behaviour change interventions through multidisciplinary team care.
- Link people to community-based, complementary lifestyle support services.
- Provide follow-up over time to ensure the planned interventions are carried out and the person’s needs are addressed.

What are the clinical benefits of change for this cohort?

A formative evaluation of the NSW Model of care for osteoporotic refracture prevention was undertaken in 2011 and 2012 to ascertain its impact and applicability across the various service sites in NSW.\(^1\)

- Osteoporotic refracture prevention services resulted in improved identification of those requiring refracture prevention services, and had a substantial impact on treatment rates, both medical and conservative/lifestyle.\(^1\)
- Health-related quality of life significantly improved after the first three months of osteoporotic refracture prevention interventions.\(^1\)
- Research has shown the Fracture Liaison Coordinator models result in reduced re-fracture risk, reduced mortality, increased assessment of bone mineral density, increased treatment initiation and adherence to treatment and is cost-effective.\(^1\) In NSW we saw fewer preventable emergency presentations for fracture.\(^1\)
- Analysis of long-term data in Dubbo, Australia (1989–2005) found that 26% of patients over 60 with a minimal trauma fracture sustained a subsequent fracture. Of this refracture cohort, approximately half (41% in women and 52% in men) occurred in the first two years after the initial fracture.\(^1\)
References


