Thailand: Osteoporosis moves up the health policy agenda

For many years, recalls Dr Sattaya Rojanasthien – head of the Department of Orthopaedics at Chiang Mai University Hospital – doctors "tried to tell policy makers about the increasing burden of osteoporosis" in Thailand. Hard information to back up the assertion was limited. No reliable estimates exist, for example, for the prevalence of osteoporosis, while published figures on hip fractures cover individual cities and almost all are from before 2010. Nevertheless, even at that time, available data were already showing an increase in hip fractures of 2% per year at that time.¹

With the proportion of the population aged over 50 having nearly doubled in the last two decades – from 18% in 2000 to 35% in 2020 according to UN Population Division data² – this rate of increase may even have accelerated. A study from Nan in northern Thailand found that hip fractures per capita rose by more than 10% between 2015 and 2017.³ This would be consistent with what clinicians are seeing in emergency

rooms. Dr Tulyapruek Tawonsawatruk – an assistant professor at Mahidol University's Ramathibodi Hospital – says that in hospitals "we as surgeons see more and more patients suffering from osteoporotic fractures. Hip fractures are increasing a lot."

Looking ahead, the prognosis is also worrying. The best recent estimate, from 2018, is that the country saw 42,118 hip fractures that year. Demographic developments alone, absent any other change, will drive an increase to 80,679 by 2035. The economic impact is also substantial, with medical treatment of hip fractures alone totalling an estimated \$85m in 2018.4 This economic burden has a particular twist for Thailand adding to policy maker concern, notes Dr Tawonsawatruk. Although the cost of a hip operation is lower in Thailand than many neighbouring states, the country has to import expensive prosthetics from abroad, making these operations a bigger drain on national finances than purely domestic health interventions.



¹ Prasit Wongtriratanachai et al., "Increasing Incidence of Hip Fracture in Chiang Mai, Thailand," *Journal of Clinical Densitometry*, 2012, https://pubmed.ncbi.nlm.nih.gov/22906626/

² United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects 2019, 2019, custom data acquired via website, https://population.un.org/wpp/DataQuery/

³ Worapong Sucharitpongpan et al., "Epidemiology of fragility hip fractures in Nan, Thailand," Osteoporosis and Sarcopenia, 2019, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6452923/pdf/main.pdf

⁴ Ching-Lung Cheung et al., "An updated hip fracture projection in Asia: The Asian Federation of Osteoporosis Societies study," Osteoporosis and Sarcopenia, 2019, https://pubmed.ncbi.nlm.nih.gov/30775536/

In 2017, notes Dr Rojanasthien, health officials recognised the need to take action and in 2018 the Strategy and Planning Division of the Thai Department of Public Health made refracture prevention and osteoporosis treatment health goals.⁵ The most visible result has been a notable expansion in the use of re-fracture prevention protocols and the existence of Fracture Liaison Services (FLS) in the country.

As of late 2017, only three Thai institutions had established Fracture Liaison Services, all in Bangkok.⁶ Now, Dr Rojanasthien reports, almost 100 institutions in the country are using a re-fracture prevention care protocol. Of these, 11 have seen a sufficient number of patients to apply for inclusion in the International Osteoporosis Foundation's Capture the Fracture Best Practice map, the best international FLS database.

Dr Tawonsawatruk explains that government policy has driven this rapid growth. The focus so far, he adds, has been to start new facilities in a limited number of hospitals, but also use these for training in order to allow eventual greater expansion of the FLS model. Accordingly, many of the best new liaison services are in university teaching hospitals, which tend to act as pioneers in Thailand's public health system. "The training system is the key for spreading out of fracture liaison services. It has become much better within a couple of years," he adds.

One downside of this approach, though, has been that much of the improvement so far has been centred in Bangkok, while regional and provincial hospitals have seen less change.

That said, Dr Tawonsawatruk notes that Nan

Hospital, in the far north of the country, has a high quality FLS facility and is being used to train clinicians to provide such care in other provincial hospitals.

This FLS expansion has not occurred in a vacuum. Since 2002, the Thai Osteoporosis Foundation as well as, since 2010, the Thailand Metabolic Bone Disorder and Orthogeriatrics Society, have been involved in educating clinicians about osteoporosis treatment. As a result, says Dr Rojanasthien, "awareness of, and the ability to treat, osteoporosis has become higher among orthopaedists." Dr Tawonsawatruk adds that for many kinds of clinicians, "the younger generations now recognise the problems associated with the disease" and understand the need for a multidisciplinary, team approach.

Although the progress is real, much also remains to be done. As noted above, care provision for those outside of Bangkok remains hit and miss, mostly the latter. Beyond the capital equipment for measuring bone density remains in short supply. Finally, the necessary cultural transformation to treat osteoporosis appropriately remains incomplete notes Dr Tawonsawatruk. Thailand has "a lot of problems in healthcare and because osteoporosis does not seem life threatening, some doctors don't care about 'capture the fracture.'" Instead, they treat any breaks and go no further.

More important, even while the government is making a priority of improving osteoporosis care, Dr Rojanasthien explains that "it is just a policy. There is no budget support from the government to run the re-fracture prevention

⁵ Strategy and Planning Division, Ministry of Public Health of Thailand, Detailed indicators of the Ministry of Public Health fiscal year 2018, 2018.

⁶ Economist Intelligence Unit, Demystifying Ageing: Lifting the Burden Of Fragility Fractures and Osteoporosis in Asia-Pacific, 2017, https://eiuperspectives.economist.com/sites/default/files/Demystifying_ageing_Lifting_the_burden_of_fragility_fractures_and_osteoporosis_in_Asia_Pacific.pdf

protocol." Similarly, the only osteoporosis drug on the national essential medicine list is generic bisphosphonate, he adds. Dr Tawonsawatruk agrees. "The big weakness in the system is [lack of] money." Osteoporosis care can be cost effective, but to save the high costs of surgery on hips and other bones, the government still has to invest a substantial amount in preventative treatment.

If Thailand's progress is to continue, its more aggressive policies against osteoporosis will need better support.

The Philippines: Taking the first steps

Until recently, osteoporosis has received relatively little attention in the Philippines. Even the extent of the challenge is unclear. Dr Irewin Tabu – head of the Orthogeriatric and Osteoporosis Working Group of the Philippine Orthopaedic Association – explains that "At present, there is no quality data on osteoporosis and osteopenia in the country." Similarly, the last publicly available data on hip fracture prevalence dates back to 2005.

That said, Dr Tabu sees no reason why his country will escape the rapid growth in osteoporosis prevalence expected throughout Asia "and the tsunami of hip fractures that comes with it." A recent examination of the region suggested that, between 2020 and 2050, the number of such fractures would likely more than double. Although the population of the Philippines is currently younger than that of many neighbours, United

Nations Population Division data show that in recent decades it has aged as rapidly as those in lower middle-income states worldwide, and will continue to do so.⁹

Unfortunately, the Philippines is not currently well prepared to deal with the likely coming increase in osteoporosis prevalence. Dr Tabu explains that public "understanding about osteoporosis is still very superficial." Worse still, the country's "health system has yet to fully address the disease burden" which it causes. Nor is it even clear the extent to which the new Universal Health Care system will cover fragility fracture management or include osteoporosis treatments in the national formulary.

Hopeful signs, however, do exist. In particular, Fracture Liaison Services (FLS) are starting to appear. Dr Tabu, for example, leads the one at Philippines General Hospital in Manila, which in 2017 was the first such facility from the country to appear on the International Osteoporosis Foundation's Capture the Fracture Best Practice rating map. Since then, five more Filipino liaison services have been included in that database. More generally, says Dr Tabu, "we've ignited the interest of various societies in the Philippines about the FLS program, as well as about introducing the concept of orthogeriatrics to our country. Professional associations and organizations are starting to realise the importance of addressing the problems of osteoporosis and fragility fractures."

Dr Tabu, however, is careful not to overstate what has been, so far, limited progress.

⁷ International Osteoporosis Federation, "Hip Fracture Incidence Map," updated 2020, https://www.iofbonehealth.org/facts-and-statistics/hip-fracture-incidence-map

⁸ Ching-Lung Cheung et al., "An updated hip fracture projection in Asia: The Asian Federation of *Osteoporosis Societies* study," Osteoporosis and Sarcopenia, 2019, https://pubmed.ncbi.nlm.nih.gov/30775536/

⁹ United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects 2019*, 2019, custom data acquired via website, https://population.un.org/wpp/DataQuery/

"Starting an FLS programme is the easiest part," he notes. "The bigger challenge is how to improve and sustain it, given that no formal funding has been allocated for such programmes in the Philippines to date." He adds that he and colleagues have made "small strides" in convincing the Department of Health to support these initiatives, but "a bigger push is still needed." Indeed, he adds that the next step in improving osteoporosis care in general should be to engage law and policy makers in order to convince them of the benefits.

Whatever the challenges, Dr Tabu remains hopeful about the future. With the help of international colleagues, he believes that "we are in the brink of making a major leap in terms of advancing our country's osteoporosis programs." Nor do he and his colleagues lack ambition. Looking ahead, they are hoping to start multi-centre research projects that will both increase the use of FLS programmes and create a hip fracture and osteoporosis registry. After all, he adds, "when it comes to osteoporosis and fragility fractures, there is nowhere to go but up for the Philippines."