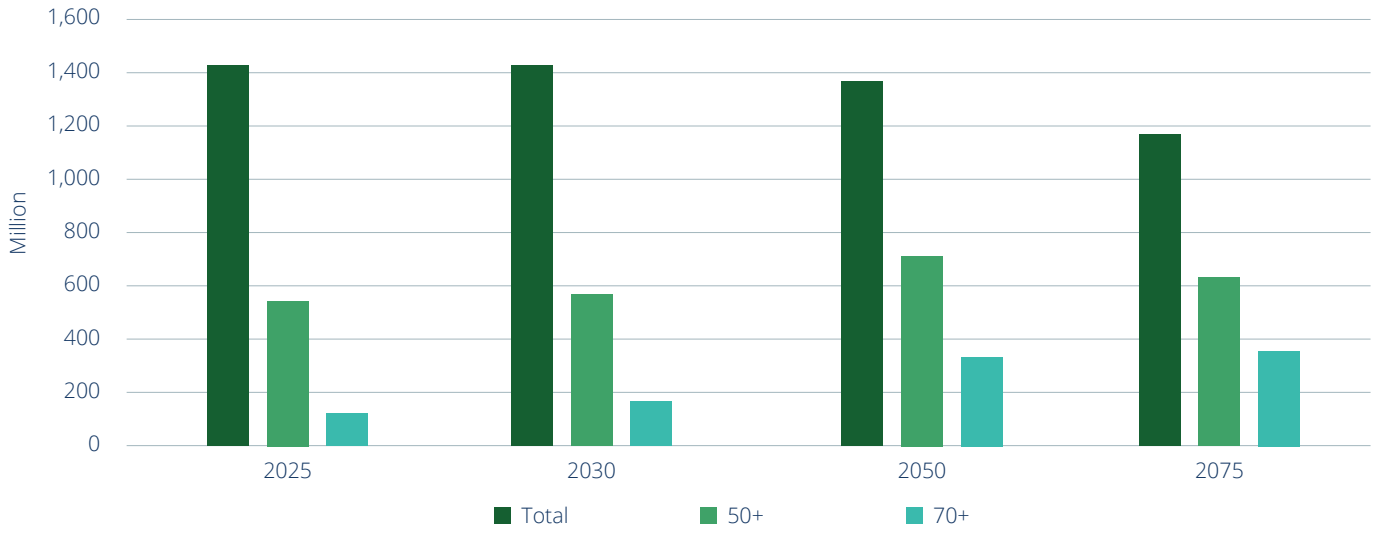
DEMOGRAPHIC TRENDS

China's population is projected to peak at 1,424 million in 2030, followed by a period of decline, with the population decreasing by 19% to 1,148 million by 2075 ***(Figure 1)***. Chinese currently have an average life expectancy of 79.0 years, which is expected to rise to 88.3 years by 2075, an increase of 12%.

The proportion of Chinese aged 50 years or older (50+) is set to rise significantly. In 2025, this group of 529.4 million people represents 37% of the total population. By 2075, this will increase to 632.5 million people representing 55% of the total population ***(Figure 1)***.

The most pronounced demographic shift will be among those aged 70 years or older (70+), whose numbers will rise from 138.4 million in 2025 to 339.2 million in 2075. While this represents a growth of 145% in absolute numbers, a more telling statistic is their increasing share of the total population. In 2025, those aged 70+ years made up almost 10% of China's 1,424 million people, but by 2075, they will represent 30% of a smaller total population of 1,148 million people. This shift reflects a 203% relative increase in their share of the total population, underscoring the significant ageing of China's demographic profile.

Figure 1. Population projections for China from 2025 to 2075 [1]



CLINICAL SPECIALTY RESPONSIBLE FOR MANAGEMENT OF OSTEOPOROSIS

In China, a range of clinical specialties are involved in the diagnosis of osteoporosis, including nuclear medicine, internal medicine, endocrinology, rheumatology, geriatrics, gynaecology, and orthopaedic surgery. Then, patient chooses whether GPs or specialist will provide the treatment. Osteoporosis is recognised as a standalone medical specialty and is a component of specialty medical training, in particular for endocrinologists, geriatricians, rheumatologists, orthopaedic surgeons, gynaecologists, primary care physicians, nuclear medicine doctors, and radiologists.

PATIENT SUPPORT ORGANISATIONS

China does not have any patient support organisations focused on osteoporosis. However, several foundations and assistance programmes target the general public. The *Beijing Renze Public Welfare Foundation* (仁泽公益基金会) runs recurring osteoporosis initiatives such as the "Bone as Strong as New" (骨固如新) patient assistance programme (2024–2025) supporting individuals with severe osteoporosis, and the "Strengthen muscles and bones, prevent and treat osteoporosis" (强肌健骨，防治骨松) education lecture series continuing in 2025. Earlier, the "Bone-Dance Life" national drug-assistance programme (骨舞人生" 严重骨质疏松患者援助项目), launched in 2015 by Beijing Life Oasis with support from the *Chinese Primary Health Care Foundation*, provided aid using teriparatide to patients with severe osteoporosis.

In addition, city and hospital-based WeChat programmes are increasingly being used for patient engagement. For example, Shanghai has launched a WeChat mini programme to help residents locate nearby osteoporosis diagnosis and treatment centres. Hospital teams also use WeChat for patient education and follow-up support, an approach supported by published evidence demonstrating improved outcomes among fragility fracture patients. Non-profit organisations such as Life Oasis also lead large-scale public education and outreach activities across hospitals and community venues nationwide.

WAITING TIME FOR HIP SURGERY

Average waiting time for hip surgery after hip fracture	2 – 3 days
% of hip fractures surgically managed	51 – 75%

OSTEOPOROSIS AS A DOCUMENTED NATIONAL HEALTH PRIORITY (NHP)

In 2017, China's State Council released the 13th Five-Year Plan for Health and Wellness which aimed to establish a comprehensive medical and health system accessible to all urban and rural residents by 2020. This foundational plan laid the groundwork for broader healthcare reforms and public health initiatives.
https://www.gov.cn/xinwen/2017-01/10/content_5158559.htm

Building on this foundation, osteoporosis was formally recognised as a National Health Priority (NHP) in China in 2022. The NHP designation is mandated exclusively by the Ministry of Health, without involvement from other governing bodies. The associated national action plan prioritises dual-energy X-ray absorptiometry (DXA) scanning and access to osteoporosis treatments, both of which are reimbursed through the National Health System.

This action plan is closely aligned with broader public health initiatives, particularly the *China Health Initiative* (2017–2025), which addresses bone health alongside other chronic conditions under the "Healthy Bone Action" framework. Key areas of focus include nutritional support (specifically vitamin D and calcium intake), promotion of physical activity, fall prevention strategies, early screening, and comprehensive post-fracture management.

Furthermore, *China's Healthy China Action Plan* (2019–2030) reinforces these goals through a nationwide campaign to prevent disease and promote health, with bone health included as a priority area.
http://en.nhc.gov.cn/HealthyChinaActionPlan.html.

In addition to government-led efforts, there is growing patient engagement, particularly in the management of secondary osteoporosis, indicating a broader, community-involved approach to addressing this major public health issue.

GUIDELINES FOR OSTEOPOROSIS MANAGEMENT

The *Chinese Society of Osteoporosis and Bone Mineral Research,* the *Osteoporosis Society of China Association of Gerontology and Geriatrics society*, and the *Rheumatology Branch of the Chinese Medical Association* have published numerous guidelines for osteoporosis management, including:

- *Guidelines for the diagnosis and treatment of primary osteoporosis.* Chin J Osteoporosis Bone Miner Res Vol.15 No.6 November 10.2022 P573-611.
- *Guidelines for Diagnosis and treatment of Men Osteoporosis.* Chin J Osteoporosis Bone Miner Res Vol.13 No.5 September 10,2020, P381-395.
- *Guidelines for Diagnosis and treatment of Senile Osteoporosis* - Chin J Bone Joint Surg. Vol16. Nov.10. Oct.2023 P865-885.
- *Guideline for Diagnosis and treatment of glucocorticoid-induced osteoporosis, GIOP / Guidelines on Diagnosis and Management of Osteoporosis 2022* - Chin J. Intern Med. January 2021. Vol.60, P13-21.

The national guidelines include recommendations for population-based screening using tools such as the IOF One-Minute Osteoporosis Risk Check, the Osteoporosis Self-assessment Tool for Asians (OSTA), and FRAX®.

These guidelines also provide detailed guidance on fracture risk assessment, incorporating factors such as prior fracture history, age, BMD, and FRAX®. However, it is important to note that these clinical guidelines are not aligned with reimbursement policies. This disconnect exists because guidelines are developed by professional societies and non-governmental organisations (NGOs), whereas reimbursement decisions are made independently by government authorities. As a result, the content of the guidelines does not necessarily influence which treatments are covered or subsidised under national healthcare schemes.

The guidelines also outline treatment initiation criteria, including history of prior fracture, advanced age, low BMD, elevated FRAX® score, and glucocorticoid-induced osteoporosis (GIOP). The guidelines were developed without direct involvement from patients. Additional details about the development of guideline are included in *Table 1*.

Table 1. Development of clinical guidelines for the management of osteoporosis in China

Systematic literature review undertaken	Yes
Recommendations	Yes
Stakeholder involvement	Yes
External review	Yes
Procedure for update defined	Yes
Economic analysis	Yes
Editorial independence	Yes

CENTRALISED DATABASES FOR FRACTURES AND EPIDEMIOLOGY

There is no centralised database for fractures in China.

HEALTHCARE COSTS ASSOCIATED WITH FRAGILITY FRACTURES

Average direct hospital costs for treating osteoporotic hip fractures (USD)	Average indirect hospital costs for treating osteoporotic hip fractures (USD)	Average bed days for hip fractures
3,750 – 4,400*	142 – 2,700*	7*

** Best available estimates as reported by country experts*

The hospitals that participated in the survey to inform the Asia Pacific Regional Audit are located in the north and south of China.

FRACTURE LIAISON SERVICES (FLS) REIMBURSEMENT AND AVAILABILITY

% of hospitals with an FLS	Other fracture types identified by or referred to an FLS
1 - 9%	1%
Hip fractures identified by or referred to an FLS	**Reimbursement mechanism to support FLS activities**
1%	Local health service
Vertebral fractures identified by or referred to an FLS	**% of patients recommended for treatment who actually receive treatment**
1%	20 – 49%

AVAILABILITY AND REIMBURSEMENT OF MEDICATION

Table 2 provides an illustration of which osteoporosis treatments are available in China, whether they are reimbursed, and the proportion of the cost covered by the subsidy. Approved agents with demonstrated efficacy in reducing hip, non-vertebral, and vertebral fractures, including alendronate, risedronate, zoledronate, and denosumab, are considered appropriate first-line therapies for the majority of patients at high risk of osteoporotic fracture. For individuals who are unable to tolerate oral bisphosphonates or who present with very high fracture risk, denosumab, teriparatide, and zoledronate should be considered as initial therapy.

Treatment reimbursement varies by region, as it is funded through a combination of the national healthcare system, private insurance, and patient co-payments. While most patients receive support through the national health system, those with private insurance coverage may have part or full reimbursement, depending on the terms of their policy. This mixed model means that the extent of out-of-pocket cost to patients can vary significantly across jurisdictions.

Access to reimbursement is subject to several criteria, including a history of osteoporotic fracture, age, BMD T-score, whether the treatment is for primary or secondary prevention, and whether the therapy is classified as first- or second line.

In practice, reimbursement rules can sometimes limit access to preferred therapies, particularly for younger patients. For example, denosumab may only be reimbursed as a second-line option in patients under 70 years of age if other treatments are either ineffective or not tolerated. Similarly, teriparatide is generally not reimbursed, making it accessible only to patients who can afford to pay privately. This creates a gap between clinical recommendations and reimbursed prescribing practices, whereby some patients may be offered treatments outside of reimbursement frameworks if they are willing or able to cover the cost themselves.

Table 2. Availability and reimbursement of osteoporosis treatments in China

Treatment	Available	Reimbursed	% Reimbursed
Risedronate	X	X	60-80%
Alendronate	X	X	60-90%
Ibandronate	X	X	60-80%
Zoledronic acid	X	X	60-90%
Clodronate	X		
Pamidronate	X	X	60-80%
Raloxifene	X	X	60-90%
Bazedoxifene			
Denosumab	X	X	60-90%
Strontium Ranelate			
Teriparatide	X		
PTH (1-84)	X	X	60-80%
Abaloparatide			
Romosozumab			
Vitamin D/Calcium supplements	X	X	60-100%
Calcitonin	X	X	60-90%
Hormone Replacement Therapy	X	X	60-90%
Testosterone	X	X	60-90%
Alfacalcidol	X	X	60-90%
Calcidiol			
Calcitriol	X	X	60-90%
Tibolone	X	X	60-90%
Other (Chinese traditional herbal medicine)	X	X	The % reimbursed depends on the patient's age in Beijing, but not in other cities. The older the age group, the higher the percentage. For example, among individuals aged over 90 years, the proportion reaches approximately 90%. The % reimbursed also depends on the GDP of different provinces. Example, the % is higher in Beijing, Shanghai, and Guangzhou than in Tianjin, Changsha and even low-income provinces.

ACCESS TO DXA AND/OR ULTRASOUND AND REIMBURSEMENT

DXA is available in China.

Waiting time (d)	0 - 2
Cost (USD)	13.75 - 56
Is it reimbursed?	Reimbursable (50-100%)
Is reimbursement a barrier to accessing treatment?	No

Quantitative ultrasound is available in China.

Waiting time (d)	0
Cost (USD)	10 - 30
Is it reimbursed?	Limited to no reimbursement
Is reimbursement a barrier to accessing treatment?	No

QUALITY INDICATORS

Level	Title	Topics covered	Frequency of reporting
National	Clinical Standards for Fracture Liaison Services	Osteoporosis and secondary prevention of fragility fracture	Every 3 months within 2 years in Beijing and Shanghai (National Center for Orthopaedics)
National	Medical record cover page	Hip fracture	Annually

FRACTURE RISK ASSESSMENT TOOLS

China uses FRAX® and FRAXplus®, but the tool is not widely used within the country.

OVERVIEW OF OSTEOPOROSIS IN CHINA

Osteoporosis is a growing public health concern in China, exacerbated by the country's rapidly ageing population and the rising prevalence of bone health issues among older adults. According to the Seventh National Population Census conducted in November and December 2020, China's population included 264 million individuals aged 60 years or older (approximately 18.7% of the total population), with over 190 million individuals aged 65 years or older (about 13.5% of the total population). The 2018 National Epidemiological Survey of Osteoporosis revealed that the prevalence of osteoporosis among those over 50 years of age was 19.2%, with 32.1% of females and 6.9% of males affected. Among those aged 65 years or older, the prevalence increased to 32%, with 51.6% of females and 10.7% of males affected. Additionally, the prevalence of vertebral fractures among individuals over 40 years was 10.5% in men and 9.5% in women. As the population continues to age, the burden of osteoporosis is expected to rise significantly, with projections indicating a notable increase in fracture incidence over the next decade due to demographic shifts.

Despite the increasing prevalence of osteoporosis, it has not been consistently prioritised as a national health issue in China. While there are clinical guidelines available for the management of osteoporosis, implementation and awareness at the primary care level remain variable across different regions. This inconsistency contributes to underdiagnosis and undertreatment of the condition. Vitamin D deficiency and inadequate calcium consumption are widespread concerns in China, contributing to the high prevalence of osteoporosis. Nutritional deficiencies exacerbate the risk of bone density loss and fractures, underscoring the need for public health initiatives focused on improving diet quality and promoting supplementation where necessary.

A key challenge in addressing osteoporosis in China is the severe shortage of DXA (dual-energy X-ray absorptiometry) scanners, which hinders the ability to conduct comprehensive, large-scale epidemiological studies on fracture outcomes. Such data are crucial for informing policy decisions, shaping clinical guidelines, and developing effective public health strategies. Without robust data, it becomes difficult to fully understand the scope of the disease's impact or assess the effectiveness of existing interventions.

Several major initiatives, including awareness campaigns, have been launched to address osteoporosis in China. These efforts aim to improve awareness among both the public and healthcare professionals, promote early detection, and enhance patient care. Looking ahead, China should prioritise the following actions to effectively combat osteoporosis:

- **Enhance public awareness and education.**
- **Strengthen healthcare infrastructure.**
- **Promote research and data collection.**

Key recommendations include:

- **Strengthen national policies** and increase funding for osteoporosis research and management.
- **Expand education** for both the public and healthcare professionals on osteoporosis prevention and management.
- **Revise current guidelines** for fracture screening and treatment to ensure equal focus on both men and women, with a particular emphasis on preventing vertebral fractures.
- **Improve dietary guidelines and supplementation programmes** to address vitamin D and calcium deficiencies.
- **Increase access to DXA machines** to expand diagnostic and treatment services.
- **Foster collaboration** between government, healthcare providers, and communities to implement comprehensive osteoporosis management programmes.

In summary, addressing osteoporosis in China requires a multifaceted approach that combines public health initiatives, improved healthcare services, and targeted research efforts. By prioritising these actions, China can effectively reduce the burden of osteoporosis and improve quality of life for its ageing population.

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This document highlights the key findings for China, published in "The Asia Pacific Regional Audit: Epidemiology, costs and burden of osteoporosis in 2025". ***View the complete report at: https://www.osteoporosis.foundation/asia-pacific-audit-2025***

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