

CLINICAL STANDARDS

For Fracture Liaison Services in New Zealand

2021



OSTEOPOROSIS
NEW ZEALAND
Better bones, fewer fractures

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Fracture Liaison Services

“The purpose of a Fracture Liaison Service (FLS) is to ensure that all patients aged 50 years or over, who present to urgent care services with a fragility fracture, undergo fracture risk assessment and if required receive treatment in accordance with prevailing national clinical guidelines for osteoporosis. The FLS also ensures that falls risk is addressed among older patients through referral to appropriate local falls prevention services.”¹

A fragility fracture is defined as a fracture resulting from low trauma, such as a fall from standing height.² The most common skeletal sites of fragility fractures are the hip, wrist, humerus, pelvis or spine. It should be noted that a significant proportion of spine fractures are undiagnosed or do not come to clinical attention.^{3,4}

In 2018, investigators from the John Hunter Hospital (JHH) in New South Wales, Australia described the impact of their FLS on secondary fracture rates and costs.⁵ Using hospital records, the JHH team compared secondary fracture experience for two groups:

- The FLS Cohort (n=515) who attended the emergency department at JHH and were offered FLS post-fracture care.
- The Usual Care Cohort (n=416) who attended an emergency department at a hospital without an FLS.

Cohort costs were estimated for every 1,000 patients over a three-year period of observation. Compared with the Usual Care Cohort, the FLS Cohort had 62 fewer fractures per 1,000 patients in three years, resulting in savings of AU\$617,275 (NZ\$652,441).

Meta-analyses published in 2018⁶ and 2019⁷ demonstrated that FLS result in significant improvements in rates of bone mineral density testing, treatment with osteoporosis specific medications and adherence with treatment, and that FLS are also associated with significantly reduced rates of refracture and mortality.

In 2018, the Global Call to Action on Fragility Fractures (CtA) called for urgent improvement in the acute care, rehabilitation and secondary fracture prevention (delivered by FLS) for individuals who sustain fragility fractures.⁸ The CtA has been endorsed by more than 130 organisations operating at the global, regional and national level, including the Accident Compensation Corporation (ACC), Health Quality and Safety Commission New Zealand, New Zealand Ministry of Health and Osteoporosis New Zealand.

Live Stronger for Longer

In 2016, the Accident Compensation Corporation (ACC) invested NZ\$30.5 million to support the nationwide implementation of the following initiatives:⁹

1. A national hip fracture registry to benchmark care of hip fracture patients against trans-Tasman clinical standards.
2. **A FLS in every District Health Board (DHB).**
3. In-home and community-based strength and balance programmes.
4. Assessment and management of visual acuity and environmental hazards in the home.
5. Medication review for people taking multiple medicines.
6. Vitamin D prescribing in Aged Residential Care.
7. Integrated services across primary and secondary care (including supported hospital discharge) to provide seamless pathways in the falls and fracture system.

In 2017, the multisector effort was formalised under the *Live Stronger for Longer* initiative (LSFL), which is comprised of all relevant government agencies, non-governmental organisations and other stakeholders.¹⁰

In late 2020, ACC announced a second investment in LSFL of NZ\$14 million to June 2022 that will:

1. Sustain delivery of approved Community-based Strength and Balance classes.
2. Support DHBs to sustain delivery of their respective In-Home Strength and Balance programmes.
3. **Establish and embed a best-practice FLS within each DHB region.**
4. Explore, qualify and leverage Digital Strength and Balance opportunities.
5. Sustain the Australian and New Zealand (ANZ) Hip Fracture Registry.
6. Sustain the use of the LSFL website and Health Sector Information Dashboards.
7. Increase awareness of bone health (in close collaboration with Osteoporosis NZ and other key stakeholders).
8. **Explore development of an ANZ Fragility Fracture Registry.**

ACC extended DHB FLS funding agreements from 31 December 2020 to 30 June 2021. This extension of funding enabled each DHB to sustain delivery of their FLS until 30 June 2021. From 1 July 2021, ACC funding is focused on supporting DHBs and/or Primary Health Organisations (PHOs) to deliver and embed an FLS accredited by the International Osteoporosis Foundation (IOF) through the Capture the Fracture® Best Practice Framework (n.b. details in the following section on Clinical Standards for FLS) that the health sector can sustain without the need for ongoing ACC funding by 30 June 2024.

Clinical Standards for Fracture Liaison Services

Clinical or Quality Standards for FLS have been developed in Canada,¹¹ Japan,¹² New Zealand (2016/17¹³ and 2021¹⁴) and the United Kingdom (2015¹⁵ and 2019¹⁶). A central component of the IOF Capture the Fracture[®] Programme¹⁷ is the Best Practice Framework which provides internationally endorsed standards for FLS.¹⁸⁻²⁰ In 2020, the IOF Capture the Fracture[®] Working Group in collaboration with the Fragility Fracture Network (FFN) Secondary Fragility Fracture Prevention Special Interest Group and the National Osteoporosis Foundation (NOF, USA) published a patient-level key performance indicator (KPI) set to measure the effectiveness of FLS and guide quality improvement. In 2021, the Asia Pacific Consortium on Osteoporosis (APCO)²¹ published clinical standards of care for the screening, diagnosis, and management of osteoporosis in the Asia-Pacific region.²²

This second edition of Clinical Standards for FLS in New Zealand builds on the first edition published in 2016/17¹³ by incorporating the IOF-FFN-NOF KPI set²³ within the “5IQ” structure of the first edition (i.e. clinical standards relating to identification, investigation, information, intervention, integration and quality). The KPI relating to provision of information is informed by the relevant APCO clinical standard.²² This has resulted in a total of 15 KPIs as noted within the Clinical Standards outlined below.

The IOF Capture the Fracture[®] Map of Best Practice²⁴ highlights FLS that have been awarded Best Practice Framework recognition.²⁰ As of September 2021, 666 FLS from 49 countries feature on the map, including seven from New Zealand:

- **Gold Star Rated:**
 1. Christchurch Hospital
 2. Hawke's Bay Fallen Soldiers' Memorial Hospital
 3. Waitemata District Health Board
- **Silver Star Rated:**
 4. Middlemore Hospital
- **Bronze Star Rated:**
 5. Tauranga Hospital
 6. Waikato Hospital
 7. Whangarei Hospital

All other FLS in New Zealand are encouraged to submit for IOF Best Practice Framework recognition.

A National Registry for Fragility Fractures

During the last three decades, national and international hip fracture registries have been established in 18 countries in Asia Pacific,²⁵⁻²⁷ Europe²⁸⁻³⁸ and the Americas,^{39,40} including the Australian and New Zealand Hip Fracture Registry.²⁵ These hip fracture registries have provided a mechanism – in real time – for hospitals to benchmark their provision of care against clinical standards for various aspects of acute hip fracture care and secondary prevention.⁴¹ As noted by Currie, well used continuous feedback:⁴²

“... is continuously and consistently empowering and encourages a strategic approach. And units that make a regular practice of monthly audit meetings to scrutinise their own data can use it ... to identify and quantify problems and address them as they emerge, with or without management support: a prompt and flexible ‘fire-fighting’ response that only continuous audit can provide.”

To provide a mechanism to benchmark provision of care delivered by FLS for individuals with all fragility fractures, FLS Registries have been established by the Royal College of Physicians in the United Kingdom⁴³ and the American Orthopaedic Association in the United States of America.⁴⁴

In 2021, the New Zealand arm of a new Australian and New Zealand Fragility Fracture Registry will be established to:

- Enable the performance of FLS in New Zealand to be benchmarked against this second edition of the Clinical Standards for FLS.
- Identify variation in FLS service delivery and patient care across healthcare systems and provide FLS with data – in real time – to drive system level improvement.
- Provide publicly available information so that patients can be reassured that they receive the standard of care they need after a fragility fracture.
- Improve patient focus over time through automatic uploading of patient data and direct reporting to reduce FLS administrative time.
- Provide data for research questions or projects, nationally and internationally.
- Document the lived experience of people who sustain fragility fractures with patient-reported experience measures and patient-reported outcome measures.

It is also intended that the Fragility Fracture Registry will facilitate cross-sector collaboration to bridge the gap between primary and secondary care, and so ensure that patients receive optimal long-term care. Subject to securing ethics approval for nationwide participation, the Fragility Fracture Registry will be launched in 2021.

Consultation Process

In 2021, a consultation exercise was undertaken in which the draft second edition of the Clinical Standards was emailed to the Presidents or CEOs of all relevant learned societies and organisations in New Zealand, and APCO, FFN, IOF, the Asia Pacific Fragility Fracture Alliance (APFFA)⁴⁵ and the Australian SOS Fracture Alliance.⁴⁶ The learned societies and organisations contacted in New Zealand included:

- Accident Compensation Corporation
- Australian and New Zealand Bone and Mineral Society
- Australian and New Zealand Fragility Fracture Registry
- Australian and New Zealand Hip Fracture Registry
- Australian and New Zealand Orthopaedic Nurses Alliance
- Australian and New Zealand Society for Geriatric Medicine
- Endocrine Nurses Society of Australasia
- Fracture Liaison Network New Zealand
- Health Quality & Safety Commission New Zealand
- Ministry of Health
- New Zealand Orthopaedic Association
- New Zealand Osteoporosis Clinical Guidelines Development Group
- New Zealand Rheumatology Association
- New Zealand Society of Endocrinology
- Pharmaceutical Society of New Zealand
- Physiotherapy New Zealand
- Royal New Zealand College of General Practitioners
- Royal Australasian College of Physicians
- Royal Australasian College of Surgeons
- Royal Australian and New Zealand College of Radiologists

Responses were received and where consensus was evident among consultees or individual organisation's suggestions could clearly improve the clarity and focus of the Clinical Standards, changes were made to the original draft.

The finalised document was subsequently re-issued to the learned societies and organisations to seek their endorsement. The Clinical Standards were published in 2021.

Endorsing Organisations

The following learned societies and organisations endorse the second edition of the Clinical Standards for Fracture Liaison Services in New Zealand.



**He Kaupare. He Manaaki.
He Whakaora.**
prevention. care. recovery.



ANZBMS



ANZHFR
Australian & New Zealand Hip Fracture Registry



Endocrine Nurses' Society
of Australasia Inc.



Fracture Liaison Network
New Zealand



**HEALTH QUALITY & SAFETY
COMMISSION NEW ZEALAND**
Kupu Taurangi Hauora o Aotearoa



**NEW ZEALAND SOCIETY
OF ENDOCRINOLOGY**



The Royal New Zealand
College of General Practitioners
Te Whare Tohu Rata o Aotearoa



**Fracture
Alliance**
Making the first break the last

Standard 1: Identification

All people aged 50 years or over who sustain a fragility fracture will be systematically and proactively identified by the FLS.

Key Performance Indicators (KPIs):

KPI 1: Identification of people with non-spine fragility fractures.*

Please note: The numerators and denominators in the KPIs that follow are predicated on an annual period of review. When FLS undertake ongoing benchmarking on a monthly or quarterly basis the denominators should be adjusted accordingly. For more information on ongoing benchmarking please see the section on the NZ arm of the ANZ Fragility Fracture Registry.

Numerator: The total number of people with non-spine fragility fractures identified annually by the FLS.

Denominator: The expected annual local number of non-spine fragility fractures can be estimated by multiplying the number of hip fractures that occur annually in the DHB/PHO locality by five.

*Non-spine fragility fractures are defined as all non-spine fragility fractures excluding fractures of the face, skull, scaphoid and digits. NB: This includes hip fractures.

KPI 2: Identification of people with spine fractures.

Numerator: The total number of people with spine fragility fractures identified annually by the FLS.

Denominator: The expected annual local number of clinically apparent spine fragility fractures is expected to be 75% of the local annual number of people with a hip fracture.

Standard 2: Investigation

People with a fragility fracture will undergo timely assessment for future fracture risk including bone health (i.e. osteoporosis) and falls risk.

Key Performance Indicators (KPIs):

KPI 3: Initial investigation including fracture risk assessment within 12 weeks.

Please note: It is recognised that bone mineral density (BMD) testing by dual-energy X-ray absorptiometry (DXA) may not be required in all people, and so DXA is included in KPI 4.

Numerator: The number of people annually, who undergo initial investigation including fracture risk assessment within 12 weeks of the index/sentinel fracture.

Denominator: The total number of people with fracture identified (i.e. non-spine and spine fractures combined).

KPI 4: DXA within 12 weeks.

Numerator: The number of people annually, who have a DXA scan within 12 weeks of the index/sentinel fracture.

Denominator: The IOF-FFN-KPI set²³ defines the denominator as the “Number of patients for whom DXA is recommended according to regional or national guidelines.” The Guidance on the Diagnosis and Management of Osteoporosis in New Zealand⁴⁷ states “Although DXA is recommended after fracture, treatment must not be delayed if DXA is unavailable.” The guidance also notes “Patients aged ≥ 75 years with a significant osteoporotic fracture demonstrated radiologically do not necessarily require a BMD assessment for PHARMAC medication access.” Accordingly, these Clinical Standards pragmatically define the denominator for KPI 4 as 50% of the total number of people with fracture identified (i.e. 50% of non-spine and spine fractures combined).

KPI 5: Falls risk assessment within 12 weeks.

Numerator: The cumulative total number of people annually, who, within 12 weeks of the index/sentinel fracture:

- received a falls risk assessment, or
- were recommended to do so, or
- were referred to the care of a falls service, or
- were already attending a falls service immediately prior to sustaining the index/sentinel fracture.

Denominator: The total number of people with fracture identified (i.e. non-spine and spine fractures combined).

Standard 3: Information

People with fragility fracture, their family members and whānau or carers will be provided with information – in their own language and in plain language – on bone health, lifestyle measures (including exercise, alcohol and smoking), nutrition (including calcium and vitamin D intake), sun exposure and the relationship between osteoporosis and fracture risk.

Key Performance Indicators (KPIs):

KPI 6: Provision of an information package within 12 weeks.

Numerator: The number of people with fracture who receive a package of information delivered and explained by the FLS. The package of information should be provided in their own language and in plain language, and in a media preferred by the person, their family members and whānau or carers (i.e. written material or electronic material). The Osteoporosis New Zealand brochure, *All about osteoporosis*,⁴⁸ which was endorsed by ACC, the Ministry of Health and Osteoporosis Canterbury provides an illustration of an evidence-based information resource, as does the APFFA *Your bone health handbook*.⁴⁹

Denominator: The total number of people with fracture identified (i.e. non-spine and spine fractures combined).

KPI 7: Self-assessment of bone health by family members of people with fragility fracture.

Meta-analysis has demonstrated that a parental history of fracture (particularly a family history of hip fracture) confers an increased risk of fracture that is independent of BMD.⁵⁰ Accordingly, increasing awareness of bone health among adult children of people with fracture and siblings of people with fracture could be beneficial to those family members. The free Know your Bones™ online self-assessment tool⁵¹ can be used by family members to assess their own bone health.

Numerator: The number of people with fracture provided with information on the Know your Bones™ tool to be shared with family members, annually.

Denominator: The total number of people with fracture identified (i.e. non-spine and spine fractures combined).

Standard 4: Intervention

People with a fragility fracture determined to be at high risk of sustaining future falls and/or fractures will be offered appropriate osteoporosis specific treatment with PHARMAC subsidised medicines and be referred for interventions to reduce falls risk.

Key Performance Indicators (KPIs):

KPI 8: Osteoporosis specific treatment recommended as appropriate within 12 weeks.

Numerator: The number of people with fracture annually, with a recommendation to treat with osteoporosis specific treatment, within 12 weeks of the index/sentinel fracture.

Please note: Osteoporosis specific treatments include bisphosphonates (oral and IV), raloxifene, denosumab and teriparatide. Calcium and/or vitamin D supplementation is not considered an osteoporosis specific treatment. As an alternative to bisphosphonates, oestrogen therapy may be considered as first-line therapy for women within 10 years of menopause.

This includes the cumulative total of people with fracture that were:

- recommended an osteoporosis specific treatment as a result of the index/sentinel fracture that were not receiving treatment prior to the fracture, or
- treated with an osteoporosis specific treatment prior to the index/sentinel fracture and that prior treatment was recommended to be continued, or
- treated prior to the index/sentinel fracture and a recommendation was made to change the prior treatment to another osteoporosis specific treatment during the index/sentinel fracture episode

Denominator: The total number of people with fracture identified (i.e. non-spine and spine fractures combined).

KPI 9: Recorded follow-up within 16 weeks.

Numerator: The number of people with fracture annually, with recorded follow-up within 16 weeks of the index/sentinel fracture.

Please note: As stated in the IOF-FFN-NOF KPI set publication,²³ "A variety of methods can be used to monitor patients including face-to-face clinic assessments, telehealth (remote) visits, postal questionnaires, telephone consultations and email, and should be tailored to local practice and patient needs."

Please note: Osteoporosis specific treatments include bisphosphonates (oral and IV), raloxifene, denosumab and teriparatide. Calcium and/or vitamin D supplementation is not considered an osteoporosis specific treatment. As an alternative to bisphosphonates, oestrogen therapy may be considered as first-line therapy for women within 10 years of menopause.

Denominator: The total number of people with fracture annually, referred for, or recommended osteoporosis specific treatments, **minus** the number of people who had died within 16 weeks of fracture.

KPI 10: Commenced osteoporosis specific treatment within 16 weeks.

Numerator: The number of people with fracture annually, who commenced or continued with osteoporosis specific treatments within 16 weeks of the index/sentinel fracture.

Please note: This indicator serves to confirm that follow-up within 16 weeks (KPI 9) resulted in actual treatment of those people with fracture that are clinically indicated to receive treatment.

Please note: Osteoporosis specific treatments include bisphosphonates (oral and IV), raloxifene, denosumab and teriparatide. Calcium and/or vitamin D supplementation is not considered an osteoporosis specific treatment. As an alternative to bisphosphonates, oestrogen therapy may be considered as first-line therapy for women within 10 years of menopause.

Denominator: The cumulative total of people with fracture annually, who:

- received a treatment recommendation to start osteoporosis specific treatments, or
- were referred to GP or to another clinician to prescribe osteoporosis specific treatment
- **minus** the number of people who had died within 16 weeks of fracture.

KPI 11: Strength and balance programme commenced within 16 weeks.

Numerator: The number of people with fracture annually, who initiated or resumed participation in a [Live Stronger for Longer](#) approved strength and balance programme* or other physical rehabilitation programme within 16 weeks of the index/sentinel fracture.

Denominator: The cumulative total of people with fracture annually, who:

- received a falls risk assessment, or
- were recommended to do so, or
- were referred to the care of a falls service, or
- attended a falls service immediately prior to sustaining the index fracture
- **minus** people who had died within 16 weeks of fracture.

*A strength and balance programme which may be community-based, home-based or delivered in a rehabilitation setting.

Standard 5: Integration

The FLS, in partnership with the person with fracture and their general practitioner, develops a long-term care plan to reduce risk of falls and fractures, and promote long-term management.

Key Performance Indicators (KPIs):

KPI 12: Provision of long-term care plan within 12 weeks.

Numerator: The number of people with fragility fracture who received a long-term care plan developed by the FLS, in collaboration with the person and their general practitioner, within 12 weeks of the index/sentinel fracture.

Denominator: The total number of people with fracture identified (i.e. non-spine and spine fractures combined).

KPI 13: People taking osteoporosis specific treatment 52 weeks after fracture.

Numerator: Number of people still taking osteoporosis specific treatment 52 weeks after the index/sentinel fracture.

Please note: Osteoporosis specific treatments include bisphosphonates (oral and IV), raloxifene, denosumab and teriparatide. Calcium and/or vitamin D supplementation is not considered an osteoporosis specific treatment. As an alternative to bisphosphonates, oestrogen therapy may be considered as first-line therapy for women within 10 years of menopause.

Denominator: The cumulative total of people with fracture annually, who:

- received a treatment recommendation to start osteoporosis specific treatments, or
- were referred to GP or to another clinician to prescribe osteoporosis specific treatment,
- minus** the number of people who had died within 52 weeks of fracture.

Standard 6: Quality

The FLS will undertake ongoing performance review enabled by participation in the NZ-arm of the Australian and New Zealand Fragility Fracture Registry and ensure appropriate Continuing Professional Development (CPD) for FLS staff.

Key Performance Indicators (KPIs):

KPI 14: Continuing Professional Development for FLS staff.

Numerator: Number of FLS staff who undertook at least one specific FLS-related CPD activity in the previous year.

Denominator: Total number of FLS staff involved in delivery of clinical aspects of the FLS (i.e. Lead Senior Medical Officer for DHB-based FLS or lead GP for PHO-based FLS, who serves as the Lead Medical Doctor for the FLS, and the FLS Coordinator[s]).

KPI 15: ANZ Fragility Fracture Registry Participation.

Numerator: Number of KPIs 1 - 14 with more than 80% complete data entered into the NZ-arm of the ANZ Fragility Fracture Registry.

Denominator: 14 KPIs.

Useful Resources

The following organisations' resources may provide useful insights to healthcare professionals and administrators throughout New Zealand who are engaged in the delivery and improvement of FLS.

International Osteoporosis Foundation

In 2012, IOF launched the Capture the Fracture® programme¹⁷ with publication of the 2012 World Osteoporosis Day thematic report.⁵² This initiative aims to facilitate the implementation of coordinated, multi-disciplinary models of care for secondary fracture prevention. It is recognised as the single most important step in directly improving patient care and reducing spiraling fracture-related healthcare costs worldwide.

The components of Capture the Fracture® relating to clinical standards are as follows:

- **Best Practice Framework:** The Best Practice Framework (BPF),²⁰ which is currently available in 15 languages, sets an international benchmark for FLS by defining essential and aspirational elements of service delivery. The BPF serves as the measurement tool for IOF to award Capture the Fracture® Best Practice Recognition status. The 13 globally endorsed standards of the BPF were published in *Osteoporosis International* in 2013¹⁸ and evaluated after the first year of global implementation.¹⁹
- **Patient-level key performance indicator set:** Developed in collaboration with the FFN Special Interest Group on Secondary Fragility Fracture Prevention and the National Osteoporosis Foundation (USA), the Capture the Fracture® Working Group adapted existing metrics from the UK FLS Database⁴³ to develop a patient-level key performance indicator set for FLS.²³

Why apply for Best Practice recognition?

The internationally-endorsed Best Practice Framework provides guidance for excellence in secondary fracture prevention. FLS who join the CTF network, achieving Best Practice Recognition by IOF will benefit in the following ways:

- Capture the Fracture® online International Map of Best Practice.
- Peer-review of the FLS by the CTF Steering Committee and benchmarking for FLS against the internationally endorsed Best Practice Framework, highlighting strengths and areas for improvement in the FLS.
- A unique platform to share the best practices developed within the FLS with colleagues and peers throughout the world.
- Access to a wide range of resources and tools, as well as a network of international experts who can share their expertise and also provide mentorship and support.

See the Capture the Fracture® Resource Centre at www.capturethefracture.org.

Fragility Fracture Network

In 2018, the Global Call to Action on Fragility Fractures (CtA)⁸ called for urgent improvement in three so-called clinical pillars:

- **Pillar 1 – acute care:** Acute multidisciplinary care for the person who suffers a hip, clinical vertebral and other major fragility fracture.

- Pillar II – rehabilitation: Ongoing post-acute care of people whose ability to function is impaired by hip and major fragility fractures.
- Pillar III – secondary prevention: Rapid secondary prevention after first occurrence of all fragility fractures, including those in younger people as well as those in older persons, to prevent future fractures.

The fourth pillar of the CtA was political in nature:

- Pillar IV – alliances: Assembly of multidisciplinary national alliances to advocate policy change that supports implementation of clinical pillars I–III.

An unprecedented level of endorsement was achieved for implementation of the recommendations made in the CtA from organisations operating at the global, regional and national levels, which included ACC, Health Quality and Safety Commission New Zealand, Ministry of Health and Osteoporosis New Zealand. In 2020, FFN published a Clinical Toolkit⁵³ and Policy Toolkit⁵⁴ to support activists' efforts to turn the Call to Action into **Actual** Action.

Asia Pacific Fragility Fracture Alliance

Formed in 2018, the Asia Pacific Fragility Fracture Alliance (APFFA) comprises seven global and regional member organisations from the geriatrics, orthopaedics, osteoporosis and rehabilitation sectors.⁵⁵ APFFA's mission is promote multidisciplinary collaboration and change policy to facilitate best practice in the acute care, rehabilitation and secondary prevention of fragility fractures. The following resources are freely available through the APFFA website:⁴⁵

- Education Directory: A curated collection of high-quality materials to support education on osteoporosis and fracture prevention for a range of audiences.
- Primary Care Physician (PCP) Education Toolkit: A comprehensive, educational asset designed to arm PCPs, with practical resources to aid the identification, assessment and ongoing management of those at risk of fractures, and thereby improve the safety and quality of patient care.
- Your Bone Health Handbook: A guide for members of the public which provides practical advice on preventing fractures and staying active and independent.
- Hip Fracture Registry Toolbox: A practical and informative resource that supports clinicians, hospital administrators, healthcare systems and governments to establish a national registry in their countries.

Asia Pacific Consortium on Osteoporosis

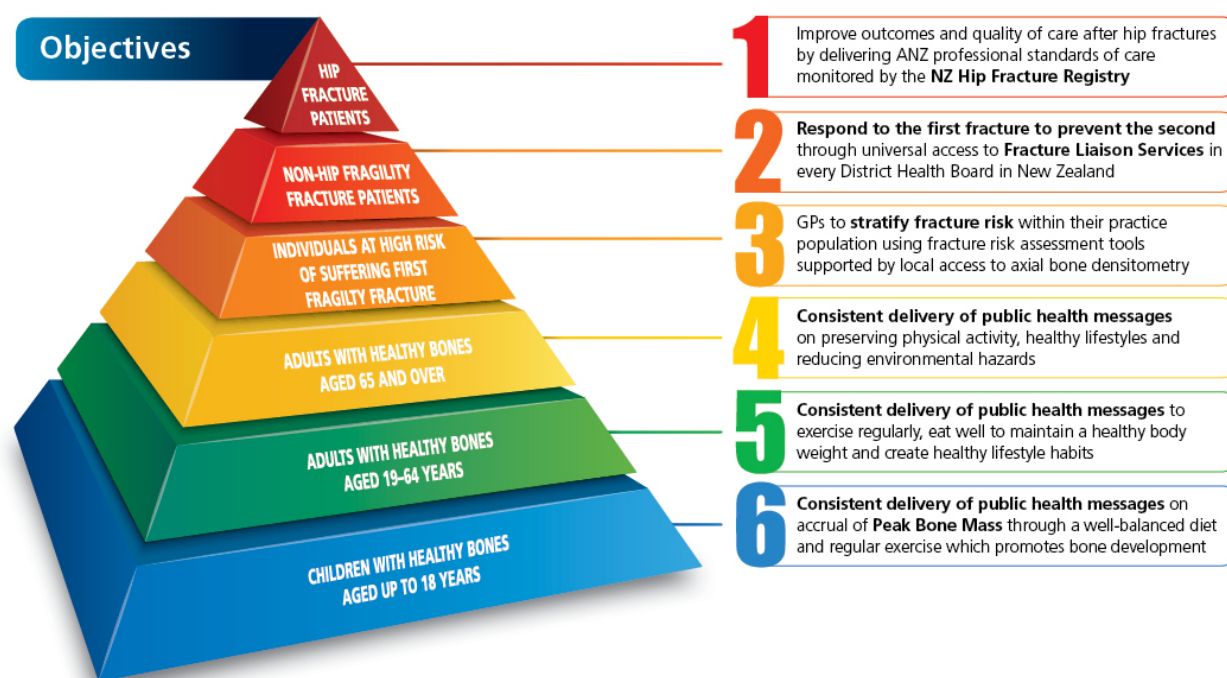
The Asia Pacific Consortium on Osteoporosis (APCO),^{21,56} a non-partisan and apolitical organisation, is comprised of osteoporosis experts drawn from a diverse range of clinical settings, from low-, middle- and high-income countries and regions in the Asia Pacific region, including New Zealand, that have populations ranging between 5 million to 1.4 billion people. APCO aims to develop regionally relevant, pragmatic, and effective strategies for improving osteoporosis management and reducing rates of fragility fractures. In January 2021, the APCO Framework was published,²² which provides clinical standards of care for the screening, diagnosis, and management of osteoporosis in the Asia Pacific region. The APCO website also provides frequent blogs from leading experts on challenging issues in the management of osteoporosis and prevention of fragility fractures.⁵⁶

Osteoporosis New Zealand

Osteoporosis New Zealand (ONZ) is the only national charitable trust dedicated to improving care and outcomes for people at high risk of developing or living with osteoporosis. ONZ provides advice, educational material, and information for the public, and make recommendations for the management of osteoporosis by the medical profession.

In 2012, ONZ published BoneCare 2020⁵⁷ which called for development and implementation of a systematic approach to care and prevention of fragility fractures in New Zealand. The strategy has driven a transformational change in the way bone health is promoted in New Zealand and is summarised in figure 1 below:

Figure 1. The BoneCare 2020 Pyramid⁵⁷



From 2012, ONZ has worked in a multidisciplinary, multisector collaboration of government organisations, learned professional societies and the non-governmental organisation sector focused on secondary fracture prevention. This work involves case finding and management to close the most obvious care gap i.e., to ensure that every patient presenting with a fragility fracture to urgent care services receives appropriate osteoporosis management and falls assessment to reduce their future fracture risk.

Bone Health New Zealand

In 2020, ONZ focused on increasing the relevancy of bone health amongst New Zealanders of all ages. This was achieved through the launch of a consumer-facing brand – Bone Health New Zealand (BHNZ) - which is easily understood and speaks to proactive bone health and fragility fracture prevention. BHNZ also addresses the common misperception that osteoporosis only affects elderly women and, therefore, is not relevant to a younger or male audience.

BHNZ's mission is to drive a step change in New Zealanders' bone health through awareness that leads to proactive behavioural change and action resulting in a reduction in the number of osteoporotic fractures. This will be achieved by:

- Increasing understanding of:
 - the importance of building healthy bones early in life.
 - how to reduce the serious risks associated with osteoporosis in later years.
- Engaging people who have previously been unaware of the importance of bone health and encourage them to self-assess for fracture risk using the Know your Bones™ tool.
- Educating people on the results of their Know your Bones™ self-assessment and what actions to take to maintain or improve their bone health.

ONZ will remain as the official charity and be the authoritative endorsing organisation to support the BHNZ brand.

Figure 2. The relationship between Osteoporosis NZ, Bone Health NZ and Know your Bones™



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- Asia Pacific Consortium on Osteoporosis
- Fragility Fracture Network
- International Osteoporosis Foundation
- National Osteoporosis Foundation (USA)
- Osteoporosis Canada
- The Royal Osteoporosis Society (UK)

We also thank all of the learned societies and other organisations that participated in the consultation process for these Clinical Standards and offered their endorsement.

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