

# SCOPE 2021

## ScoreCard for Osteoporosis in Europe

### Key Messages

#### ABOUT THE SCORECARD

SCOPE 2021 summarises key indicators of the burden of osteoporosis and its management in the 27 member states of the European Union, as well as the UK and Switzerland (termed EU27+2). The report provides a unique overview of osteoporosis in Europe, covering four domains: the burden of osteoporosis and fractures, policy frameworks, service provision and service uptake. The ScoreCard itself allows simple comparison of each contributing country in the four domains.

Two summary scores were developed for the burden of disease and the healthcare provision (the latter comprising policy framework, service provision and service uptake) in the EU27+2 countries. There was no significant correlation between the two scores. This is of particular concern in eight countries with a high burden of disease and a low healthcare provision.

The first SCOPE was undertaken in 2010, almost 10 years previously. Fifteen of the 16 score card metrics on healthcare provision were used in the two surveys. Scores had improved or markedly improved in 15 countries, remained constant in 8 countries and worsened in 3 countries.

SCOPE 2021 allows health and policy professionals to assess key indicators on the healthcare provision for osteoporosis within countries and between counties within the EU27+2. The scorecard does not set performance targets but may serve as a guide to the performance targets at which to aim in order to support the delivery of the outcomes required.

➔ **Kanis JA, Norton N, Harvey NC, Jacobson T, Johansson H, Lorentzon M, McCloskey EV, Willers C, Borgström F. SCOPE 2021: a new scorecard for osteoporosis in Europe. Arch Osteoporos 16, 82 (2021). <https://doi.org/10.1007/s11657-020-00871-9>**

#### BURDEN OF DISEASE

- The **direct cost of incident fractures** in the EU27+2 in 2019 was €36.3 billion. Added to this was the ongoing cost in 2019 resulting from fractures that occurred before 2019, which amounted to €19.0 billion (long-term disability). The cost of pharmacological intervention (assessment and treatment) was €1.6 billion. Thus, the total direct cost in the EU27+2 (excluding the value of QALYs lost) amounted to €56.9 billion in 2019.
- In 2019, the average **direct cost of osteoporotic fractures** was €109.1 for each individual in the

EU27+2, while in 2010 the average for the EU27 was €85 (after adjusting for inflation).

- The total spent on healthcare in the EU27+2 amounted to €1.6 trillion. The cost of osteoporotic fractures accounts for approx. 3.5% of **healthcare spending** (i.e. €55.3 billion in 2019) indicating a very substantial impact of fragility fractures on the present healthcare budgets of the EU countries.
- World Health Organization provides diagnostic criteria for osteoporosis based on the measurement of bone mineral density (BMD). Using these criteria, there were approximately 32.0 million **individuals with osteoporosis** in the EU27+2 in 2019, of which 6.5 million were men and 25.5 million were women, i.e. there were about four times as many women with osteoporosis as there were men.
- There were estimated to be 4.3 million **new fragility fractures in the EU in 2019**—equivalent to 11,705 fractures/day (or 487 per hour). About twice as many fractures occurred in women compared to men. Hip, vertebral, forearm and other fractures accounted for 19, 16, 15 and 50 % of all fractures, respectively.
- Some osteoporotic fractures are associated with **premature mortality**. About 30 % of deaths after a hip or clinical spine fracture can be attributed to the fracture event. In the EU27+2, there were estimated to be 248,487 causally related deaths in 2019. The number of fracture-related deaths are comparable to or exceed some of the most common causes of death such as lung cancer, diabetes, chronic lower respiratory diseases.
- The **remaining lifetime probability of hip fracture** (%) at the age of 50 years in men and women was 5.7% and 15.0%, respectively but varied markedly by country (3.8-10.9% in men and 7.0-25.1% in women).
- In Europe, intervention thresholds are commonly defined as the ten-year probability of a major fracture that equals or exceeds that of a woman with a prior fragility fracture. Using this criterion 23.8 million men and women had a **probability of major fracture above the thresholds for high risk**.
- The population aged 50 years or more is projected to increase by 11.4% between 2019 and 2034. The increase in men and women age 75 years or more is even more marked being 42.6% in men and 29.6%, in women with a commensurate increase in fracture burden.
- The **annual number of osteoporotic fractures** in the EU27+2 will increase by 1.06 million from 4.28 million in 2019 to 5.34 million in 2034 (+24.8%).

## POLICY FRAMEWORK

- Documentation of the burden of disease is an essential prerequisite to determine the resources that should be allocated to the diagnosis and treatment of the disorder. High quality **national data** on hip fracture rates have been identified in approximately two thirds of the included countries. Data on the incidence of clinical vertebral fractures are lacking in most of the countries in the EU.
- Given that osteoporosis and fragility fractures are common and that effective treatments are widely available, the vast majority of patients with osteoporosis are preferably managed at the primary health care level by general practitioners (GPs), with specialist referral reserved for difficult, complex cases. **Primary care was the principal provider of the medical care for osteoporosis** in only 16 of the 28 countries with questionnaire responses

- **Osteoporosis and/or metabolic bone disease is a recognised specialty** in only four of the EU27+2 countries. More usually, specialty care of osteoporosis is via another specialty including endocrinology, geriatrics, gynaecology, internal medicine, orthopaedic surgery, rehabilitation medicine and rheumatology, osteology, primary care, traumatology and neurology. This wide variation may reflect inconsistencies in patient care, training of primary care physicians and a suboptimal voice to “defend” the interests of those who work within the field of osteoporosis.
- The role of **national patient organisations** is to improve the care of patients and increase awareness and prevention of osteoporosis and related fractures among the general public. Advocacy by patient organisations can fall into four categories: policy, capacity building and education, peer support, research and development. Twenty six out of 28 responding countries knew of at least one patient organisation. Five of the responders listed more than one organisation. Of the 26 countries with organisations, only 10 country organisations covered all four of the advocacy areas.

## SERVICE PROVISION

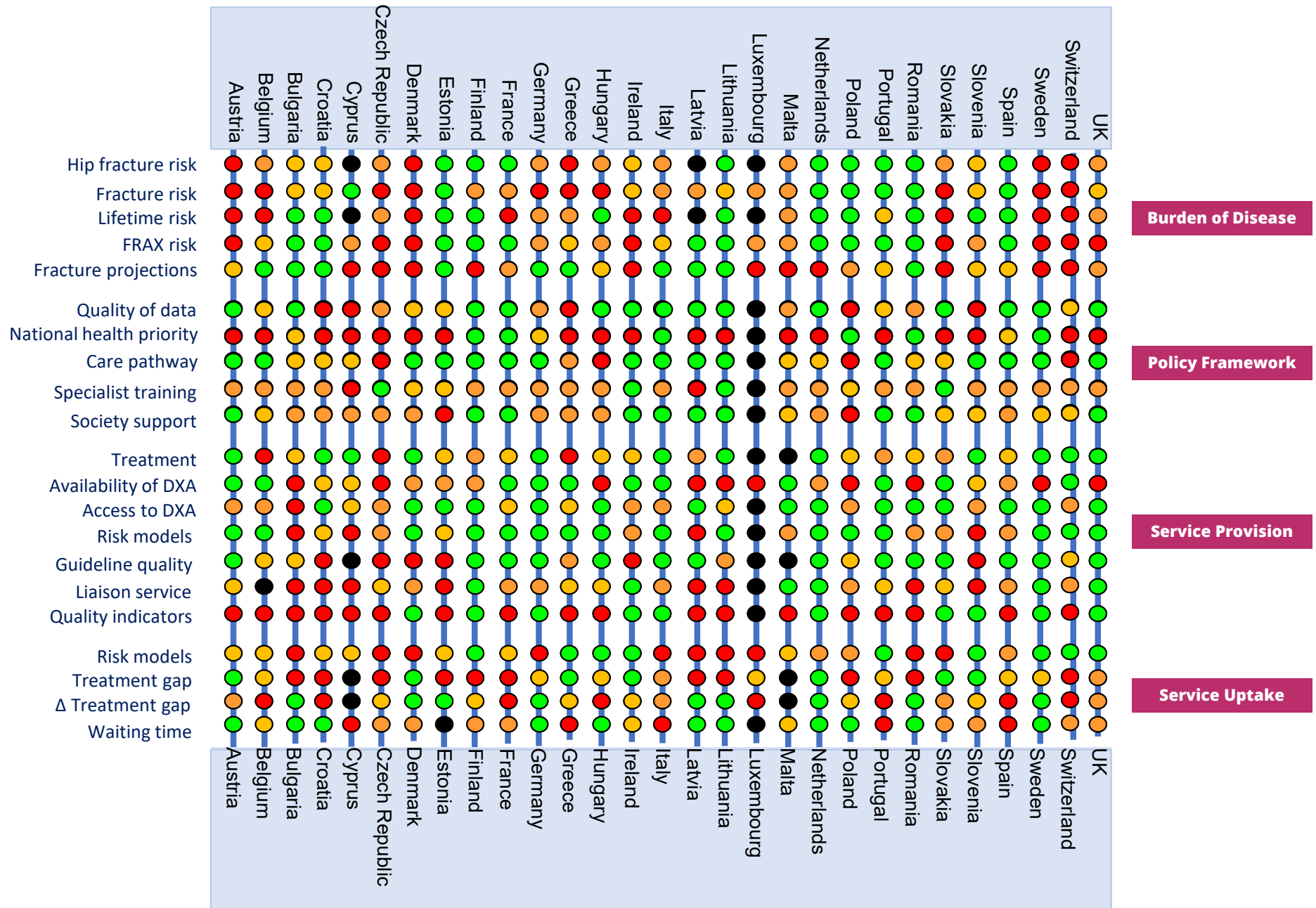
- A wide variety of approved drug treatments is available for the management of osteoporosis. Potential limitations of their use in member states relate to **reimbursement policies** which may impair the delivery of health care. Twelve of 27 countries offered full reimbursement. Access was markedly restricted in 3 countries.
- The **assessment of bone mineral density** forms a cornerstone for the general management of osteoporosis, being used for diagnosis, risk prediction, selection of patients for treatment and monitoring of patients on treatment. The number of DXA units expressed per million of the general population varied markedly. Ten of 29 countries had a provision that was less than the estimated minimum service requirement for DXA.
- The average **waiting time for DXA** ranged from 0 to 180 days across countries. There was no clear relation between waiting times and the availability of DXA. Reimbursement for DXA scans varied between member states both in terms of the criteria required and level of reimbursement awarded, and a majority of countries (15 countries) provided full reimbursement.
- The effective targeting of treatment to those at highest risk of fracture requires an assessment of fracture risk. **Risk assessment models** for fractures, most usually based on FRAX, were available in 24 out of 29 countries. However, guidance on the use of risk assessment within national guidelines was available in only 16 countries.
- **Guidelines for the management of osteoporosis** were available in 27 of 29 countries, all of which had guidelines available for postmenopausal women. Twenty-five countries had guidelines for osteoporosis in men and 23 had guidelines for secondary osteoporosis including glucocorticoid-induced osteoporosis.
- **Fracture liaison services (FLS)**, also known as osteoporosis coordinator programmes and care manager programmes, provide a system for the routine assessment and management of postmenopausal women and older men who have sustained a low trauma fracture. No fracture liaison services were reported from 8 countries. The presence of FLS was acknowledged in the remaining countries, but for approximately half of these countries, the proportion of hospitals that have a scheme in place was less than 10 %.

- The **use of indicators to systematically measure the quality of care** provided to people with osteoporosis or associated fractures has expanded as a discipline within the past decade. Ten out of 29 member states have systems that include quality measures plus a regular audit for national healthcare agencies.

## SERVICE UPTAKE

- Information is lacking from nearly all European countries on the **utilization of DXA** with regard to guidelines on the assessment and monitoring of treatment. The available evidence from Denmark, a country moderately provided with DXA machines, is that service uptake is less than optimal.
- The **web-based usage of FRAX** showed considerable heterogeneity in uptake. The average uptake for the EU27+2 was 1,555 sessions/million of the general population with an enormous range of 49 to 41,874 sessions/million.
- Many studies have demonstrated that a significant proportion of men and women at high fracture risk do not receive therapy for osteoporosis (**the treatment gap**). In the EU27+2 the average treatment gap was 71% but ranged from 32% to 87%. The average treatment gap increased from 55% in 2010 to 71% in 2019. Overall, 10.6 million women who were eligible for treatment were untreated in 2010. In 2019, this number had risen to 14.8 million.
- There is a **wide variation in the prevalence of prior fracture (hip or spine) and treatment gap** between countries but no significant correlation between the two. This is of particular concern in countries with a high fracture burden and a high treatment gap.
- About 5% of people with a hip fracture die within 1 month of their fracture. A determinant of peri-operative morbidity and mortality is the **time a patient takes to get to surgery**. Early surgery (<48 h) is associated with a statistically and clinically significant reduction in mortality at 1 year and an increase in the proportion of patients returning to their original residence. Waiting times between admission to hospital and surgical intervention were on average greater than 2 days in 5 countries.

# Scorecard for Osteoporosis in Europe 2021



The elements of each domain in each country were scored and coded using a traffic light system (red, orange, green). Black dots signify missing information.