



SCORECARD FOR OSTEOPOROSIS IN EUROPE (SCOPE)

Epidemiology, Burden, and Treatment of Osteoporosis in the Czech Republic

This document highlights the key findings for the Czech Republic, published in "Osteoporosis in Europe: A Compendium of country-specific reports"¹. View the complete SCOPE 2021 report² and related 29 country profiles at: <https://www.osteoporosis.foundation/scope-2021>

BURDEN OF DISEASE

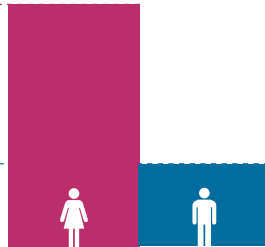
Individuals with osteoporosis in the Czech Republic

572,000

INDIVIDUALS WITH OSTEOPOROSIS IN 2019

80.0%
WOMEN

20.0%
MEN



The prevalence of osteoporosis in the total population amounted to 5.0 %, on par with the EU27+2 average (5.6%). In the Czech Republic, 20.4% of women and 6.0% of men aged 50 years or more were estimated to have osteoporosis.

New fragility fractures in the Czech Republic

91,000

NEW FRAGILITY FRACTURES IN 2019



250
FRACTURES /DAY



10.4
FRACTURES /HOUR

The number of new fragility fractures in the Czech Republic in 2019 has increased compared to 2010, equivalent to an increment of 3.0 fractures per 1000 individuals, totalling 22.0 fractures/ 1000 individuals in 2019.

Estimated annual number of deaths associated with a fracture event

In addition to pain and disability, some fractures are associated with premature mortality. SCOPE 2021 showed that the number of fracture-related deaths varied between the EU27+2 countries, reflecting the variable incidence of fractures rather than standards of healthcare.



CZECH REPUBLIC
159/100,000
INDIVIDUALS AGED 50+



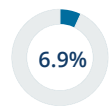
EU 27+2
116/100,000
INDIVIDUALS AGED 50+

Remaining lifetime probability of hip fracture

WOMEN
+50
YEARS



MEN
+50
YEARS



Hip fracture is the most serious consequence of osteoporosis in terms of morbidity, mortality and health care expenditure. The remaining lifetime probability of hip fracture (%) at the ages of 50 years in men and women was 6.9% and 14.8%, respectively, placing the Czech Republic in the middle tertile of risk for both men and women.

Projected increase in the number of fragility fractures



Age is an important risk factor for fractures. The Czech population aged 50 years or more is projected to increase by 18.5% between 2019 and 2034, significantly above the EU27+2 average of 11.4%.

The increases in men and women aged 75 years or more are even more marked; 60.9% for men; 41.1% for women. Accordingly, the number and burden of fragility fractures are likely to increase.

Healthcare cost of osteoporotic fractures

The cost of osteoporotic fractures in the Czech Republic accounted for approximately 2.7% of healthcare spending (i.e., €396 million out of €14.0 billion in 2019), somewhat lower than the EU27+2 average of 3.5%.

Type of costs	
Direct cost of incident fractures	€260.1 million
Ongoing cost resulting from fractures in previous years (long-term disability costs)	€121.3 million
Cost of pharmacological intervention (assessment & treatment)	€14.1 million
Total direct cost (excluding the value of QALYs* lost)	€396 million

*QALYs: Quality-Adjusted Life-Year – a multidimensional outcome measure that incorporates both the Quality (health-related) and Quantity (length) of life

In 2019, the average direct cost of osteoporotic fractures in the Czech Republic was €37.3/person, while in 2010 the average was €28.7/person (increase of 30.0%).

The 2019 data ranked the Czech Republic in 21st place in terms of highest cost of osteoporotic fractures per capita in the surveyed 29 countries.



THE NUMBER OF FRAGILITY FRACTURES IN THE CZECH REPUBLIC IS EXPECTED TO INCREASE BY MORE THAN 34% BETWEEN 2019 AND 2034, WITH A SUBSTANTIAL IMPACT ON THE HEALTHCARE BUDGET



POLICY FRAMEWORK

Documentation of the burden of disease is an essential prerequisite to determine if the resources are appropriately allocated in accordance with the country's policy framework for the diagnosis and treatment of the disease.

Key measures of policy framework for osteoporosis in the Czech Republic

Measure	Estimate
Established national fracture registries	No
Osteoporosis recognised as a specialty	Yes
Osteoporosis primarily managed in primary care	No
Other specialties involved in osteoporosis care	Osteology, Rheumatology, Internal medicine, Orthopaedics, Gynaecology, Endocrinology
Advocacy areas covered by patient organisations	Peer support

Despite the lack of established national fracture registries, the national data on hip fracture rates are of high quality and include more than only hip fracture data.

In the Czech Republic, osteoporosis and metabolic bone disease are recognised specialties whilst it is not the case in most other countries.

Advocacy by patient organisations can fall into four categories: policy, capacity building and education, peer support, research and development. For the Czech Republic, only one of these advocacy areas (peer support) was covered by a patient organisation.

SERVICE PROVISION

The provision of medical services for osteoporosis was reviewed with certain key components, including reimbursement elements which may impair the delivery of healthcare.

Service provision for osteoporosis in the Czech Republic



Twelve out of 27 countries offered full reimbursement for osteoporosis medications. The Czech Republic offered 90-100% reimbursement.

The number of DXA units expressed per million of the general population amounted to 8.1 which puts the Czech Republic in 21st place among the EU27+2. The proportion of DXA units providing Trabecular Bone Score (TBS) was relatively high compared to other countries. The estimated average waiting time for DXA was 30 days (19th rank).

Reimbursement of DXA was conditional and varied depending on the patient's condition.

National fracture risk assessment models such as FRAX® were available in the Czech Republic. However, there was no guidance available on their use within national guidelines.

Guidelines for the management of osteoporosis were available in the Czech Republic with a focus on different specificities; postmenopausal women, osteoporosis in men, secondary osteoporosis including glucocorticoid-induced osteoporosis.

Fracture Liaison Services (FLS), also known as post-fracture care coordination programmes provide a system for the routine assessment and management of patients who have sustained a low trauma fracture. FLS was reported for 1-10% of hospitals in the Czech Republic.

National quality indicators allow to measure the quality of care provided to patients with osteoporosis or associated fractures. However, no use of national quality indicators was reported for the Czech Republic.

SERVICE UPTAKE

Service uptake for osteoporosis in the Czech Republic

The condition of service uptake was evaluated with metrics that reflect fracture risk assessment, treatment gap, and management of surgery for hip fractures.

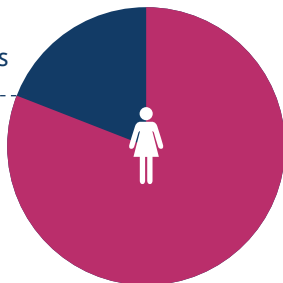
Measure	Estimate	Rank among EU27+2
Number of FRAX® sessions/ million people/year	344	24
Treatment gap for women eligible for treatment	79%	19
Proportion of surgically managed hip fractures	67%	

There was considerable heterogeneity between the countries in web-based FRAX® usage. The average uptake for the EU27+2 was 1,555 sessions/million/year of the general population with an enormous range of 49 to 41,874 sessions/million. For the Czech Republic, the use of FRAX® amounted to 344 sessions/million in 2019 with an almost 100% increase since 2011.

Do women at high fracture risk receive treatment?

75,000

WOMEN TREATED FOR OSTEOPOROSIS



285,000

WOMEN REMAIN UNTREATED FOR OSTEOPOROSIS

79%
TREATMENT GAP

360,000

WOMEN ELIGIBLE FOR OSTEOPOROSIS TREATMENT

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). For the Czech Republic, the treatment gap amongst women **amounted to 79%** in 2019, which did not change significantly compared to 76% in 2010. The EU27+2 the average gap was 71% in 2019 but ranged from 32% to 87%.

For the Czech Republic, the average waiting time for hip fracture surgery after hospital admission was reported to be 1-2 days. The proportion of surgically managed hip fractures was reported to be 67%.

SCORECARD

Burden of Disease		Policy Framework	
Hip Fracture Risk	Yellow	Quality of Data	Yellow
Fracture Risk	Red	National Health Priority	Red
Lifetime Risk	Yellow	Care Pathway	Red
FRAX® Risk	Red	Specialist Training	Green
Fracture Projections	Red	Society Support	Yellow

Service Provision		Service Uptake	
Treatment	Red	FRAX® Uptake	Red
Availability of DXA	Red	Treatment Gap	Red
Access to DXA	Yellow	Δ Treatment Gap	Yellow
Risk Models	Yellow	Waiting Time for Hip Fracture Surgery	Yellow
Guideline Quality	Red		
Liaison Service	Yellow		
Quality Indicators	Red		

The elements of each domain in each country were scored and coded using a traffic light system (red, orange, green) and used to synthesise a scorecard.

The Czech Republic scores resulted in a 6th place regarding Burden of Disease. The combined Healthcare Provision (Policy Framework, Service Provision, and Service Uptake) scorecard resulted in a 26th place for the Czech Republic. Accordingly, the Czech Republic represents one of the high-burden low-provision countries among the 29 European surveyed countries.

Overall, scores had improved in 15 countries, remained constant in 8 countries and worsened in 3 countries since the previous SCOPE study in 2010. For the Czech Republic, the scores were somewhat worsened.

Acknowledgments

SCOPE Corresponding National Society based in the Czech Republic

- **Czech Society for Metabolic Bone Diseases**
www.smos.cz

References

1. Willers C, et al. Osteoporosis in Europe: A compendium of country-specific reports, Arch Osteoporos, 2022
2. Kanis JA, et al. SCOPE 2021: a new scorecard for osteoporosis in Europe, Arch Osteoporos, 2021