

**SCORECARD FOR OSTEOPOROSIS IN EUROPE (SCOPE)**

# Epidemiology, Burden, and Treatment of Osteoporosis in Bulgaria

This document highlights the key findings for Bulgaria published in “Osteoporosis in Europe: A Compendium of country-specific reports”<sup>1</sup>. View the complete SCOPE 2021 report<sup>2</sup> and related 29 country profiles at: <https://www.osteoporosis.foundation/scope-2021>

## BURDEN OF DISEASE

**Individuals with osteoporosis in Bulgaria**

420,000

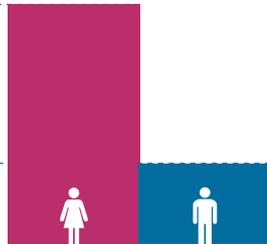
INDIVIDUALS WITH OSTEOPOROSIS IN 2019

80.4%

WOMEN

19.6%

MEN



The prevalence of osteoporosis in the total population amounted to 5.6%, on par with the EU27+2 average (5.6%). In Bulgaria, 20.9% of women and 6.4% of men aged 50 years or more were estimated to have osteoporosis.

**New fragility fractures in Bulgaria**

56,000

NEW FRAGILITY FRACTURES

IN 2019



150

FRACTURES /DAY



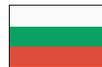
6.4

FRACTURES /HOUR

The number of new fragility fractures in Bulgaria in 2019 has significantly increased compared to 2010, equivalent to an increment of 6.0 fractures per 1000 individuals, totalling 19.3 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.



BULGARIA

184/100,000

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 4.4% and 11.2%, respectively, placing Bulgaria in the lower tertile of risk for both men and women.



**THE NUMBER OF FRAGILITY FRACTURES IN BULGARIA IS EXPECTED TO INCREASE BETWEEN 2019 AND 2034, WITH A SUBSTANTIAL IMPACT ON THE HEALTHCARE BUDGET**



### Projected increase in the number of fragility fractures



Age is an important risk factor for fractures. The Bulgarian population aged 50 years or more is projected to **decrease by 0.1%** between 2019 and 2034, contrary to the EU27+2 average which will increase by 11.4%. However, the population aged 75 years or more is estimated to increase; 20.1% for men; 19.7% 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 Bulgaria accounted for approximately 4.2% of healthcare spending (i.e., €186 million out of €4.2 billion in 2019), somewhat higher than the EU27+2 average of 3.5%.

Type of costs	
Direct cost of incident fractures	€135.1 million
Ongoing cost resulting from fractures in previous years (long-term disability costs)	€41.3 million
Cost of pharmacological intervention (assessment & treatment)	€9.2 million
<b>Total direct cost (excluding the value of QALYs* lost)</b>	<b>€186 million</b>

\*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 Bulgaria was €26.4/person, while in 2010 the average was €6.6/person (increase of 299%).

The 2019 data ranked Bulgaria in 25<sup>th</sup> place in terms of highest cost of osteoporotic fractures per capita in the surveyed 29 countries.

## 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 Bulgaria

Measure	Estimate
Established national fracture registries	Yes
Osteoporosis recognised as a specialty	No
Osteoporosis primarily managed in primary care	No
Other specialties involved in osteoporosis care	Rheumatology, Endocrinology, Internal medicine, Orthopaedics
Advocacy areas covered by patient organisations	None

High quality of national data on hip fracture rates have been identified in Bulgaria. Data are collected on a national basis and include more than only hip fracture data.

In Bulgaria, osteoporosis and metabolic bone disease are not recognised specialties. However, osteoporosis is recognised as a component of specialty training.

Advocacy by patient organisations can fall into four categories: policy, capacity building and education, peer support, research and development.

For Bulgaria, none of the advocacy areas were 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 Bulgaria



\*Available since 2020

Twelve out of 27 countries offered full reimbursement for osteoporosis medications. Bulgaria offered 50% reimbursement.

The number of DXA units expressed per million of the general population amounted to 3.6 which puts Bulgaria in 28<sup>th</sup> place among the EU27+2. The estimated average waiting time for DXA amounted to 5 days (4<sup>th</sup> rank). However, DXA was not reimbursed.

A national risk model of FRAX® for Bulgaria was developed in 2020. However, guidance on the use of fracture risk assessment within national guidelines was not yet available.

Guidelines for the management of osteoporosis were available in Bulgaria 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 and care manager programmes provide a system for the routine assessment and management of patients who have sustained a low trauma fracture. However, no FLS was reported for Bulgaria.

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 Bulgaria.

## SERVICE UPTAKE

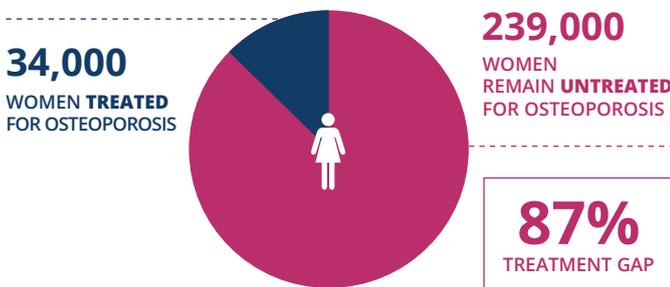
### Service uptake for osteoporosis in Bulgaria

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	49	29
Treatment gap for women eligible for treatment	87%	27
Proportion of surgically managed hip fractures	75-90%	

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 Bulgaria, the use of FRAX® amounted to 49 sessions/million in 2019, with a 56% decrease since 2011.

### Do women at high fracture risk receive treatment?



**273,000**

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 Bulgaria, the treatment gap amongst women **decreased to 87%** in 2019, compared to 95% in 2010. In the EU27+2 the average gap was 71% in 2019 but ranged from 32% to 87%.

For Bulgaria, the average waiting time for hip fracture surgery after hospital admission was reported to be less than 24 hours, which had decreased since 2010 (waiting time of 1-2 days in 2010). The proportion of surgically managed hip fractures was reported to be 75-90%.

## SCORECARD

Burden of Disease		Policy Framework	
Hip Fracture Risk	Orange	Quality of Data	Green
Fracture Risk	Orange	National Health Priority	Yellow
Lifetime Risk	Green	Care Pathway	Yellow
FRAX® Risk	Green	Specialist Training	Yellow
Fracture Projections	Green	Society Support	Yellow
Service Provision		Service Uptake	
Treatment	Yellow	FRAX® Uptake	Red
Availability of DXA	Red	Treatment Gap	Red
Access to DXA	Red	Δ Treatment Gap	Green
Risk Models	Red	Waiting Time for Hip Fracture Surgery	Green
Guideline Quality	Yellow		
Liaison Service	Red		
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.

Bulgaria scores resulted in an 18<sup>th</sup> place regarding Burden of Disease. The combined Healthcare Provision (Policy Framework, Service Provision, and Service Uptake) scorecard resulted in a 22<sup>nd</sup> place for Bulgaria. Accordingly, Bulgaria represents one of the low-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 Bulgaria, the scores were slightly improved.

## Acknowledgments

### SCOPE Corresponding National Societies based in Bulgaria

- **Bulgarian Society for Clinical Densitometry**
- **Bulgarian League for the Prevention of Osteoporosis (BLPO)**
- **Bulgarian Medical Society of Osteoporosis and Osteoarthritis**

We also acknowledge the contribution of the **Bulgarian Society of Endocrinology**

## 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