



**OSTEOPOROSIS**  
NEW ZEALAND  
Better bones, fewer fractures



## BRIEFING

# on Bone Health in New Zealand

PRESENTED BY | **OSTEOPOROSIS NEW ZEALAND 2025**

## Executive summary

New Zealand faces an urgent challenge in addressing the growing burden of osteoporosis and associated fragility fractures, which are increasingly common as the population ages. Osteoporosis weakens bones, making them more prone to fractures, often from minor incidents such as a fall from standing height. These injuries - especially hip fractures - result in significant pain, disability, and loss of independence for individuals, while placing a substantial strain on families, whānau, the healthcare system, the Accident Compensation Corporation (ACC), and the economy.

Currently, fragility fractures account for more than 191,000 hospital bed days annually, equivalent to the capacity of one of the country's largest hospitals. In 2023, falls and fractures among older people cost ACC \$360 million, a figure projected to double to over \$720 million by 2035 without effective interventions. These statistics underscore the critical need for action to prevent fragility fractures and improve bone health across all stages of life.

In 2025, Osteoporosis New Zealand will publish *Stronger Together: A Collaborative Strategy for Bone Health in New Zealand*, a comprehensive national strategy to optimise bone health throughout the life course. This strategy includes the following primary goals:

- 1. Sustaining excellence in care:** Ensure ongoing support for New Zealand's world-class clinical teams that deliver care for people who sustain fragility fractures.
- 2. Preventing first fractures:** Develop a national programme that is both clinically effective and cost-effective, aimed at reducing the risk of first fragility fractures in older adults.
- 3. Promoting lifelong bone health:** Educate New Zealanders of all ages on the importance of building and maintaining strong bones, from achieving peak bone mass during youth to preserving bone health throughout adulthood and later life.

New Zealand is leading the way in world-class care for people who sustain fragility fractures through two key models of care. Orthogeriatric Services that integrate geriatric and orthopaedic expertise to improve outcomes for hip fracture patients, with all hospitals actively participating in the Australian and New Zealand Hip Fracture Registry (ANZHFR). Fracture Liaison Services (FLS) that are specialised teams focused on preventing secondary fractures by ensuring comprehensive assessments and evidence-based treatments for fragility fracture patients. Participation in the Australian and New Zealand Fragility Fracture Registry (ANZFFR), which features tools such as the "Refracture Tracker", enables New Zealand's FLS to set benchmarks against global standards.

Achieving these goals requires a unified, cross-sector approach. Policy support must extend beyond healthcare to include education and other ministries, ensuring New Zealanders have access to age-friendly environments and public awareness campaigns. Establishing an *All-Party Parliamentary Group on Bone Health* would provide sustained momentum for the national *Live Stronger for Longer* programme and ensure ongoing investment in bone health initiatives.

By addressing osteoporosis and fragility fractures with urgency and coordination, we have the opportunity to optimise the bone health of all New Zealanders and reduce health system demand.

Introduction

Osteoporosis is a condition that weakens bones, making them thinner and more fragile than normal. This significantly increases the risk of fractures, often resulting from minor incidents such as a fall from standing height or even a small bump. These osteoporotic fractures, also known as fragility fractures, most commonly occur in the wrist, spine, shoulder, pelvis, and hip. Painful and debilitating, these injuries are frequently associated with a loss of independence and a reduced quality of life.

Bone tissue is dynamic, constantly undergoing a cycle of breakdown and renewal. Osteoporosis develops when the rate of bone formation fails to keep up with bone resorption, leading to weakened bones that are more susceptible to fractures.

Women are particularly vulnerable to osteoporosis after menopause due to the sharp decline in oestrogen, a hormone essential for maintaining bone density. While men typically develop osteoporosis later in life, it is often mistakenly regarded as a “woman’s disease.” However, one-third of all hip fractures worldwide occur in men, and these fractures carry significantly higher mortality rates compared to women.

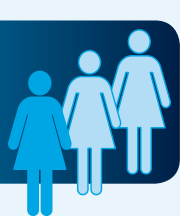
Fragility fractures represent an urgent and growing health challenge, with profound personal and economic implications. Effectively addressing osteoporosis is crucial for improving health outcomes for New Zealanders, particularly as our population continues to age.

This briefing document underscores the need to prioritise the prevention, diagnosis, and management of osteoporosis and fragility fractures. Doing so will improve health outcomes and reduce the long-term burden on individuals, whānau, the healthcare system, and the Accident Compensation Corporation (ACC).

Osteoporosis is a serious problem

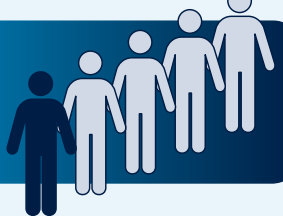
Fractures caused by **osteoporosis** can be **life-threatening** and a major cause of pain and **long-term disability**.

At least  
**1 in 3**  
women



&

At least  
**1 in 5**  
men



will suffer from an **osteoporotic fracture** during their lifetime.

We are **living longer** thus we need to make sure our skeleton **lasts the distance**.

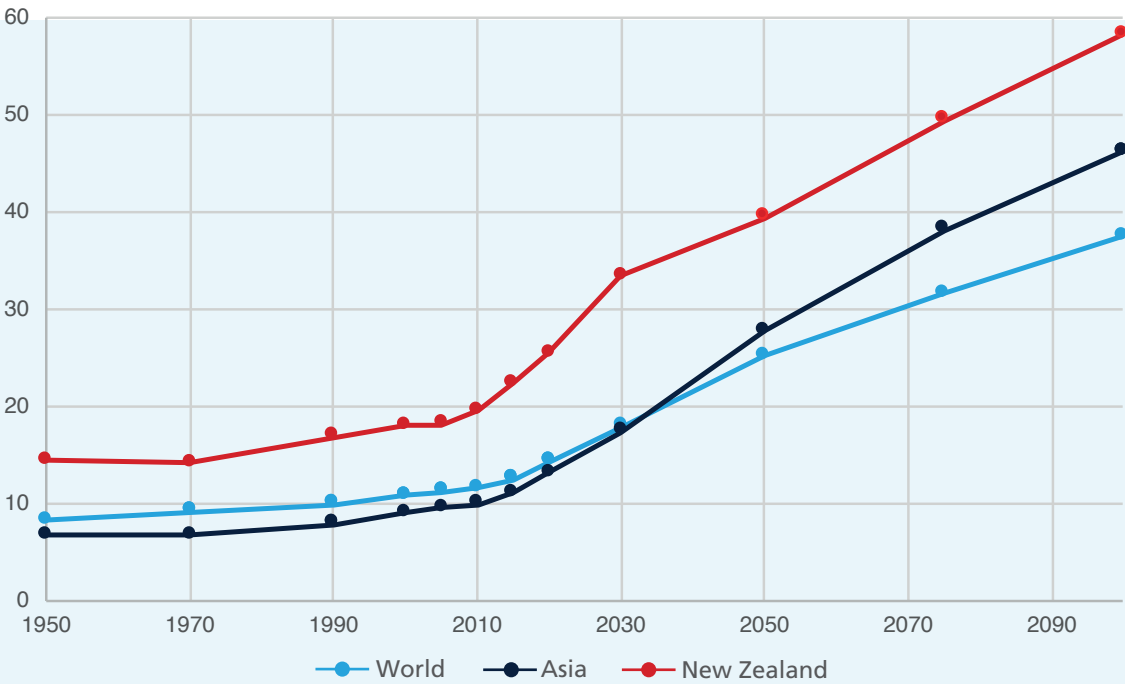
**Bones can stay healthy and strong**

Population ageing in New Zealand

The World Population Prospects, published by the United Nations Department of Economic and Social Affairs, provides detailed projections of demographic trends throughout the remainder of the 21<sup>st</sup> century<sup>1</sup>. Age-dependency ratios offer a broad measure of the balance between those typically active in the workforce (ages 15–64) and those generally not (children aged 0–14 and adults aged 65 and older). The “old-age dependency ratio” specifically refers to the proportion of individuals aged 65 and over relative to those of “working age” (15–64).

**Figure 1** illustrates these ratios as the number of dependents per 100 working-age individuals for New Zealand, Asia, and the world. Globally, a demographic transformation is underway, with New Zealand progressing approximately 30 years ahead of the global average in this shift.

FIGURE 1. OLD-AGE DEPENDENCY RATIOS FOR NEW ZEALAND, ASIA AND THE WORLD FROM 1950 TO 2100<sup>1</sup>



From World Population Prospects: Volume II: Demographic Profiles 2017 Revision. ST/ESA/SER.A/400, by Department of Economic and Social Affairs, Population Division, ©2017 United Nations. Reprinted with the permission of the United Nations.

Without targeted and systematic interventions, this “longevity miracle” will lead to a significant rise in conditions that predominantly affect older adults, including falls, osteoporosis, and the resulting fragility fractures. To paraphrase Professor Peter Ebeling AO, “Osteoporosis, falls and the fragility fractures that follow will be at the vanguard of this battle which is set to rage between quantity and quality of life”.<sup>2</sup>



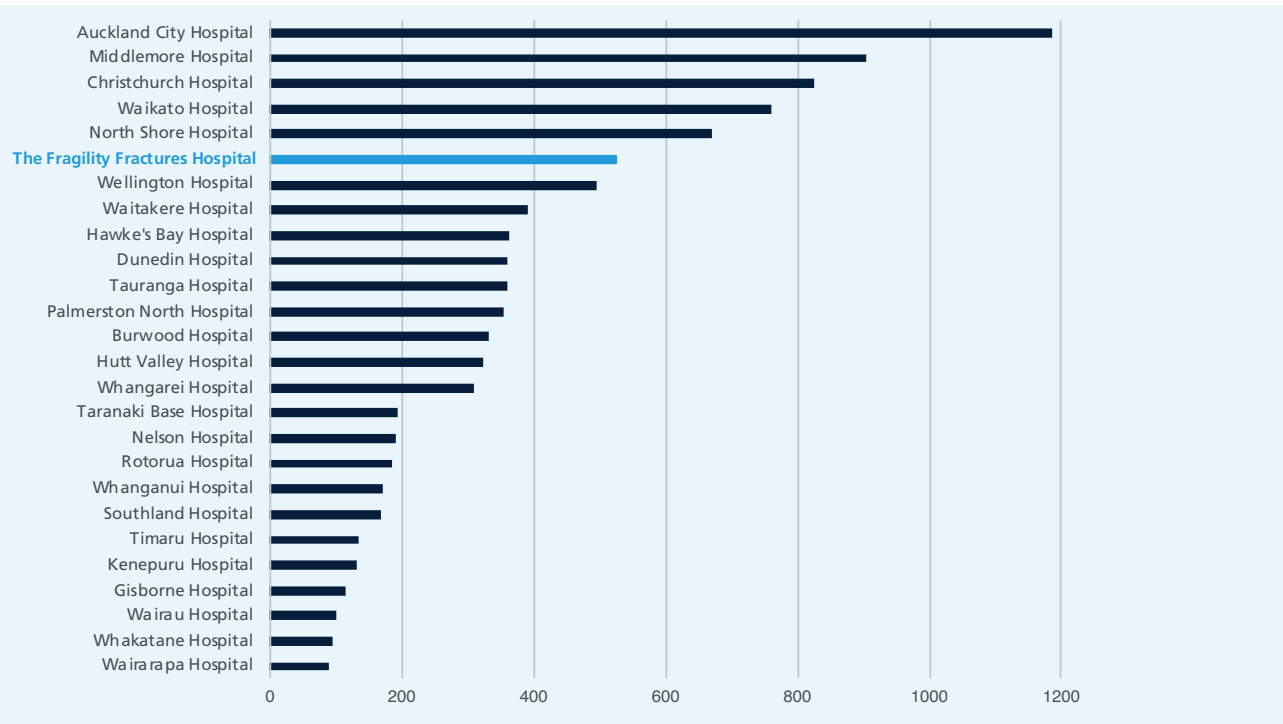
## The impact of fragility fractures on the healthcare system

Osteoporosis New Zealand estimates that 22,300 fragility fractures occur annually among New Zealanders aged 50 years and over, including nearly 3,900 hip fractures and 2,900 symptomatic spine fractures.

In 2022, patients with hip fractures required nearly 78,000 hospital bed days, while those recovering from fragility fractures at other skeletal sites accounted for more than 113,000 bed days<sup>3</sup>. Combined, patients with fragility fractures required more than 191,000 hospital bed days. But what does this number actually represent in practical terms?

To put it into perspective, imagine a hypothetical “Fragility Fractures Hospital” dedicated solely to treating all fragility fracture patients in New Zealand. As shown in **Figure 2**, such a hospital would require 525 beds, making it the sixth largest hospital in the country<sup>4</sup>.

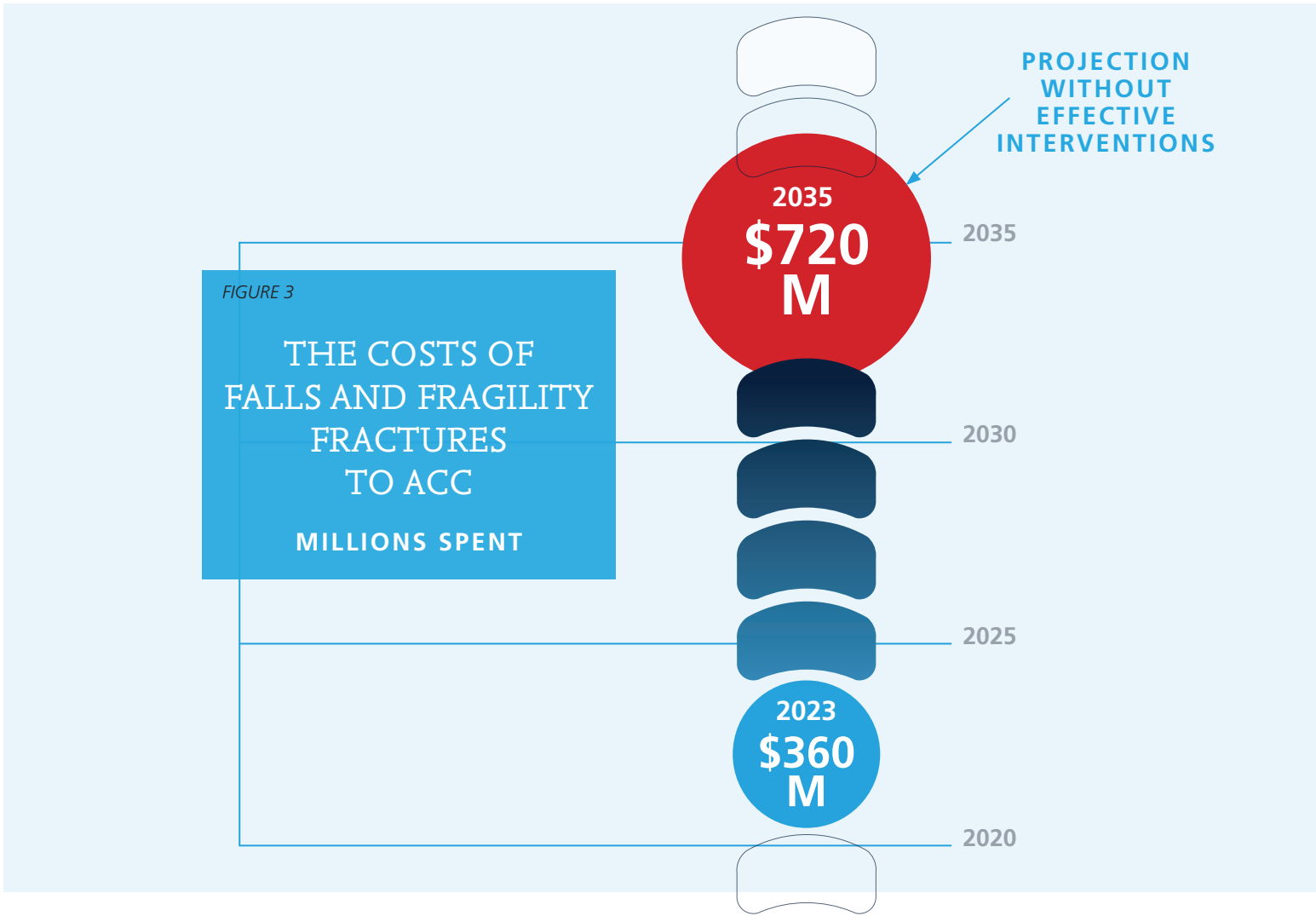
FIGURE 2. THE HYPOTHETICAL “FRAGILITY FRACTURES HOSPITAL” - A SNAPSHOT OF THE HEALTHCARE IMPACT<sup>3,4</sup>



If we also consider the additional 116,000 hospital bed days required by older adults recovering from injurious falls that did not involve a fracture, this hypothetical facility - now a “Falls and Fragility Fractures and Hospital” - would need 843 beds. This would make it the third largest hospital in New Zealand, highlighting the immense burden these injuries place on the healthcare system.

## The cost of falls and fragility fractures to ACC

FIGURE 3. THE COST OF FALLS AND FRAGILITY FRACTURES TO ACC IN 2023 AND 2035<sup>5</sup>



## Preventing fragility fractures: Treatment of osteoporosis and prevention of falls

### Treatment of osteoporosis

A number of highly effective, safe, and inexpensive medications have been shown to reduce future fracture risk by 30% to 70%, dependent on the agent used and site of fracture. In New Zealand, several medications are available to manage osteoporosis and funded by Pharmac, each tailored to different patient needs and preferences.

Oral bisphosphonates, such as alendronate and risedronate, are first-line treatments taken weekly. They have been proven to significantly reduce the risk of fractures, including those of the spine and hip. For patients who prefer less frequent dosing, zoledronate, an intravenous bisphosphonate, offers a convenient option with annual or 18-monthly infusions.

Denosumab is administered as a subcutaneous injection every six months and is particularly suitable for individuals with renal impairment or those who cannot tolerate bisphosphonates. For severe osteoporosis, teriparatide, a daily injectable medication, stimulates bone formation and is effective for patients with multiple fractures. Raloxifene, a selective oestrogen receptor modulator (SERM), reduces vertebral fracture risk in postmenopausal women, while hormone replacement therapy (HRT) helps maintain bone density, particularly when initiated within 10 years of menopause.

In 2017, Osteoporosis New Zealand convened an Expert Panel that developed and published **Guidance on the Diagnosis and Management of Osteoporosis in New Zealand**, a comprehensive resource designed to support clinicians in providing evidence-based care.<sup>6</sup> This guidance, which will be updated in 2025, serves as a cornerstone for effective osteoporosis management. In 2024, complementing this effort, Dr. David Kim, a Consultant Endocrinologist and General Physician at North Shore Hospital and a member of the Board of Trustees of Osteoporosis New Zealand, authored an article titled **How to Treat Osteoporosis** for New Zealand Doctor<sup>7</sup>. This publication has been well received by general practitioners and other healthcare professionals nationwide, further illustrating the availability of robust, practical advice for treating osteoporosis effectively.

### Prevention of falls

In 2022, 172,000 older adults – representing 22% of those aged 65 years and over – filed ACC claims for fall-related injuries<sup>8</sup>. Accordingly, falls prevention is a critical component of reducing the incidence of fragility fractures. Exercise plays a pivotal role by improving bone density, enhancing muscle strength, and reducing the risk of falls. Healthcare professionals are encouraged to recommend weight-bearing activities, such as walking or dancing, alongside resistance training to strengthen bones and muscles. Balance and flexibility exercises, like Tai Chi, are also effective in further reducing falls risk. Tailoring exercise plans to each individual's age, ability, and fracture risk ensures both safety and efficacy.

The *Stay Independent Falls Prevention Toolkit* is a key resource designed for Primary Care Teams to assess fall risks and implement targeted prevention strategies.<sup>9</sup> Adapted for New Zealand by the Best Practice Advisory Centre New Zealand (bpac<sup>nz</sup>) in collaboration with the Health Quality and Safety Commission - Te Tāhū Hauora, this evidence-based toolkit draws on an initiative originally developed by the U.S. Centers for Disease Control and Prevention (CDC), offering practical solutions tailored to the local healthcare context.

In 2023, ACC launched the Nymbi app to help older New Zealanders prevent falls and fractures<sup>8</sup>. Nymbi provides a convenient way for older adults to engage in balance training at home. Combining educational content with practical exercises, the app empowers users to improve their stability and prevent falls through daily practice. It is readily available for download on both the Apple App Store and Google Play, making it an easy-to-use tool for supporting falls prevention.



## A life course approach to bone health

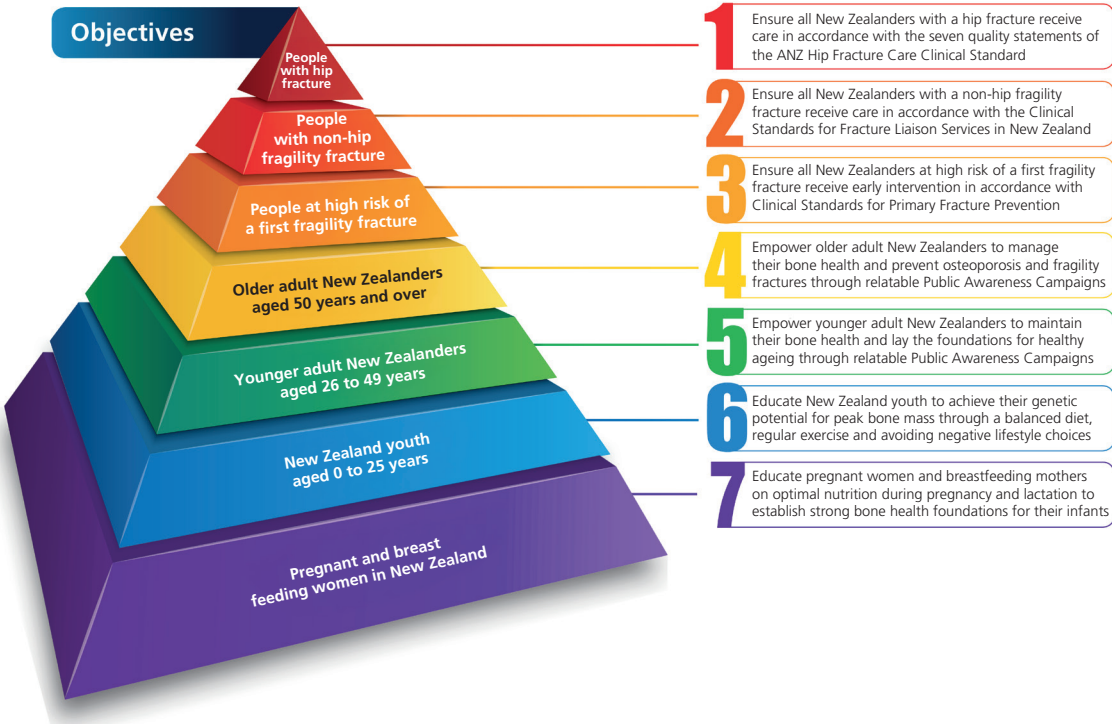
Throughout the 2010s and into the current decade, Osteoporosis New Zealand has championed a life course approach to optimising bone health for all New Zealanders. To date, this effort has primarily focused on ensuring that older adults who sustain hip and other fragility fractures receive the highest standards of care, including optimal treatment in acute settings, effective rehabilitation to restore function, and world-class secondary fracture prevention that aims to make the first fragility fracture the last.

In 2025, Osteoporosis New Zealand will publish *Stronger Together: A Collaborative Strategy for Bone Health in New Zealand* (Stronger Together), a comprehensive national strategy with the following primary goals:

- **Sustaining excellence in care:** Ensure ongoing support for New Zealand’s world-class clinical teams that deliver care for people who sustain fragility fractures.
- **Preventing first fractures:** Develop a national programme that is both clinically effective and cost-effective, aimed at reducing the risk of first fragility fractures in older adults.
- **Promoting lifelong bone health:** Educate New Zealanders of all ages on the importance of building and maintaining strong bones, from achieving peak bone mass during youth to preserving bone health throughout adulthood and later life.

Achieving the goals outlined in *Stronger Together* will require a unified and strategic effort to address bone health across the lifespan. As illustrated in **Figure 4**, the seven strata of the *Stronger Together* “Pyramid” provide a clear framework for action, from delivering world-class acute care and secondary prevention for fragility fracture patients to fostering early-life interventions that establish a strong foundation for lifelong bone health. This will require an integrated, multi-sector approach that combines clinical excellence, public health initiatives, and education campaigns. By addressing bone health at every stage of life, this strategy has the potential to dramatically reduce the personal, societal, and economic costs of osteoporosis and fragility fractures in New Zealand. A summary of progress to date in improving care for fragility fracture patients follows.

FIGURE 4. STRONGER TOGETHER: A COLLABORATIVE STRATEGY FOR BONE HEALTH IN NEW ZEALAND



## Delivering best practice in hip fracture care

Orthogeriatric Services are specialised healthcare teams that focus on the unique needs of older adults who sustain fragility fractures, especially hip fractures. These services integrate geriatric expertise into the care of patients who often face multiple health challenges, including frailty, other medical conditions, and a high risk of future falls and fractures.

Using a multidisciplinary approach, Orthogeriatric Services ensure patients receive comprehensive care. This includes early assessment by geriatricians, personalised care during and after surgery, and coordinated rehabilitation. The goal is to improve outcomes such as better pain control, reduced risk of complications, shorter hospital stays, and enhanced recovery of mobility and independence.

In New Zealand, Orthogeriatric Services are a cornerstone of hip fracture care. They actively contribute to the Australian and New Zealand Hip Fracture Registry (ANZHFR)<sup>10</sup>, which allows them to measure and compare their performance against the trans-Tasman *Hip Fracture Care Clinical Care Standard*<sup>11</sup>, ensuring consistent and high-quality care for patients. Since its launch in 2016, the ANZHFR has facilitated the benchmarking of care for over 26,000 patients in New Zealand, with participation from all hospitals nationwide that treat hip fracture patients.

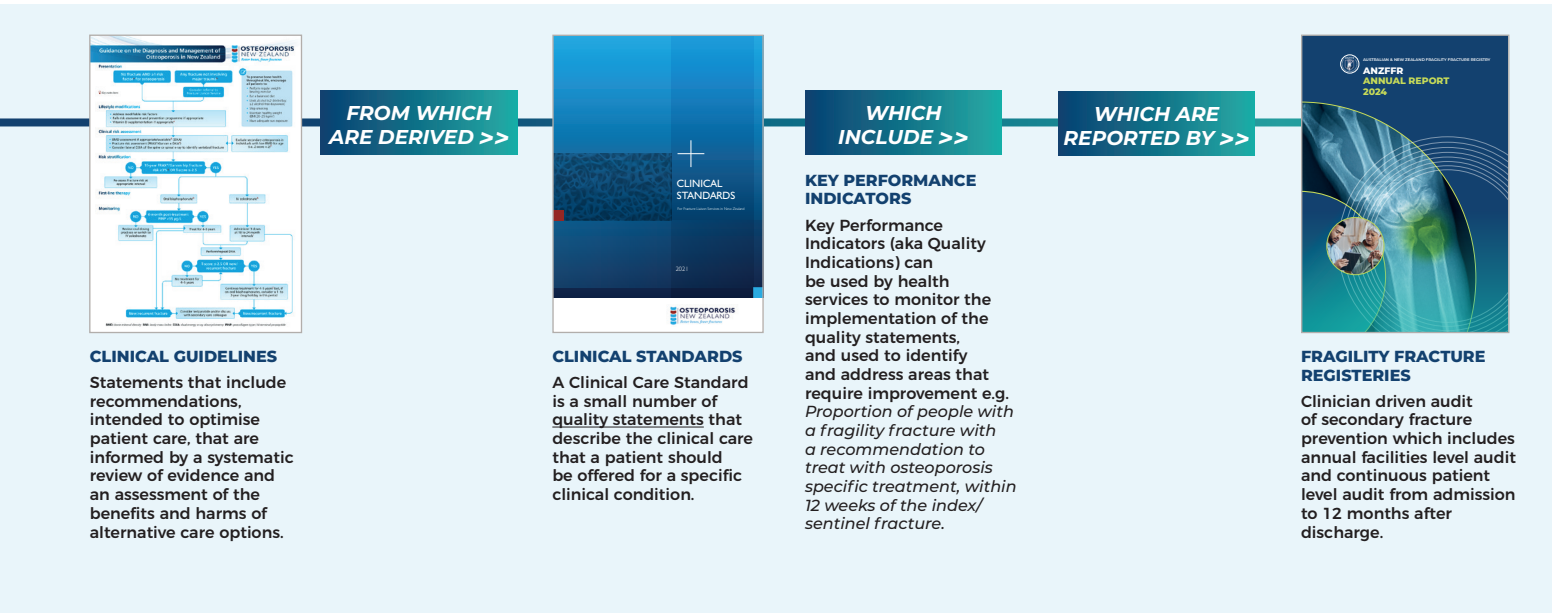


## Delivering world-class secondary fracture prevention

Fracture Liaison Services (FLS) are specialised care teams dedicated to preventing secondary fractures in patients aged 50 years and older who have sustained a fragility fracture. These services play a crucial role in reducing the risk of subsequent fractures by providing comprehensive assessments, ensuring adherence to national clinical guidelines for osteoporosis management, and addressing falls risk through referrals to appropriate falls prevention programmes.

FLS in New Zealand are benchmarked nationally and internationally, against the Clinical Standards for FLS in New Zealand<sup>12</sup> and the International Osteoporosis Foundation’s (IOF) Capture the Fracture® Best Practice Framework<sup>13</sup>. As illustrated in **Figure 5**, through participation in the Australian and New Zealand Fragility Fracture Registry (ANZFFR)<sup>14</sup>, FLS Teams can evaluate their performance in real time, ensuring the highest standards of care.

FIGURE 5. BENCHMARKING THE PERFORMANCE OF FRACTURE LIAISON SERVICES IN NEW ZEALAND<sup>5, 6, 12</sup>



Acknowledgments: Clinical Guidelines, Institute of Medicine; Clinical Standards, Australian Commission on Safety and Quality in Health Care; Key Performances Indicators, Osteoporosis New Zealand; Fragility Fracture Registries, Australian and New Zealand Fragility Fracture Registry.

The ANZFFR’s “Refracture Tracker” tool further enhances care by alerting FLS Teams when patients experience secondary fractures, allowing for timely interventions and adjustments to treatment plans. Additionally, this tool provides high-quality data that supports funding decisions and highlights the effectiveness of FLS in improving patient outcomes.

In the first year of registry operations, from July 2022 to June 2023, FLS Teams across New Zealand identified 55% of the estimated national caseload of fragility fractures<sup>5</sup>. This figure is projected to rise to 72% in the second year, marking the fastest patient acquisition rate achieved by any fragility fracture registry initiative globally. Since launch in 2022, the ANZFFR has facilitated the benchmarking of care for almost 34,000 patients with fragility fractures.

As of December 2024, 1,055 FLS from 60 countries feature on the IOF Capture the Fracture® “Map of Best Practice”<sup>15</sup>. As illustrated in **Figure 6**, 18 FLS from New Zealand currently feature on the Map, collectively serving more than 90% of the population aged 50 years and over. The national FLS quality improvement programme is on track to achieve the aspiration that there will be universal access to IOF-accredited FLS in New Zealand by 2025. See the IOF Map of Best Practice at [www.capturethefracture.org](http://www.capturethefracture.org).

FIGURE 6. NEW ZEALAND’S FLS ON THE IOF CAPTURE THE FRACTURE® MAP OF BEST PRACTICE<sup>15</sup>



Reproduced with kind permission of the International Osteoporosis Foundation

## Policy and Legislative Support

Addressing the growing burden of osteoporosis and fragility fractures in New Zealand requires robust policy and legislative action. Implementing a life course approach to bone health demands collaboration across multiple government departments and Crown entities, extending beyond the roles of the Accident Compensation Corporation, Health NZ – Te Whatu Ora, Ministry of Health, and Pharmac.

The Ministry of Education and Sport NZ have pivotal roles to play in fostering initiatives that help children and adolescents achieve their genetic potential for peak bone mass. Similarly, the Ministry of Housing and Urban Development should prioritise creating age-friendly environments, building on the impact of Age Friendly Aotearoa New Zealand under the Office for Seniors.

The economic implications of poor bone health - including lost productivity, increased healthcare costs, and financial strain - necessitate recognition and engagement from the Minister of Finance. A comprehensive, coordinated government response is critical to successfully implement a life course approach to bone health.

Establishing an *All-Party Parliamentary Group on Bone Health* would provide sustained legislative and policy support for initiatives such as the *Live Stronger for Longer* programme<sup>16</sup>. This group could act as a key driver for national strategies aimed at reducing the burden of osteoporosis and fragility fractures, ensuring consistent attention and commitment across successive governments.

To secure the sustainability of New Zealand's healthcare system and the ACC scheme, and improve the quality of life for its citizens, a unified and strategic government commitment to bone health is essential. This coordinated effort will ensure osteoporosis and fragility fractures are addressed with the urgency and focus they deserve.

## References

1. United Nations Department of Economic and Social Affairs Population Division (2017) World Population Prospects: Volume II: Demographic Profiles 2017 Revision (ST/ESA/SER.A/400). New York
2. Ebeling PR (2014) Osteoporosis in men: Why change needs to happen. In Mitchell PJ (ed) World Osteoporosis Day Thematic Report. International Osteoporosis Foundation, Nyon
3. Accident Compensation Corporation, Ministry of Health, Health Quality & Safety Commission New Zealand (2024) Falls & fractures outcomes framework: Supporting quality improvement across the health system to reduce harm from falls. <https://public.tableau.com/app/profile/hqi2803/viz/FallsFracturesOutcomesFramework/Landing> Accessed 28 November 2024
4. Ministry of Health - Manatū Hauora (2024) Public hospitals. <https://www.health.govt.nz/regulation-legislation/certification-of-health-care-services/certified-providers/public-hospitals> Accessed 28 November 2024
5. Australian and New Zealand Fragility Fracture Registry (2024) Annual Report 2024. Wellington
6. Gilchrist N, Reid IR, Sankaran S, Kim D, Drewry A, Toop L, McClure F (2017) Guidance on the Diagnosis and Management of Osteoporosis in New Zealand. Osteoporosis New Zealand, Wellington
7. Kim D (2024) How To Treat Osteoporosis. New Zealand Doctor
8. Accident Compensation Corporation (2023) Keeping your balance with Nymbi. <https://www.acc.co.nz/newsroom/stories/keeping-your-balance-with-nymbi> Accessed 28 November 2024
9. bpacnz (2024) Stay Independent Falls Prevention Toolkit. BPAC NZ Limited. <https://bpac.org.nz/falls/> 28 November 2024
10. Australian and New Zealand Hip Fracture Registry (2024) Australian and New Zealand Hip Fracture Registry website. <http://www.anzhfr.org/> Accessed 28 November 2024
11. Australian Commission on Safety and Quality in Health Care (2023) Hip Fracture Care Clinical Care Standard. Sydney
12. Fergusson K, Gill C, Harris R, Kim D, Mackenzie D, Mitchell PJ, Ward N (2021) Clinical Standards for Fracture Liaison Services in New Zealand 2<sup>nd</sup> Edition. Osteoporosis New Zealand, Wellington
13. International Osteoporosis Foundation (2024) IOF Capture the Fracture®: Welcome to the Best Practice Framework (BPF) Questionnaire. <https://www.capturethefracture.org/best-practice-framework-questionnaire> Accessed 28 November 2024
14. Australian and New Zealand Fragility Fracture Registry Steering Group (2024) New Zealand Fragility Fracture Registry website. <https://fragilityfracture.co.nz> Accessed 28 November 2024
15. International Osteoporosis Foundation (2024) IOF Capture the Fracture®: Map of Best Practice <https://www.capturethefracture.org/map-of-best-practice> Accessed 28 November 2024
16. Accident Compensation Corporation, Ministry of Health, Health Quality & Safety Commission New Zealand, New Zealand Government (2024) Live Stronger for Longer: Prevent falls and fractures website. <http://livestronger.org.nz/> Accessed 28 November 2024





Osteoporosis New Zealand (ONZ) is a charitable trust dedicated to raising awareness of bone health and improving care and outcomes for people who are at risk of, or are living with, osteoporosis. ONZ exists to enable people to remain independent by ensuring they have stronger, better bones, sustain fewer fragility fractures and improving their quality of life. ONZ provides information and educational material to the public and makes recommendations to Government and the medical profession for improved management strategies for osteoporosis.

Osteoporosis New Zealand,  
PO Box 109-502, Newmarket,  
Auckland 1023  
P +64 4 499 4862  
E [info@osteoporosis.org.nz](mailto:info@osteoporosis.org.nz)  
[www.osteoporosis.org.nz](http://www.osteoporosis.org.nz)