

# Ageing with strength

Addressing fragility



Commissioned by

**AMGEN**

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# Executive summary

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## Healthcare systems urgently need to improve their response to the growing challenge of osteoporosis.

- One in three women over 50 are expected to live with osteoporosis. It is less common in men, but data on male incidence are also more limited than the information available on women.
- Across the region, the healthcare response to osteoporosis is largely fragmented and differs from market to market. Care within markets is also uneven, with some health systems excelling in one aspect of care, such as diagnosis, while falling short in others, such as supporting treatment adherence.
- *Demystifying ageing: Lifting the burden of fragility fractures and osteoporosis in Asia-Pacific*, published by The Economist Intelligence Unit in 2017, found that health systems need to do more to prevent a fracture epidemic but insufficient awareness of the rising risks among policymakers, medical professionals and the public is a major barrier to progress.

## Collaboration to raise awareness and action is increasing across Asia-Pacific.

- On May 27th 2018 the Asia Pacific Regional Fragility Fracture Summit in Singapore brought together key regional groups dedicated to improving fracture care. The summit explored the possibility of establishing a Regional Fragility Fracture Alliance.<sup>1</sup>
- On November 29th 2018 the formation of the Asia Pacific Fragility Fracture Alliance, a multi-stakeholder organisation dedicated to reducing fragility fractures in Asia, was announced in Sydney, Australia. The alliance draws on representatives from the geriatrics, orthopaedics and rehabilitation sectors.<sup>2</sup>

## However, more needs to be done and at a faster pace.

- To help further raise awareness, *Ageing with strength* provides persona portraits of people living with osteoporosis in the region. These capture their daily lives and the impact their respective healthcare systems have on their experience.
- The report also demonstrates that much needs to be done and highlights key areas in each market to which governments and medical professionals should direct their attention.

<sup>1</sup> "Improving fragility fractures throughout Asia Pacific", International Osteoporosis Foundation, July 24th 2018, <https://www.iofbonehealth.org/news/improving-fragility-fractures-throughout-asia-pacific>

<sup>2</sup> "Launch of multidisciplinary alliance aiming to curb Asia Pacific's fragility fractures", International Osteoporosis Foundation, November 29th 2018, <http://iofbonehealth.org/news/launch-multidisciplinary-alliance-aiming-curb-asia-pacific%E2%80%99s-fragility-fractures>

## About the research

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The persona portraits rely on expert interviews, desktop research and data from our 2017 paper, *Demystifying ageing: Lifting the burden of fragility fractures and osteoporosis in Asia-Pacific*.

This report was written by Sarah Murray and edited by Rashmi Dalai. HuiQi Yow, Michael Gold and Paul Kielstra also contributed editorial support.

We would like to thank the following experts for contributing their time and insights:

- Dr Lau Tang Ching, associate professor, Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore
- Dr Mark Cooper, professor of medicine and head of discipline of medicine, Concord Clinical School, University of Sydney
- Dr Hew Fen Lee, immediate past president, Asian Federation of Osteoporosis Societies
- Dr Jike Lu, orthopaedic surgeon, United Family Healthcare, China
- Paul Mitchell, board member of Osteoporosis New Zealand and former chair
- Dr Chih-Hsing Wu, associate professor, National Cheng Kung University, and president, Taiwanese Osteoporosis Association

# Introduction

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By 2050 Asia-Pacific will be home to 1.3bn people older than 60.<sup>3</sup> This growth will happen at a time when lifespans are also becoming longer. As a result, the region is expected to see an increase in diseases associated with age. Among them is osteoporosis, a condition that makes bones less dense and more fragile and can cause fragility, or low-impact, fractures—those that occur (often to the hip, spine or wrist) when someone falls from a standing height or lower.

Osteoporosis is defined as having a bone mass density (BMD) 2.5 standard deviations below the average value of a young healthy woman.<sup>4</sup> It is a disease that affects far more women than men, but the latter still account for about a fifth to a quarter of hip fragility fractures worldwide.<sup>5</sup>

The disease and, in particular, the resultant fractures also add to the burden of a rapidly ageing society. The cost of treating hip fractures in Asia-Pacific is already substantial—treatment for a single hip fracture represents about 19% of regional per-head GDP a year<sup>6</sup>—and the costs associated with osteoporosis are expected to rise sharply. From 2018 to 2050 the direct cost of hip fractures alone is expected to rise from US\$9.5bn to US\$15bn across the region.<sup>7</sup>

“We are seeing the biggest percentage increase—as well as a rise in the number of fractures—in India and China, partly because of the size of their populations but also because there is an increasing ageing population,” says Hew Fen Lee, immediate past president of the Asian Federation of Osteoporosis Societies (AFOS).

However, because weakened bone strength and fragility fractures are often seen as an inevitable part of ageing, the disease is being inadequately addressed. People also do little to prevent frailty and tend to accept it when it happens.

To counter this thinking, awareness of osteoporosis must grow. Moreover, greater importance needs to be placed on early detection and pathways to prevention and treatment.

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Greater importance needs to be placed on early detection and pathways to prevention and treatment

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3 *IOF Compendium of Osteoporosis*, International Osteoporosis Foundation, October 2017, <http://share.iofbonehealth.org/WOD/Compendium/IOF-Compendium-of-Osteoporosis-WEB.pdf>

4 *Assessment of fracture risk and its application to screening for postmenopausal osteoporosis*, World Health Organization, 1994, [http://apps.who.int/iris/bitstream/handle/10665/39142/WHO\\_TRS\\_843\\_eng.pdf](http://apps.who.int/iris/bitstream/handle/10665/39142/WHO_TRS_843_eng.pdf)

5 Facts and statistics, International Osteoporosis Foundation, <https://www.iofbonehealth.org/facts-statistics>

6 *Demystifying ageing: Lifting the burden of fragility fractures and osteoporosis in Asia-Pacific*, The Economist Intelligence Unit, 2017, [https://eiperspectives.economist.com/sites/default/files/Demystifying\\_ageing\\_Lifting\\_the\\_burden\\_of\\_fragility\\_fractures\\_and\\_osteoporosis\\_in\\_Asia\\_Pacific.pdf](https://eiperspectives.economist.com/sites/default/files/Demystifying_ageing_Lifting_the_burden_of_fragility_fractures_and_osteoporosis_in_Asia_Pacific.pdf)

7 Ching-Lung Cheung et al, “An updated hip fracture projection in Asia: The Asian Federation of Osteoporosis Societies study”, *Osteoporosis and Sarcopenia*, March 2018, <https://www.sciencedirect.com/science/article/pii/S240552518300049>

## The tools are available

In 2017 *Demystifying ageing: Lifting the burden of fragility fractures and osteoporosis in Asia-Pacific* urged healthcare systems to prepare for a rising but preventable fracture epidemic.

The report highlighted that many of the therapies and tools needed to reduce the incidence of osteoporosis-related fractures are already available. These include:

- using a bone mineral density (BMD) test for early detection and diagnosis;
- providing appropriate lifestyle and dietary guidance to maintain skeletal integrity;
- prescribing effective medications where necessary;
- ensuring osteoporosis patients who rely on public medical systems have access to osteoporosis diagnosis and treatment; and
- establishing fracture liaison services (FLSs) or similar programmes to help patients avoid secondary fractures (FLS programmes are recognised worldwide as an effective means of managing the condition).

The report also describes how stakeholder commitment to preventing an epidemic is largely lacking in the region. As a result, not all of these tools are used equally across the health systems.

Furthermore, a lack of data shows the need for greater focus on osteoporosis and impedes the tracking of the solutions' effectiveness.

On a positive note, evidence of increased attention to the disease has emerged since the last Economist Intelligence Unit report appeared. For example, in May 2018 a group of leading clinicians met in Singapore at the Asia-Pacific Regional Fragility Fracture Summit to discuss ways of improving fracture care. The summit explored the possibility of establishing a Regional Fragility Fracture Alliance.<sup>8</sup> On November 29th 2018 the formation of the Asia Pacific Fragility Fracture Alliance, a multi-stakeholder organisation dedicated to reducing fragility fractures in Asia, was announced in Sydney, Australia. The alliance draws on representatives from the geriatrics, orthopaedics and rehabilitation sectors.<sup>9</sup>

## Disparities in osteoporosis care

Significant differences in the quality of care for osteoporosis exist across Asia-Pacific. For example, in too many Asia-Pacific markets, fragility fractures do not normally lead to osteoporosis testing.<sup>10</sup> Patients in South Korea, meanwhile, have good access to dual-energy X-ray absorptiometry (DXA) machines, a type of diagnostic tool.<sup>11</sup> Patients in China, though, struggle to access proper bone mineral density screening because there are only 0.46 DXA machines per million people.<sup>12</sup>

<sup>8</sup> International Osteoporosis Foundation, July 2018

<sup>9</sup> International Osteoporosis Foundation, November 2018

<sup>10</sup> The Economist Intelligence Unit, 2017

<sup>11</sup> Ibid

<sup>12</sup> "China country overview", International Osteoporosis Foundation, [https://www.iofbonehealth.org/sites/default/files/media/PDFs/Regional%20Audits/2013-Asia\\_Pacific\\_Audit-China\\_0\\_0.pdf](https://www.iofbonehealth.org/sites/default/files/media/PDFs/Regional%20Audits/2013-Asia_Pacific_Audit-China_0_0.pdf)



Wide variations also exist in the way health systems deploy key treatment pathways, including the implementation of FLS programmes used to support patients after they have a fracture. In August 2018 patients in New Zealand became the first to be provided with universal access to FLSs.<sup>13</sup> Taiwanese patients have improved access to FLS programmes today, as the island has increased its active FLS programmes from two in 2014 to 22 sites.<sup>14</sup> Taiwan’s progress provides an example to economies such as mainland China where few patients are able to benefit from FLS programmes.

Services can be unevenly distributed within markets as well. “Most people in Australia have good access to a GP [general practitioner] and fracture care is reasonable across most of the country,” says Mark Cooper, professor of medicine at University of Sydney’s Concord Clinical School. “But Australia is very state-based, so what happens in New South Wales might be different from Western Australia or the Northern Territory.”

A lack of data shows the need for greater focus on osteoporosis and impedes the tracking of the effectiveness of solutions

<sup>13</sup> “Fracture Liaison Services: New Zealand raises the bar”, International Osteoporosis Foundation, September 19th 2018, <https://www.iofbonehealth.org/news/fracture-liaison-services-new-zealand-raises-bar>  
<sup>14</sup> Lo-Yu Chang et al, “The development of Taiwan Fracture Liaison Service network”, *Osteoporosis and Sarcopenia*, June 2018, <https://www.sciencedirect.com/science/article/pii/S2405525518300311>

## Persona portraits

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Greater cross-regional co-operation can help health systems learn from each other and accelerate progress toward better prevention efforts and pathways. To facilitate this, the current report provides policymakers and the public with human faces for this poorly understood disease. The following persona portraits—presented in alphabetical order by market—demonstrate how key ongoing challenges identified in *Demystifying ageing* affect daily life. They also highlight areas in each market that still need more direct attention from governments and medical professionals.



## Australia



Annette, aged 63, is a healthy woman living in an upscale suburb of Sydney. She eats well, exercises and visits her doctor for regular check-ups that include an assessment of her vitamin D levels. She is also aware of the risks of osteoporosis, particularly for postmenopausal women. She has seen many of the campaigns that Osteoporosis Australia uses to promote public awareness of the disease, including one launched recently to coincide with World Osteoporosis Day.<sup>15</sup>

When Annette sustains an ankle fracture after tripping on a flight of steps, she takes a bone density test. It indicates she has osteoporosis. Fortunately for her, the disease is relatively well managed in many parts of Australia. She doesn't have to wait for a DXA scan and Medicare, Australia's publicly funded universal healthcare system, reimburses the costs of the tests.

However, things become less clear to Annette when presented with treatment options. Her local hospital doesn't have an FLS programme and her doctor focuses more on the fracture. She is offered pharmacological treatments, but the importance of and the challenges to treatment adherence are not emphasised to her.

As a result, Annette focuses more on improving her lifestyle and diet to slow the disease progression. She does not start medication. A few years later, she suffers a second fracture.

### Health system strengths<sup>16</sup>

- ✓ **National treatment guidelines** recommend primary falls prevention/good bone health (diet, exercise, etc)
- ✓ Hip fracture data are collected through a **registry** that can support audits
- ✓ **Non-governmental organisations (NGOs) dedicated to osteoporosis** provide patient advocacy and representation

<sup>15</sup> "World Osteoporosis Day - Know Your Bones campaign", Macleay Argus, October 19th 2017, <https://www.macleayargus.com.au/story/4997441/online-tool-monitors-bone-health/>  
<sup>16</sup> Unless otherwise specified, all data in these bullet lists and infographics have been adapted from *Demystifying ageing*, The Economist Intelligence Unit, 2017

## Key persona characteristics



Healthy with an active lifestyle prior to first fracture

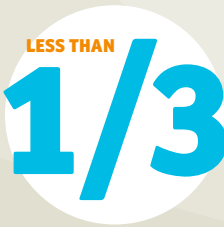


Has regular check-ups including vitamin D level assessments

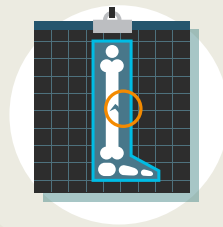


Aware of osteoporosis but not treatment options

## Health system challenges



**Less than a third** of patients who visit their general practitioner with a fragility fracture receive pharmacological treatment



Fewer than 50% of hospitals offer FLSs to prevent secondary fractures and distribution is uneven, leading to **high re-fracture rates**



**Treatment adherence** is not included in the follow-up process of national treatment guidelines

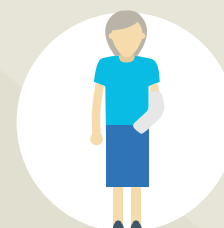
## Impact on daily life



Is diagnosed and educated on risks of secondary fractures and medical and lifestyle interventions



Has little post-fracture support including emphasis on treatment adherence



Chooses only lifestyle interventions, increasing risk of future fractures

## China



Mei-ling, aged 78, has always lived in Wenzhou. Her son moved to Shanghai and her husband is not well. She has lost height and has a collapsed vertebra that is pinching the nerves on her spinal cord. Her diet is low in calcium and her lifestyle is increasingly sedentary except for daily walks to the wet market. She cooks just one hot meal a day to avoid the pain from standing up for too long.

her after a fall in the kitchen and moves to Shanghai to be with her son. There, she has a DXA scan but the diagnosis is too late. She is never able to live independently again.

China's Healthy China 2030 plan addresses bone health as part of its aim to improve health literacy

Mei-ling's doctor treats her fragility fractures with pain killers but never mentions osteoporosis and fails to recommend she change her diet. Mei-ling focuses more on her husband's health than her own. She sustains a hip fracture that immobilises

### Health system strengths

- ✓ **China's Healthy China 2030** plan addresses bone health as part of its aim to improve health literacy<sup>17</sup>
- ✓ **Care is improving** in large urban centres where DXA machines are available and wait times are very short or non-existent<sup>18</sup>

<sup>17</sup> "Ning Zhuang, "Outline of the Healthy China 2030 Plan", National Health and Family Planning Commission, P. R. China, <https://www.sahealth.sa.gov.au/wps/wcm/connect/d39abd8041032c76a711ff1afc50ebfc/1645+Ning+Zhuang.pdf>

<sup>18</sup> "China country overview", International Osteoporosis Foundation

### Key persona characteristics



Sustains multiple fractures



Does not prioritise taking care of her health



Is not diagnosed with osteoporosis by physicians

### Health system challenges



Low physician and citizen awareness of osteoporosis

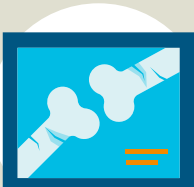


Poor access to DXA machines, which number **only 0.46 per million people**



Very little access to FLSs

### Impact on daily life



Sustains further fractures



Loses mobility



Becomes dependent on caregivers for daily life

## Hong Kong



Prior to retiring at 62, Josephine, like her peers, spent little time in the sun in order to protect her skin, and ate a typical calcium- and vitamin D-limited Asian diet. In the three years since, her husband has died and she has become more sedentary. She has also struggled with depression.

She has begun to notice that the journey up the outside steps to her flat feels more arduous and that her back is starting to curve. The latter causes her some back pain and keeps her even closer to home, but she believes these are natural parts of ageing and doesn't want to worry her children, who live abroad. It isn't until she falls on a step and sustains a shoulder fracture that she goes to see a doctor.

Because Josephine relies on the public health system for her care, she must wait for access to a DXA scan. Her physician prescribes her pain medication, but after waiting many months she ceases to follow up.

She becomes increasingly housebound, which exacerbates the problems that have led to her decreased mobility. Over time, her condition remains undiagnosed and leaves her largely isolated and frail. Eventually, she suffers a second fall and injures her hip. She becomes unable to look after herself and has to move into a care facility.

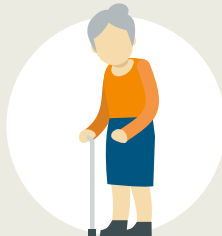
### Health system strengths

- ✓ Hong Kong has **good access to DXA machines** for patients who can afford private care
- ✓ **National treatment guidelines** exist that recommend primary falls prevention and good bone health (diet, exercise, etc)
- ✓ **Pharmacological interventions**, measured by an increase in the use of a key anti-osteoporosis drug, rose by over 700% between 2004 and 2015

## Key persona characteristics



Suffers from a lifetime of calcium and vitamin D deficiencies



Believes frailty is an inevitable part of ageing



Reliant on public system for healthcare

## Health system challenges



**Two year wait** for DXA scans for patients reliant on the public system<sup>19</sup>



**Fewer than 4%** of hip fracture patients in the public system receive DXA scans within a year of the initial trauma



**Only 23%** of fracture sufferers leave the hospital with medication for bone care

## Impact on daily life



Is increasingly isolated in daily life



More vulnerable to future falls and illnesses



Becomes institutionalised

<sup>19</sup> "Increase in Hong Kong's over 70s population to cause dramatic rise in hip fractures", International Osteoporosis Foundation via ScienceDaily, December 12th 2013, [www.sciencedaily.com/releases/2013/12/131212100154.htm](http://www.sciencedaily.com/releases/2013/12/131212100154.htm)

## Japan



Tanaka, aged 70, has always been a homemaker and now lives a few doors down from her children. She helps her daughter by watching her grandchildren after school. She breaks her thoracic vertebrae after misjudging the height of a chair. Two years later, she falls out of bed and fractures her hip. She has to wait almost a week in discomfort and on pain killers before she can have surgery.

programme and makes good progress—partly, her physicians tell her, because she has taken a long walk every morning for most of her life.

Her doctor advises her to inject her thighs with medication every day to strengthen her bones. Life improves after her bone has healed. Over time, she becomes more confident about her physical capabilities. She participates more in daily activities such as cooking and cleaning her apartment. She is also able to continue caring for her granddaughter and does not suffer a second fracture.

Only around half of local authorities carry out DXA machine screenings

She subsequently spends two months in a rehabilitation hospital where she is guided through the exercises needed to strengthen her bones and muscles. She participates in an FLS

### Health system strengths

- ✓ Patients have access to **DXA machines** with little waiting times
- ✓ Has been willing to experiment with an **osteoporosis liaison service** that goes beyond traditional FLSs
- ✓ **Regulatory agencies** are more open than those in other markets to new drugs

## Key persona characteristics



Experiences multiple fractures and surgery

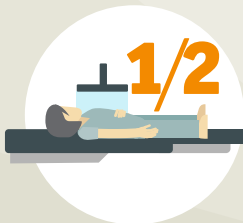


Adheres to her medications and has physical therapy



Is able to resume her daily activities

## Health system challenges



Only **around half** of local authorities carry out DXA machine screenings

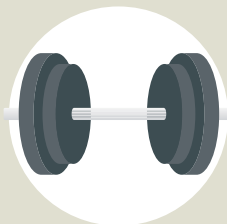


**Only 20%** of those diagnosed with the disease receive drugs, largely due to under-diagnosis



Patients face **wait times of more than four days** for post-hip fragility fracture operations

## Impact on daily life



Regains strength



Is able to continue engaging in daily activities



Does not suffer a second fracture



# Singapore



Grace, 87, spends every morning at the local community centre sitting with her friends and reading the newspaper. She knows she is growing old but doesn't feel frail and hasn't thought about osteoporosis until she sustains a wrist fracture and receives a bone density scan at a hospital. By then, her condition is already quite advanced.

60, she gets her first DXA scan. Although she is not diagnosed with osteoporosis, the clinicians suggest she maintains a fitness regime that includes doing weight-bearing exercises several times a week and adopting a diet that has adequate vitamin D and calcium.

Since being diagnosed, Grace sticks to her treatment regime thanks to the OPTIMAL programme, Singapore's co-ordinated care regime. She also takes vitamin D regularly and includes calcium in her diet. As her Medisave account—a national medical savings scheme—pays for hospitalisation and certain outpatient support services, she has access to adequate treatment and remains mobile and independent.

However, the biggest impact of Grace's diagnosis is on her daughter. Because of Grace's illness, her daughter becomes much more vigilant in monitoring her bone health. When she turns

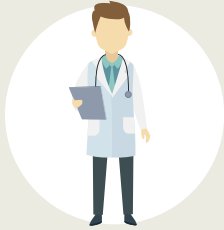
## Health system strengths

- ✓ Singapore was first in the region to implement an FLS and more than half its hospitals have implemented one since, **the highest proportion in the region**<sup>20</sup>
- ✓ **OPTIMAL**, a national, hospital-based programme, further helps support post-fracture treatment regimes
- ✓ **Medisave** pays for hospitalisation associated with osteoporosis<sup>21</sup>

<sup>20</sup> "Singapore Country Overview", International Osteoporosis Foundation, [https://www.iofbonehealth.org/sites/default/files/media/PDFs/Regional%20Audits/2013-Asia\\_Pacific\\_Audit-Singapore\\_0\\_0.pdf](https://www.iofbonehealth.org/sites/default/files/media/PDFs/Regional%20Audits/2013-Asia_Pacific_Audit-Singapore_0_0.pdf)

<sup>21</sup> "Medisave", Singapore Ministry of Health, <https://www.moh.gov.sg/cost-financing/healthcare-schemes-subsidies/medisave>

## Key persona characteristics



Diagnosed quickly



Has adequate access to treatment

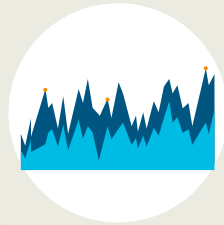


Maintains treatment with support from OPTIMAL

## Health system challenges



Insufficient investigation of **secondary causes of osteoporosis** in institutions unserved by an FLS



Singapore suffers from a **paucity of osteoporosis data**, including figures on prevalence of fractures, which impedes understanding of which public and individual health interventions work best



**One in four** discontinue the OPTIMAL treatment programme before completion

## Impact on daily life



Managing osteoporosis becomes a part of her daily life



Is able to slow the progression of the disease through adequate treatment



Raises awareness of osteoporosis in the next generation

## South Korea



Dae-jung, 71, first becomes aware of osteoporosis when his wife insists he see a doctor about his back pain. His physician notices the lack of height and spine curvature first and advises Dae-jung to have a DXA scan.

However, he does not discuss his diagnosis with his male friends and remains largely unaware of the long-term progression of the disease. He is given medication but, in the absence of a support system beyond his wife, his adherence to the suggested treatment plan lags and he eventually suffers a fall that leads to a hip fracture.

Because South Korea provides universal care, any woman over 65 and man over 70 can have a DXA test without a doctor's recommendation

Because South Korea's National Health Insurance Service (NHIS) provides universal care, any woman over 65 and man over 70 can have a DXA test without a doctor's recommendation and waiting times are not long. Dae-jung is diagnosed quickly and accurately.

### Health system strengths

- ✓ **DXA scans are free** for any woman over 65 and man over 70
- ✓ Access is also available to **other relevant tests** including bone turnover rates and vitamin D levels
- ✓ The **NHIS** records almost every diagnosis and medical intervention

### Key persona characteristics



Unaware of osteoporosis and its prevalence in men



Suffers from back pain but has not yet had a fracture



Has access to the tools he needs to be diagnosed

### Health system challenges



Greater **focus on diagnosis** than long-term treatment



**Lack of FLS** programmes

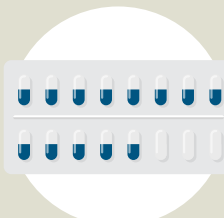


All medicines are reimbursed only **as long as BMD remains below 2.5**

### Impact on daily life



Fails to adequately adjust diet and levels of fitness



Does not maintain pharmacological treatment



Suffers a hip fracture

## Taiwan



Chun-hsien, 75, feels she is relatively healthy and active for her age. She is part of a book club and takes regular walks outside. She feels an occasional ache in her back but is told by her doctor that, in the absence of a fracture, she will have to pay for a scan to see if she has osteoporosis.

Once diagnosed, though, Chun-hsien receives ample information about osteoporosis, access to an FLS programme and medication.<sup>22</sup> She complies with treatment. In addition, she improves her diet, stays active and quits smoking. She does not suffer any additional fractures.

As a result, she doesn't have a scan until she suffers a vertebral fracture when picking up a heavy stack of dishes from a low cabinet shelf; she feels acute back pain after. She quickly has a DXA scan and is diagnosed. Her care is then covered by the centralised system. Moving through Taiwan's government-run medical system is a relatively smooth process for the Taipei resident.

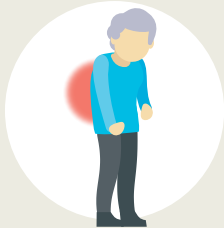
She learns that, had she been tested earlier, she could have benefitted from more calcium and strength exercises. However, it is now too late for her to reverse the course of the disease and she can only slow its progression.

### Health system strengths

- ✓ **Number of DXA machines** has increased from nine per million population to around 11 today
- ✓ Number of active **FLS programmes** has increased from two to 22 sites<sup>23</sup>
- ✓ **National Health Insurance** reimburses osteoporosis diagnosis and treatment for those who have experienced a hip or vertebral fracture

<sup>22</sup> Interview with Chih-Hsing Wu  
<sup>23</sup> Lo Yu-Chang et al, 2018

## Key persona characteristics



Suffered back aches before sustaining a fracture

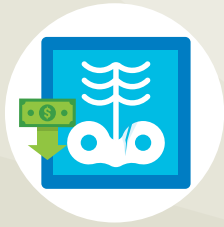


Did not test for osteoporosis before a fracture due to out-of-pocket costs

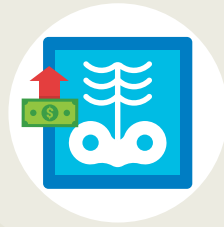


Received the diagnosis and information needed after a fracture

## Health system challenges



National Health Insurance reimburses osteoporosis diagnosis and treatment **only for those who have experienced a hip or vertebral fracture**; wrist fractures are currently excluded



**High-risk individuals without a fracture must pay** for BMD tests and preventative medication



Government does not increase pay for **physicians or technicians who have training in DXA technology**, reducing the incentive to improve diagnostic skills

## Impact on daily life



Makes diet changes and complies with treatment



Attends an FLS programme



Maintains her mobility and independence and does not suffer another fracture

## Thailand



Sukhon, aged 70, cooks street food in Chiang Mai. While this is active work, her diet consists mostly of rice, cooked vegetables, eggs and meat. A lifetime of eating few fresh fruits and vegetables and little calcium has taken a toll on her health. A morning fall on the pavement fractures her forearm. She is stubborn and tries to work through the pain as she has done for previous small injuries throughout her life. When the injury interferes too much with her ability to cook, though, she reluctantly goes to the hospital.

As a result, she has a second fall a few months later and suffers a hip fracture. She becomes immobile and dependent on her children.

Despite suspecting osteoporosis, the orthopaedic surgeon treats the injury and sends Sukhon home without alerting her to the possible link between the disease and the fracture. Sukhon does not question the decision, as doing so may lead to greater out-of-pocket expenses on diagnostics and treatment that she cannot afford. She also does not follow her doctor's recommendation to improve her calcium intake.

### Health system strengths

- ✓ The Thai Osteoporosis Foundation has had **detailed clinical guidelines** in place for over a decade and updated them in 2016
- ✓ Three **FLS programmes** in operate in the capital, Bangkok

## Key persona characteristics



Bones are weak due to a lifetime lack of fresh fruits, vegetables and calcium



Seeks treatment only because a fracture interferes with her daily activities



Fears incurring high out-of-pocket costs on diagnosis and treatment

## Health system challenges



**Low physician awareness** of national treatment guidelines



Assessment of fracture patients for osteoporosis, let alone follow-up treatment, **remains rare**



**80% to 90%** of high-risk individuals are typically not identified in Thailand

## Impact on daily life



Has a second fall and is unable to work



Fragility fractures drive her out of the workforce



Becomes a financial burden on her children



## Conclusion

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The physical, financial and emotional burdens osteoporosis creates are significant for individuals with the condition. These include loss of mobility, high healthcare costs and a loss of independence. Families, caregivers and healthcare systems also feel the impact.

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Without significant improvements in osteoporosis diagnostic and treatment pathways, the Asia-Pacific region could experience a future epidemic of fragility fractures

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Without significant improvements in osteoporosis diagnostic and treatment pathways, the Asia-Pacific region could experience a future epidemic of fragility fractures. Proven strategies to avoid this already exist:

- increasing access to DXA machines in order to identify and correctly diagnose patients with osteoporosis, particularly at the point of their first fracture;
- creating specialist registries, tools to mine national health system databases and other analytic capabilities to better understand

disease and treatment patterns within markets and key population segments;

- providing more evidence-based information and guidelines to medical professionals and policymakers to improve the use of key pharmaceutical, lifestyle and surgical interventions;
- improving access to patient-centred initiatives such as FLSs; and
- supporting innovation in treatments and therapies.

These solutions, however, will require new commitments and funding, which in turn will mean all relevant stakeholders becoming more sensitive to the problem and accepting the urgent need for action.

“If you compare awareness of low bone density, osteoporosis and fractures with that of high cholesterol, high blood pressure, heart attacks and strokes, we’re a long way off from where awareness of the former needs to be,” says Paul Mitchell, board member and former chair of Osteoporosis New Zealand.

The same can be said of physicians, says Mr Mitchell. “What we’ve struggled with around

the world and in Asia-Pacific is that osteoporosis is a bit of an orphan condition. If you consider how much education is going on in medical school for the disciplines that would be relevant—endocrinology, rheumatology, orthopaedic surgery and geriatrics—it’s often pretty thin compared to the burden [osteoporosis] places on health systems.”

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**If we can work together, we can put pressure on policymakers to pay more attention to the problem at hand.**

*Hew Fen Lee, immediate past president,  
Asian Federation of Osteoporosis Societies*

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One way to raise awareness, says Chih-Hsing Wu, associate professor at Taiwan’s National Cheng Kung University, is to demonstrate that co-ordinated programmes can cut costs. This means presenting compelling data, including information collected from hospitals and peer-reviewed articles. “In the past two years, we have published evidence-based articles and we are using these to persuade the government to provide the funding,” says Dr Wu. “We are waiting for the response.”

A range of strategic alliances will also be necessary. These must go beyond governments and health professionals to include patient advocacy groups, NGOs and caregivers.

Collaboration can help raise awareness and drive local and regional initiatives. On a policymaking level, these types of alliances can foster dialogue and enable the sharing of best practice and lessons learned across the healthcare systems.

“Each of the countries in Asia-Pacific has different problems and health policies but there needs [to be] a regional effort to push this agenda through more emphatically,” says Dr Hew. “If we can work together, we can put pressure on policymakers to pay more attention to the problem at hand.”

While every effort has been taken to verify the accuracy of this information, The Economist Intelligence Unit Ltd. cannot accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in this report.



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