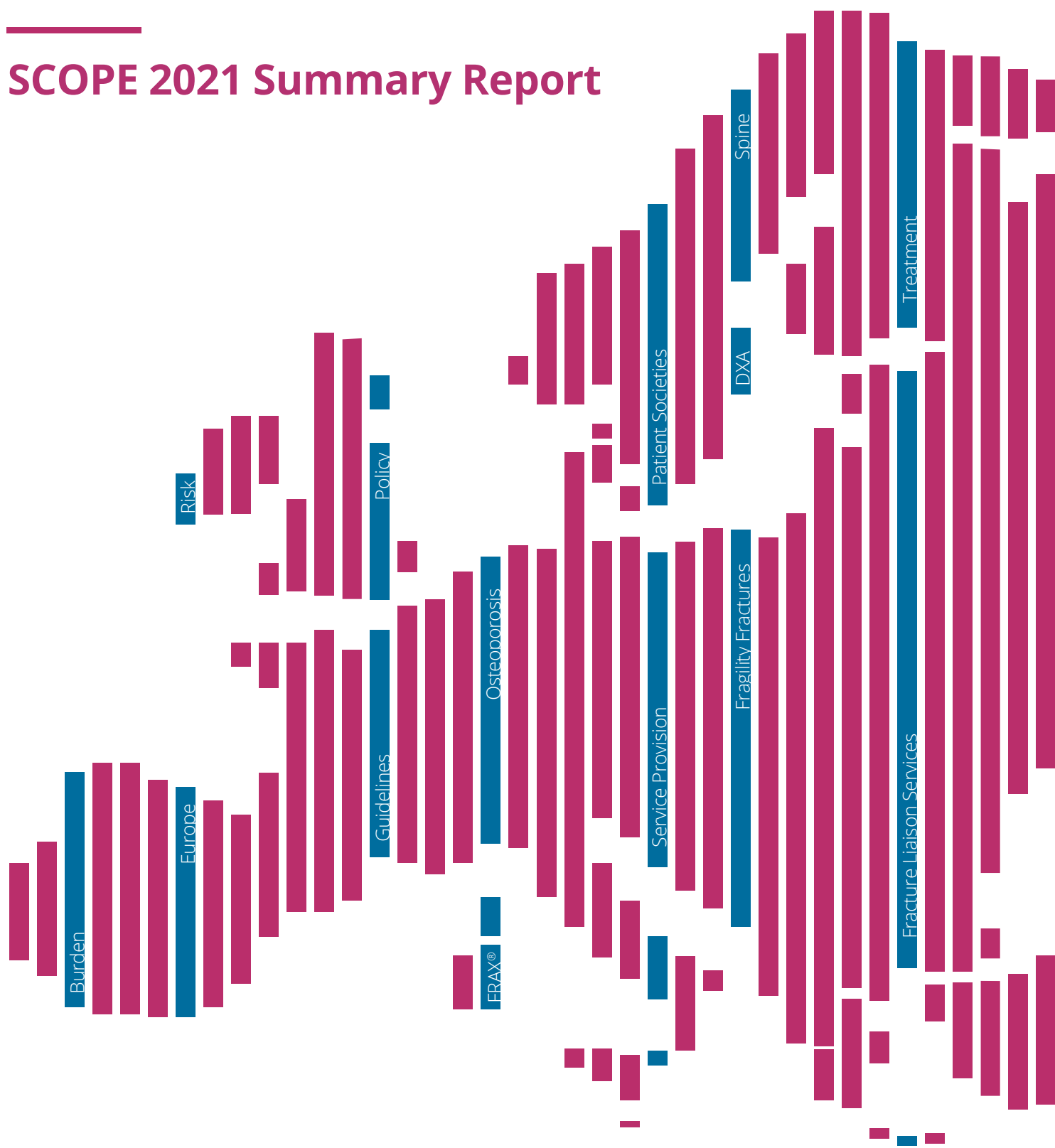


# SCORECARD FOR OSTEOPOROSIS IN EUROPE

## SCOPE 2021 Summary Report



READ SCOPE 2021 AT  
<https://www.osteoporosis.foundation/scope-2021>





# A Letter to All Europeans

The statistics are startling.

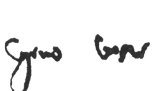
One in three women and at least one in six men will suffer an osteoporotic fracture in their lifetime. For every minute that passes eight new fracture cases arise in the EU. It is estimated that **more than 23 million men and women are at high risk of osteoporotic fractures** in the European Union.

**Osteoporosis and the 4.3 million fragility fractures per year that it causes cost the health care systems of Europe in excess of €56 billion each year based on data for 2019.** Only 3% of this money was spent on medical treatment. But numbers don't tell the full story. For the individuals who suffer fractures as a result of the disease, the stories are personal. Pain, disability, reduced mobility and long-term disability are all too frequent. Additionally, some fractures related to osteoporosis result in death. Nearly a quarter of a million deaths occur each year in Europe as a direct consequence of hip or spine fractures.

**This landmark International Osteoporosis Foundation SCOPE 2021 report represents the fundamental European component of the Foundation's global mission to minimise risk of osteoporosis for individuals and to ensure that everyone has access to the best possible assessment and treatment for this devastating condition.** Components that are critical to achieving this goal include government policy, access to risk assessments, and access to medications. This update of the Scorecard allows Europeans to measure how well their country is able to access these elements through publicly funded health care systems. It also provides a new benchmark to follow trends in osteoporosis management, and to measure future progress.

Our research reveals that facilities and access to testing for osteoporosis are far from adequate. Access to drug treatment that can help prevent fractures varies markedly from country to country; in some member states, individuals with osteoporosis are restricted from accessing effective treatment options. Less than half of women at high risk of fracture are treated despite the high cost of fractures and the availability of affordable medications.

**Action is required.** The national osteoporosis societies within the International Osteoporosis Foundation are calling for a Europe-wide strategy and parallel national strategies to provide coordinated osteoporosis care and to reduce debilitating fractures and their impact on individual lives and the health care system. We welcome the opportunity to partner with governments at the national and European level to develop and implement these strategies. **Together we can improve bone health for all in Europe.**



**Cyrus Cooper**  
President of IOF



**John A Kanis**  
Honorary President of IOF,  
Chair of SCOPE



**Jean-Yves Reginster**  
Chair of the IOF  
Committee of National  
Societies



**Philippe Halbout**  
CEO of IOF

**The International Osteoporosis Foundation (IOF) and its member societies call for strategies at both the European and national levels to provide coordinated osteoporosis care effectively and to reduce debilitating fractures and their impact on individual lives and the healthcare system.**

# CONTENTS

**05**

**Glossary**

**06**

**About SCOPE**

**07**

**Why should you be concerned about osteoporosis?**

**08**

**Burden of Disease in Europe**

The high cost burden of osteoporotic fractures

Increasing direct costs of osteoporotic fractures

Osteoporotic fractures are associated with premature mortality

**12**

**Policy Framework**

Is osteoporosis a National Health Priority (NHP) in Europe?

How is osteoporosis care provided?

How effective is patient society advocacy?

**16**

**Service Provision**

Treatment for osteoporosis in Europe

Availability and accessibility to DXA assessment

Fracture Liaison Services (FLS)

**20**

**Service Uptake**

Uptake of risk assessment algorithms - FRAX®

How many European women at high fracture risk receive treatment?

Waiting time for surgery after hip fracture

**24**

**Summary of Scorecard**

**27**

**Call to action for a Europe without fragility fractures**

**29**

**Acknowledgements**

**33**

**References**

# GLOSSARY

**BMD** Bone Mineral Density

**COPD** Chronic obstructive pulmonary disease

**CTF<sup>®</sup>** Capture The Fracture<sup>®</sup>

**DALY** Disability-adjusted life year, a product of years of life lost and the remaining years of life disabled (i.e., disutility)

**Direct costs** Used in health technology assessment to describe direct healthcare costs (e.g., hospital admissions, medical examinations, drug therapy, etc.). Indirect costs include losses in productivity resulting from absence to work and intangible costs include pain and suffering, poor quality of life.

**DXA** Dual-energy x-ray absorptiometry, a method for measuring BMD

**EU27** The 27 member states of the European Union

**EU27+2** The 27 members states of the European Union (EU27) + Switzerland and the United Kingdom (UK)

**FLS** Fracture Liaison Service

**FRAX<sup>®</sup>** Fracture Risk Assessment Tool developed by the WHO Collaborating Centre, University of Sheffield Medical School, UK. FRAX<sup>®</sup> calculates the 10-year probability of a major fracture in individuals from clinical risk factors and BMD.

**GDP** Gross domestic product, the total value of goods produced, and services provided in a country in one year

**GP** General practitioner (primary care physician)

**Incidence** The frequency of an event, usually expressed as a yearly rate (e.g., 10 per 1000 of the population/year)

**IOF** International Osteoporosis Foundation

**MOF** Major osteoporotic fracture (hip, spine, humerus, or forearm fractures)

**Prevalence** The number of cases of disease for a given area or at a given time

**Probability** The likelihood of an event

**QALY** Quality-adjusted life year

**SCOPE** Scorecard for Osteoporosis in Europe

# ABOUT SCOPE

The Scorecard for Osteoporosis in Europe (SCOPE) project aims to raise awareness of osteoporosis care in Europe. SCOPE permits an in-depth comparison of the quality of care of osteoporosis across the 27 member states of the European Union (EU27), together with the UK and Switzerland (termed EU27+2).

Osteoporosis is a complex, chronic disease that can be treated and managed in a number of ways. Improvements in medication and diagnostic techniques in the past 30 years have provided highly effective ways to reduce the risk of osteoporotic fractures. However, in Europe, research has shown significant heterogeneity in the different national approaches to managing the disease. The Scorecard summarizes key indicators of osteoporosis that could be applied to each of the member states of the European countries under four broad domains:



## Burden of disease

including the burden of osteoporosis, fractures and forecasts for the future



## Policy framework

such as availability of public health programmes



## Service provision

including assessment and treatments of osteoporosis



## Service uptake

the proportion of individuals at high risk that do not receive treatment (the treatment gap)

The Scorecard has been developed to draw attention to the disparities in healthcare provision that can serve as benchmarks to inform patients, healthcare providers and policymakers in the European surveyed countries. This update of the original SCOPE publication and Scorecard compares the previous results from 2010 to data as recent as 2019. The newer data provides a more recent overview and a way to compare the management of osteoporosis over time, within and between the EU27+2 countries.

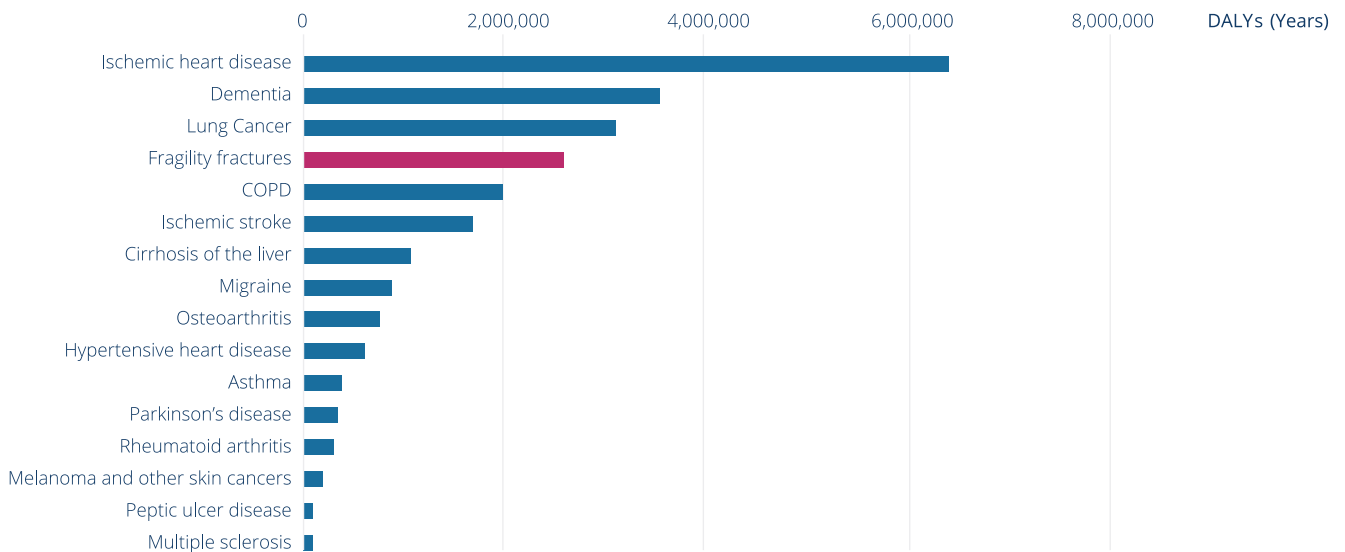
SCOPE aims to stimulate a balanced, common, and optimal approach to managing osteoporosis throughout Europe. By optimizing policy frameworks, service provision and uptake, we can improve bone health and reduce the costly burden of fragility fractures.

# WHY SHOULD YOU BE CONCERNED ABOUT OSTEOPOROSIS?

## Enormous burden of disability

The disability burden of osteoporosis expressed in Disability Adjusted Life Years (DALYs) is greater than many other common diseases, including ischemic heart disease, dementia, and lung cancer.<sup>1</sup>

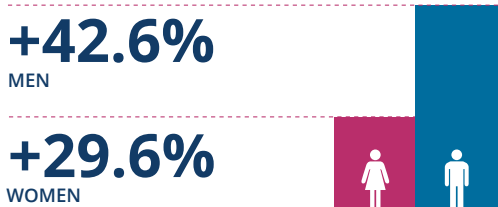
DALYs by disease in 6 European countries in 17 selected non-communicable diseases<sup>1</sup>



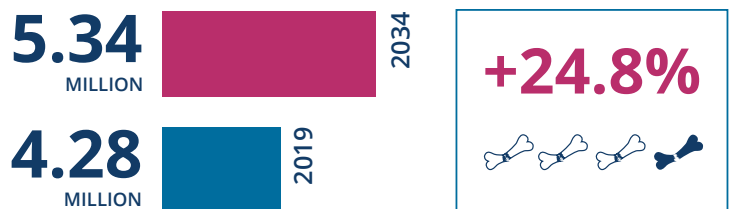
## Rapid increase in the number of fragility fractures

The number of fragility fractures is increasing with the ageing of Europe's population<sup>2</sup>. This will lead to an increase in related costs, disability and premature deaths.

Expected increase (%) in number of adults aged +75 years between 2019 - 2034



Expected increase in annual number of fragility fractures between 2019 - 2034



Projection for the year 2034 - the countries with the largest annual number of fragility fractures



**Germany**  
966,800 fractures



**Italy**  
701,600 fractures



**United Kingdom**  
665,000 fractures

# BURDEN OF DISEASE IN EUROPE

SCOPE 2021 reveals the immense burden of osteoporosis and fractures, as well as important forecasts for the future



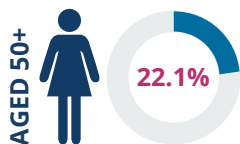
Osteoporosis has had a serious impact on my life. Due to the back injuries I have been on a disability pension. Prior to that, I had a number of long-term work absences due to the vertebral fractures. As a result of the fractures I cannot lie in bed or sit very long.

Torsti, Finland

Individuals with osteoporosis in the EU27+2



Prevalence of osteoporosis across the EU27 in 2019<sup>3</sup>



Compared with data from the previous SCOPE study in 2010<sup>4</sup>, almost every European country has experienced an increase in the number of individuals with osteoporosis.



The countries with the largest absolute increases estimated in number of women with osteoporosis between 2010 - 2019<sup>2</sup>



**Germany**  
**+153,200**  
**women**



**United Kingdom**  
**+141,700**  
**women**



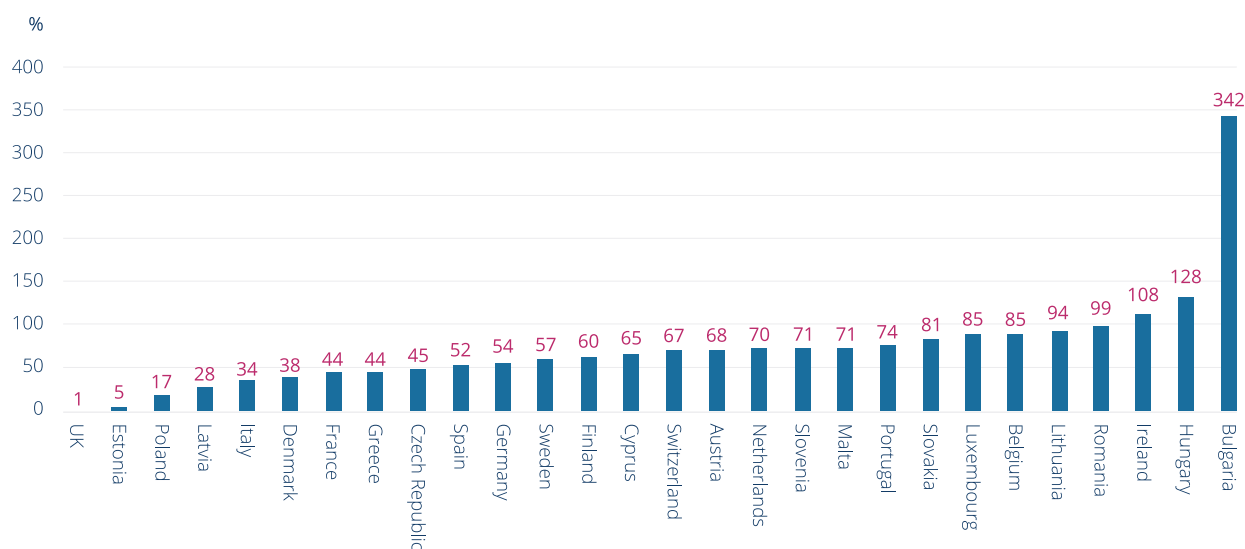
**Italy**  
**+129,700**  
**women**

## The high cost burden of osteoporotic fractures

Compared with 2010, the costs of osteoporosis and fragility fractures have significantly increased in almost every European country during the last 10 years.

In some countries, the absolute cost increase was mainly associated with the larger populations; Germany (+€4.8 billion), Italy (+€2.4 billion), France (+€2.1 billion).

Increase in total fracture cost (%) in 2019 compared with 2010 values<sup>2,4</sup>



Comparison of the costs of osteoporotic fractures between 2010 and 2019<sup>2,3,4</sup>

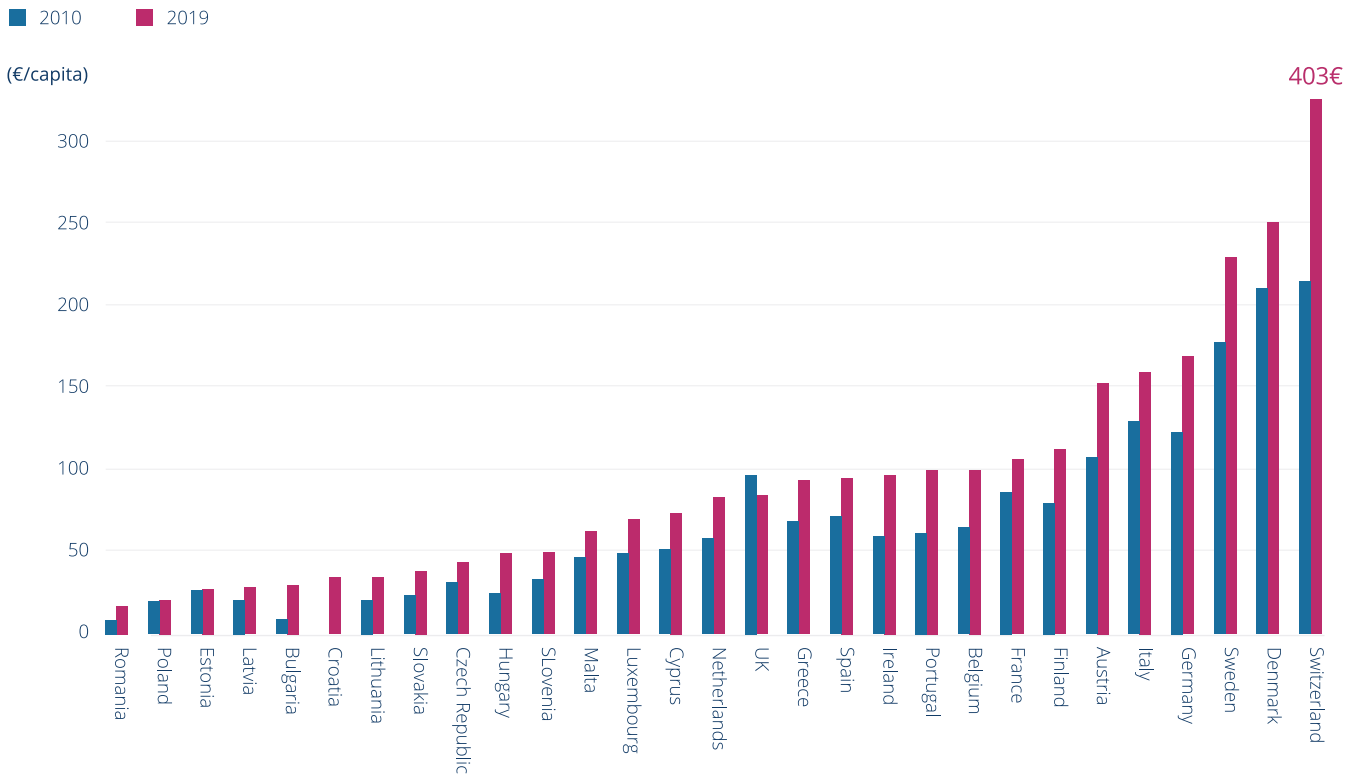
Type of costs	Costs in 2010 (EU27)	Costs in 2019 (EU27+2)
Direct cost of incident fractures	€24.6 billion	€36.3 billion
Ongoing cost resulting from fractures in previous years (long-term disability costs)	€10.7 billion	€19.0 billion
Cost of pharmacological intervention (assessment & treatment)	€2.1 billion	€1.6 billion
<b>Total direct cost (excluding the value of QALYs* lost)</b>	<b>€37.4 billion</b>	<b>€56.9 billion</b>

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

# Increasing direct costs of osteoporotic fractures

The per capita cost burden of osteoporotic fractures (the individual cost to every person in the country) varies from country to country. In 2019, the individual costs of osteoporotic fractures was highest in Switzerland (€403/person) and Denmark (€251), and lowest in Romania (€13) and Poland (€18).

Cost of fragility fractures expressed as cost/capita (€) in 2019 and 2010<sup>2,4</sup>



The costs of osteoporosis for each individual have increased between 2010 and 2019 in all surveyed countries except for the UK and Estonia.

Average cost change between 2010 and 2019 in the EU27+2<sup>2</sup>

**€109.12**  
PER PERSON



2019



**€85.77**  
PER PERSON



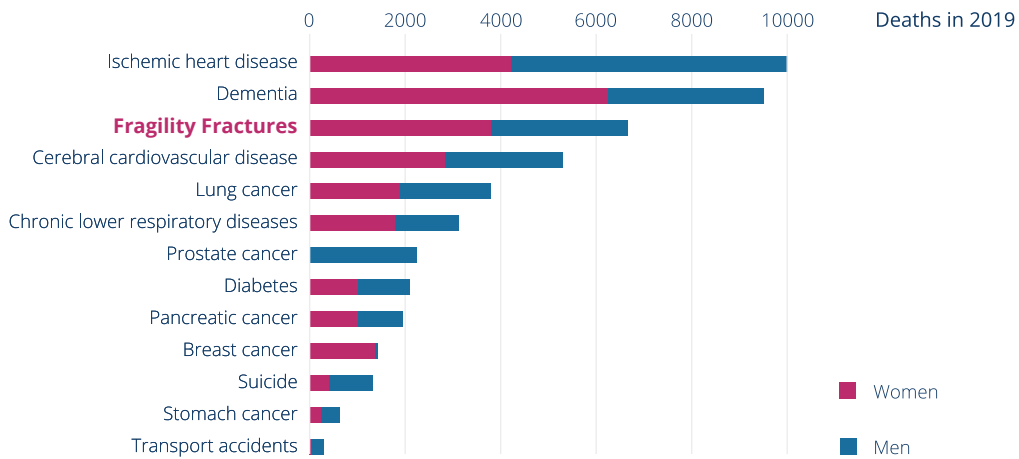
2010

**+27.2%**

# Osteoporotic fractures are associated with premature mortality

The most obvious and serious effect of osteoporosis is the fractures that occur as a consequence of increased bone fragility.

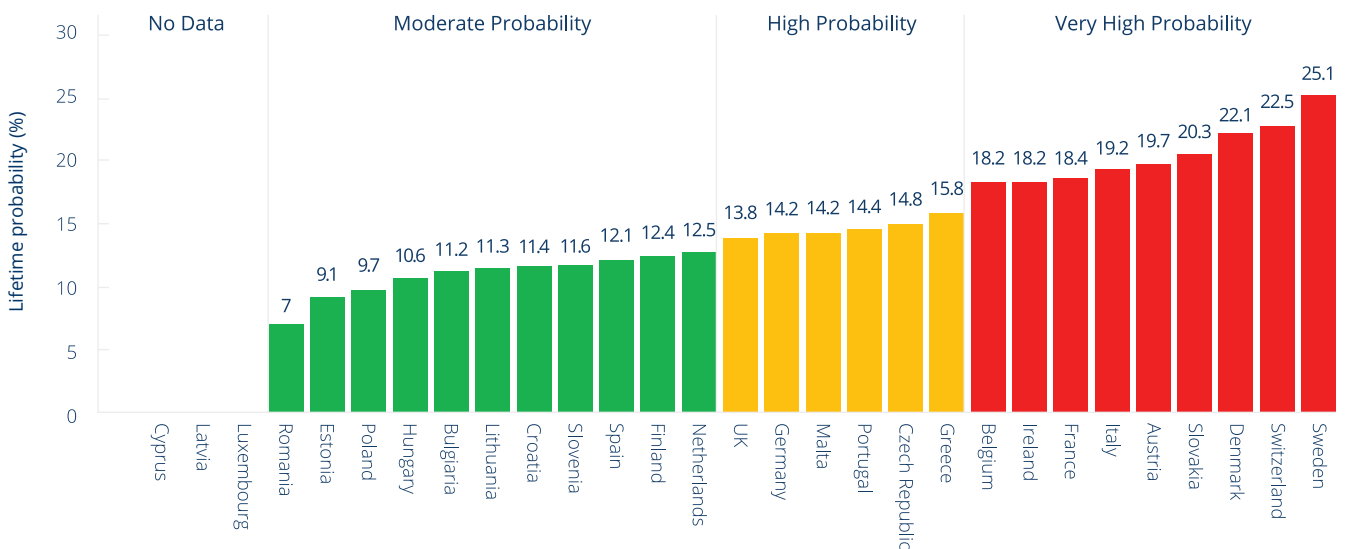
**Comparison of the number of causality related deaths due to fracture compared with other causes of death in 2019<sup>2</sup> (data from Sweden)**



About 30% of deaths after a hip or clinical spine fracture can be attributed to the fracture event<sup>5-7</sup>. In the EU27+2, there were estimated to be **248,487 fractures causally related deaths in 2019<sup>2</sup>**.

Hip fracture is the most impactful consequence of osteoporosis in terms of mortality, morbidity, and health care expenditure. In the EU27+2, hip fractures comprise only 17% of the total number of fragility fractures but account for 54% of the direct costs and 49% of deaths due to fracture<sup>3,4,8</sup>.

**Remaining lifetime probability of hip fracture (%) in women in the EU27+2 from the age of 50 years<sup>2</sup>**



Lifetime probability of hip fracture in women varied markedly by country with a range from 7.0% (Romania) to 25.1% (Sweden). **The average at the EU27+2 level was 5.7% in men and 15.0% in women.**

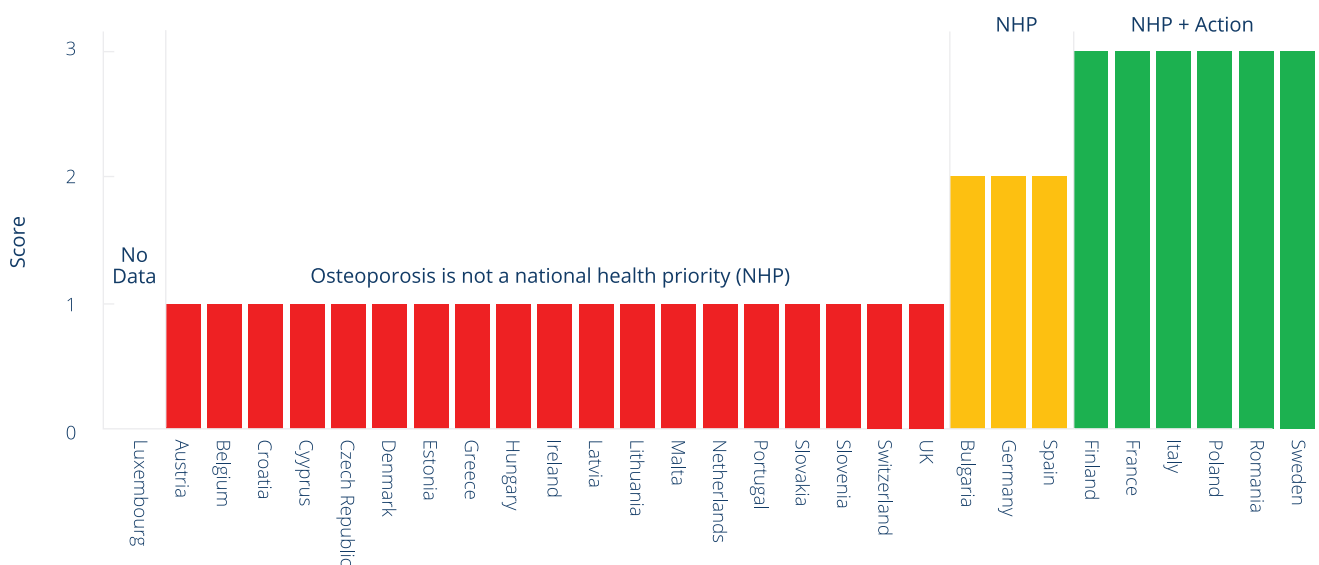
# POLICY FRAMEWORK

Compares availability of information, prioritization in national healthcare, management and specialist training, and patient organisations in the EU27+2

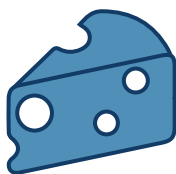
An established policy framework is essential to allocate resources to the diagnosis and healthcare of the disease. When a disease is considered as a priority for governments and health care providers, a national action plan with clear objectives and support will be developed. In the context of management of osteoporosis and fragility fractures, a national data registry on fractures provides information concerning **the priority of osteoporosis that should be awarded by healthcare policy makers.**

## Is osteoporosis a National Health Priority (NHP) in Europe?

Categorisation of the EU27+2 countries according to the existence of government backed NHP for osteoporosis/musculoskeletal diseases (IOF audit, 2020)<sup>2</sup>



Within the management of osteoporosis and development of national action plans in the countries that recognise osteoporosis as an NHP, areas of focus are:



**Nutrition**  
(5 countries)



**Exercise**  
(4 countries)



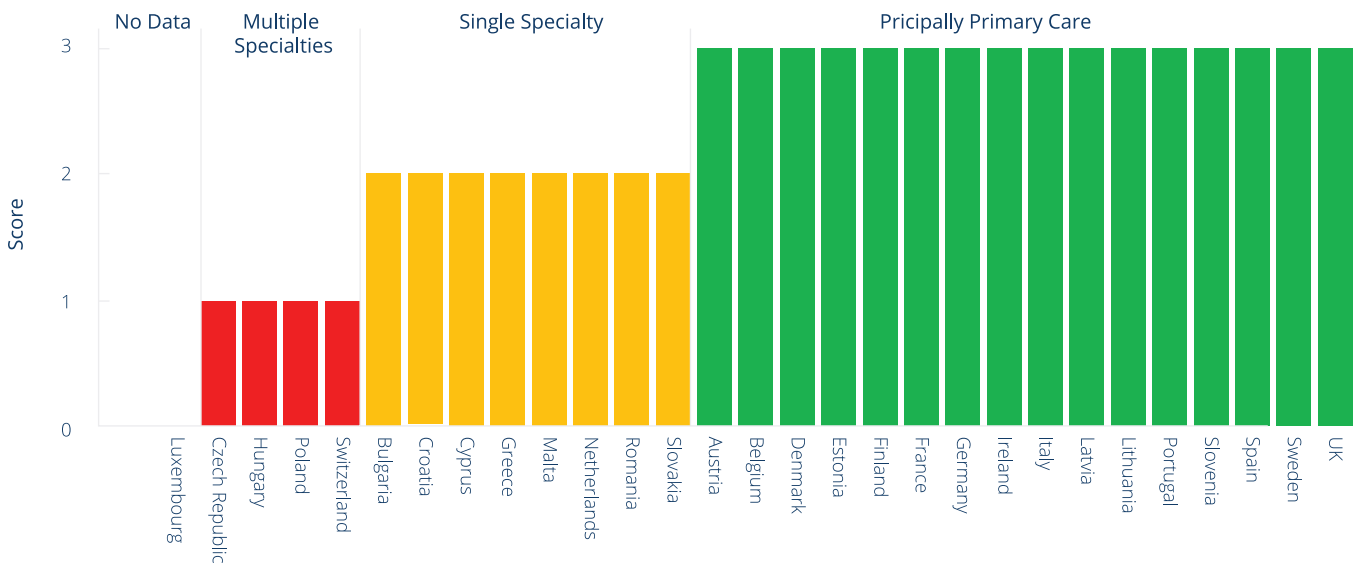
**Falls Prevention**  
(4 countries)

The results revealed that the majority of surveyed countries (19/28) does not recognise osteoporosis or musculoskeletal diseases as a NHP.

# How is osteoporosis care provided?

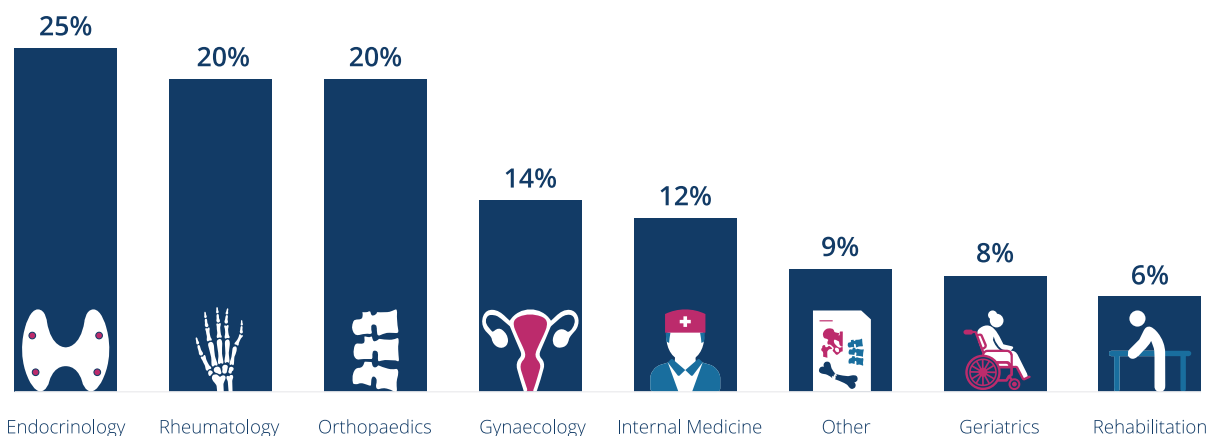
Given that 25.5 million women and 6.5 million men in the EU27+2 in 2019 were estimated to have osteoporosis<sup>2</sup>, this disease and fragility fractures are common. In terms of the pathway for effective management of patients with osteoporosis, **the majority are preferably managed in the long-term at the primary health care level by general practitioners (GPs), with specialist referral reserved for initial evaluation of osteoporosis**, particularly in the context of fracture liaison services (FLS) (see page 19), and complex cases.

Patterns of principal care of patients with osteoporosis (IOF audit, 2020)<sup>2</sup>



According to the data from an audit developed by IOF in 2020, primary care was the principal provider of the medical care for osteoporosis in 16 of the 28 countries with questionnaire responses. In the remaining countries, the care of osteoporosis is managed by specialties solely.

Specialty representation (%) within the care of osteoporosis in the EU27+ countries<sup>2</sup>



There was a wide variation in the specialties that cater to osteoporosis. Osteoporosis and metabolic bone disease are recognized as specialties only in 4 of the 29 countries (Czech Republic, Ireland, Lithuania, Slovakia). Although the disease is recognized as a component of specialty training in most of the countries (26 of 29), the variation may lead to inconsistencies in patient care, and training of primary care physicians.

# How effective is patient society advocacy?



By getting involved with your patient society you can, apart from learning valuable information about osteoporosis, also make new friends and receive psychological as well as emotional support.

Yulia, Greece

## Osteoporosis and Bone Societies in Europe

National patient organisations play key roles in improving the care of patients and increasing public awareness about the disease and prevention. The International Osteoporosis Foundation counts 269 member societies worldwide, including 142 organizations in Europe.

Contact information is available on pages 30-33 of this report or on the IOF website.



Advocacy by patient organisations can be classified into four areas:



### Policy

Work on promoting the interest of patient during all stages of policy development



### Capacity Building and Education

Invest in capacity building and educational initiatives for policy makers, industry, academia and media



### Peer Support

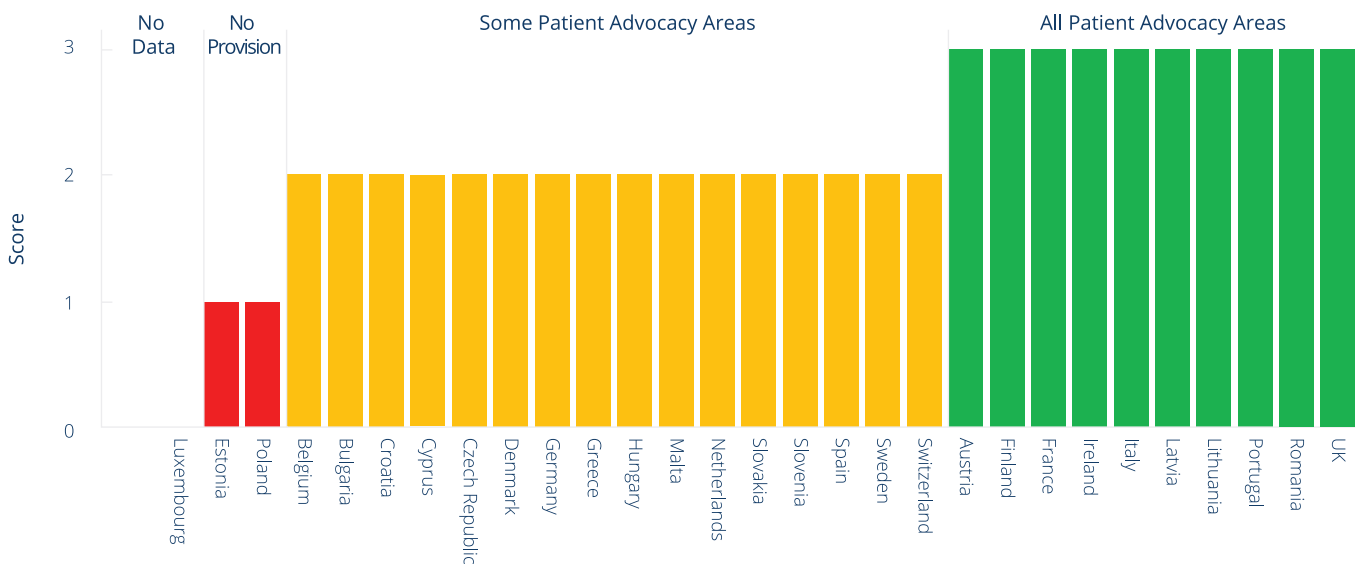
Provide peer monitoring and counselling services and legal and financial support to patients



### Research and Development

Activate research collaborators

Scores for patient organisations support according to the existence and covered advocacy areas (IOF audit, 2020)<sup>2</sup>



# SERVICE PROVISION

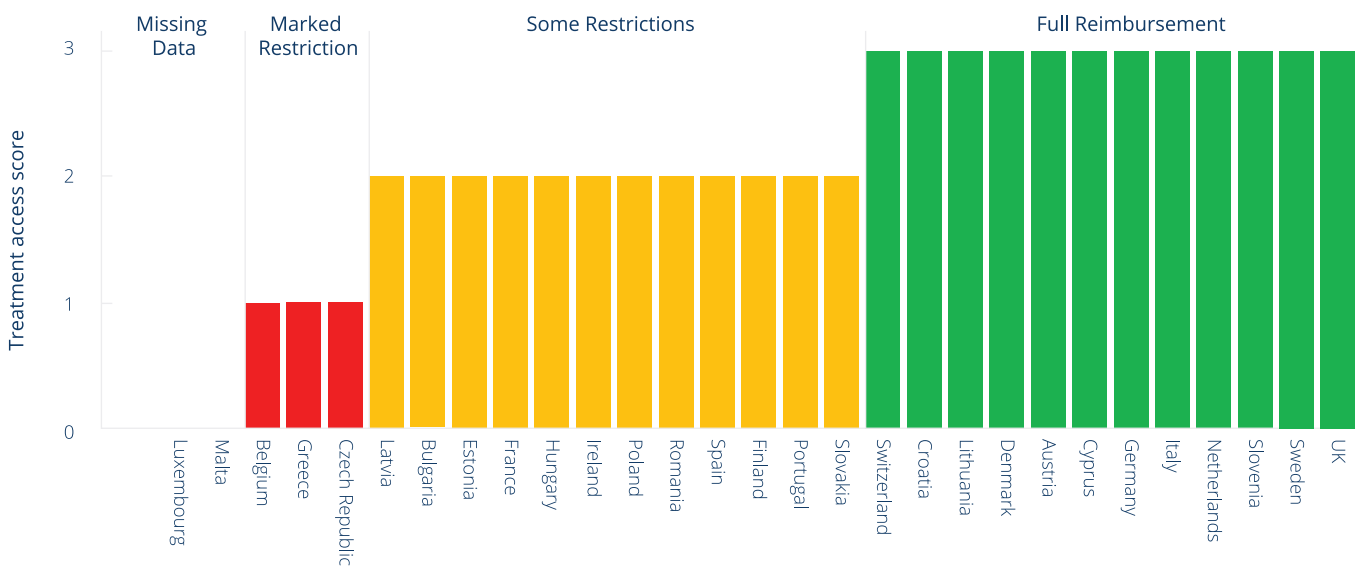
## Assessment and treatment of osteoporosis

Recognising patients at risk under a structured framework and providing them with an appropriate medical care pathway are essential prerequisites for effective management of the disease.

## Treatment for osteoporosis in Europe

A wide variety of approved medications is available for the management of osteoporosis. However, there are potential limitations of their use due to reimbursement policies, which may impair the delivery of health care.

Scores for access to osteoporosis medications (IOF audit, 2020)<sup>2</sup>



Most medications for osteoporosis were reimbursed in most countries. Twelve of 25 member states offered full reimbursement, which means that the percentage of member states offering full reimbursement went up from 27% to 44% compared to the data of 2010 from the previous SCOPE study<sup>4</sup>. In the remaining countries, there were restrictions, including those reported as a significant obstacle to accessibility and long-term uptake.

Examples of conditions applied for reimbursement of osteoporosis medications<sup>2</sup>



**Age restrictions for some agents**  
(Czech Republic, Poland)

**No reimbursement for some agents in the absence of a second prior fracture**  
(Croatia, France, Germany)

**Reimbursement for some / all agents but conditional on a specialist referral**  
(Belgium, Croatia, Czech Republic, Denmark, Greece, Hungary, Italy, Lithuania, Sweden and UK)

**Restrictions from the point of view of cost effectiveness**  
(UK)



# Availability and accessibility to DXA assessment

The assessment of bone mineral density forms a cornerstone for proper management of osteoporosis – diagnosis, risk prediction, patient allocation for treatment and monitoring. The appropriate sites and technology are measurement at the lumbar spine and hip with dual-energy x-ray absorptiometry (DXA).

Access to the assessment of osteoporosis by DXA depends on the following elements:



Availability of DXA equipment



Ease of patient access (e.g., waiting time for DXA, travelling time to facilities)

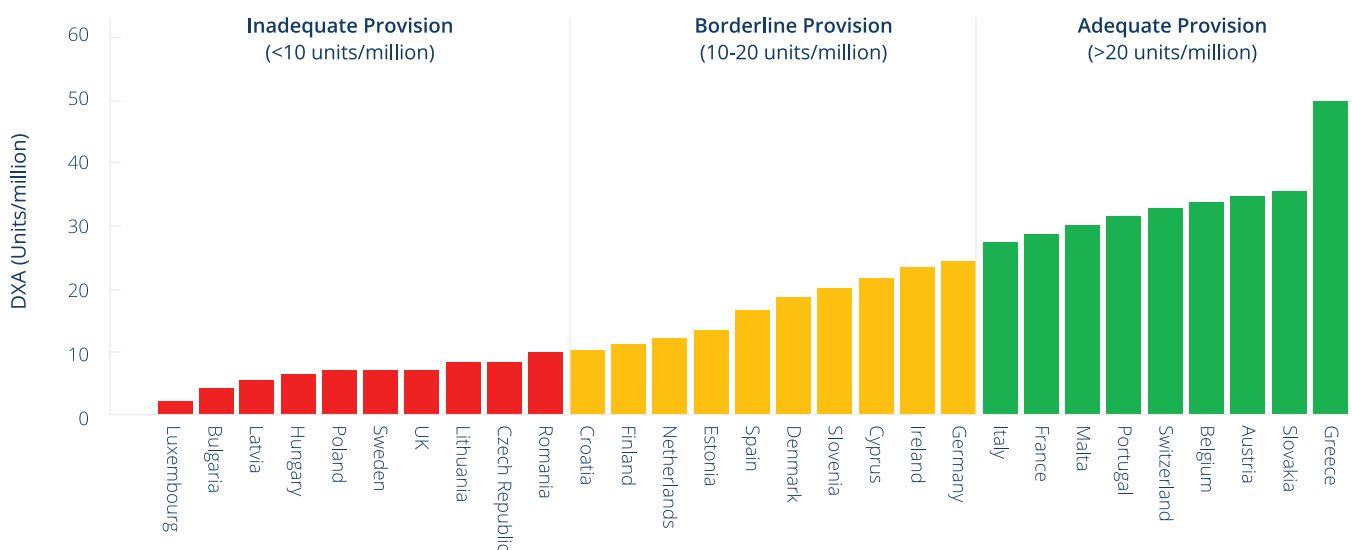


Efficiency of the technology used for the assessment



Regulatory constraints and barriers to reimbursement

Available DXA equipment (units/million of the general population)\* in the EU27+2 in 2019<sup>2</sup>



\*Based on sales of DXA supplied by manufacturers, without distinction between machines dedicated to clinical research and those that lie idle/underutilised because of lack of funding

It is estimated that approximately **11 DXA units per million of the general population are required** as a minimum for assessing osteoporosis and monitoring patient on treatment<sup>4</sup>. The survey revealed that about **60% of member states offered the minimum recommended number of DXA machines** for their population.

Note that the increase in DXA equipment between 2010 and 2019 was minor (+5%), especially when the rise in the number of fragility fractures over the same period (+17% for the EU27, not including Croatia or Switzerland) is considered.



There is indeed one thing I have learned: that an accurate diagnosis, which is relatively simple, can save women from a lot of suffering, fractures, and emotional damage.

Carmen, Spain

#### Reimbursement of DXA and its conditions in the EU27+2 countries (IOF audit, 2020)<sup>2</sup>

Reimbursement status	Country	Conditions within clinical practice
Full Reimbursement	Croatia, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Malta, Netherlands, Portugal, Romania, Spain, Slovakia, Sweden, UK	Full reimbursement in public practice (Malta)
Restricted Reimbursement	Austria, Belgium, Cyprus, Czech Republic, France, Greece, Italy, Ireland, Lithuania, Poland, Slovenia, Switzerland	Reimbursement depending on public/private delivery Reimbursement under physician referral for approved indications Reimbursement for limited indications Reimbursement depending on patient income
No Reimbursement	Bulgaria	N/A*
No Data	Luxembourg	N/A*

\*N/A: not applicable

# Fracture Liaison Services (FLS)

Despite the recognition of the importance of an incident fracture as a risk factor for further fractures, many patients presenting with a low trauma fracture are not appropriately identified and treated. **Fracture Liaison Services (FLS), also known as post-fracture care coordinator programmes and care manager programmes,** address this need through a systematic approach to identifying individuals at high risk of secondary fractures and providing adequate health care supports under coordinator-based models in the hospital setting.

Availability of Fracture Liaison Services (FLS) in hospitals by country<sup>2</sup>

Category	Country
FLS in place in over 25% of hospitals	Finland, Ireland, Malta, Netherlands, Sweden, UK
FLS in place in 1-25% of hospitals	Austria, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Poland, Portugal, Spain, Slovakia, Switzerland
No FLS in place	Bulgaria, Croatia, Cyprus, Estonia, Latvia, Lithuania, Romania, Slovenia
No Data	Belgium, Luxembourg

## Capture the Fracture® - A global initiative of IOF

Capture the Fracture® (CTF) was developed by the International Osteoporosis Foundation to facilitate the implementation of coordinated, multi-disciplinary models of care for secondary fracture prevention<sup>9,10,11</sup> such as Fracture Liaison Services (FLS). CTF has created a set of internationally endorsed standards and guidance for best practice and has assembled the largest network of individual FLS providers in the world. As of September 2021, there are 667 FLS from 49 countries recognised on the IOF Capture The Fracture map of Best Practice.

Capture The Fracture official website: <https://www.capturethefracture.org/>



# SERVICE UPTAKE

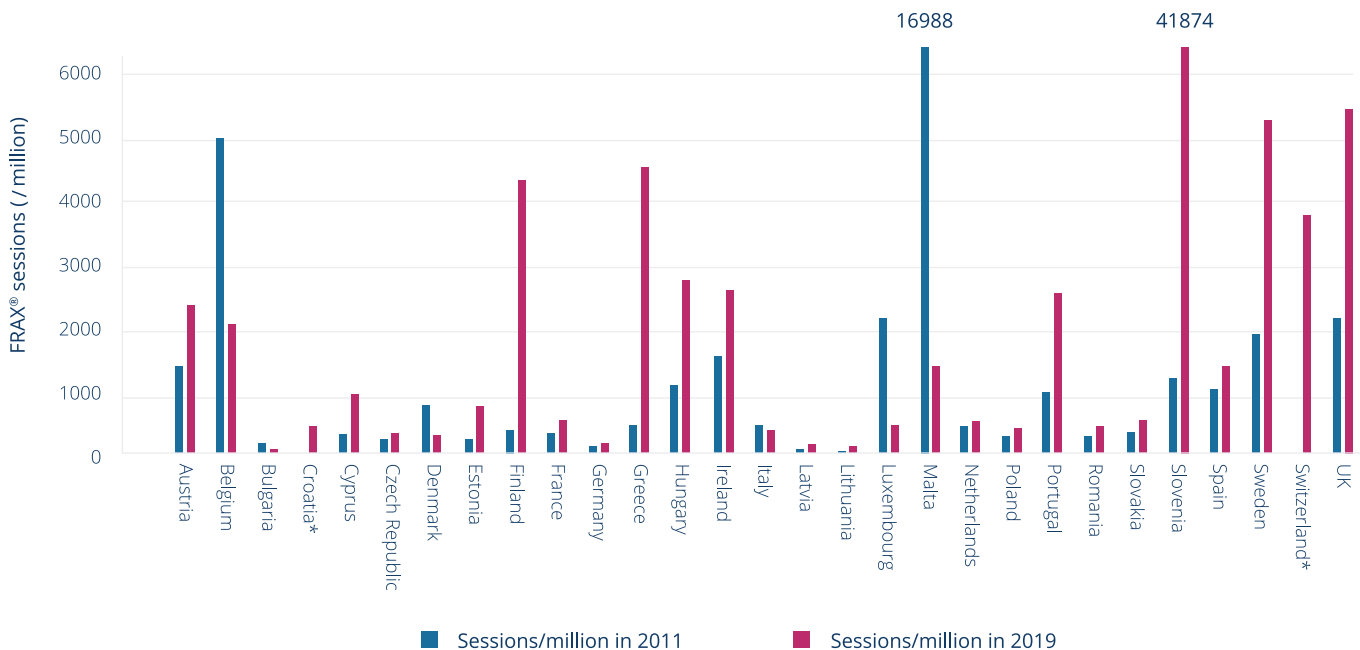
## Risk assessment, Treatment gap, Waiting time for hip surgery

### Uptake of risk assessment algorithms - FRAX®

As part of osteoporosis risk assessment, the use of risk evaluation tools adds value to the evaluation compared to the use of BMD alone. FRAX®, the most widely used tool globally, computes the 10-year probability of hip fracture or a major osteoporotic fracture, based on both country-specific epidemiological data of fractures and individual patient models that integrate the risks associated with clinical risk factors with or without BMD at the hip.

FRAX® is now a component of many national guidelines for the assessment of osteoporosis and European guidelines for postmenopausal osteoporosis and glucocorticoid-induced osteoporosis<sup>12,13</sup>.

Comparison of FRAX® uptake in the EU27+2 between 2010 and 2019<sup>2</sup>



\*no data available in Croatia and Switzerland in 2010

The average FRAX® uptake for the EU27+2 in 2019 was 1,555 sessions/million people in the general population. Country-specific models of FRAX® are available in most of the EU27+2 countries except Cyprus, Latvia, Luxembourg, and Slovenia.

# How many European women at high fracture risk receive treatment?



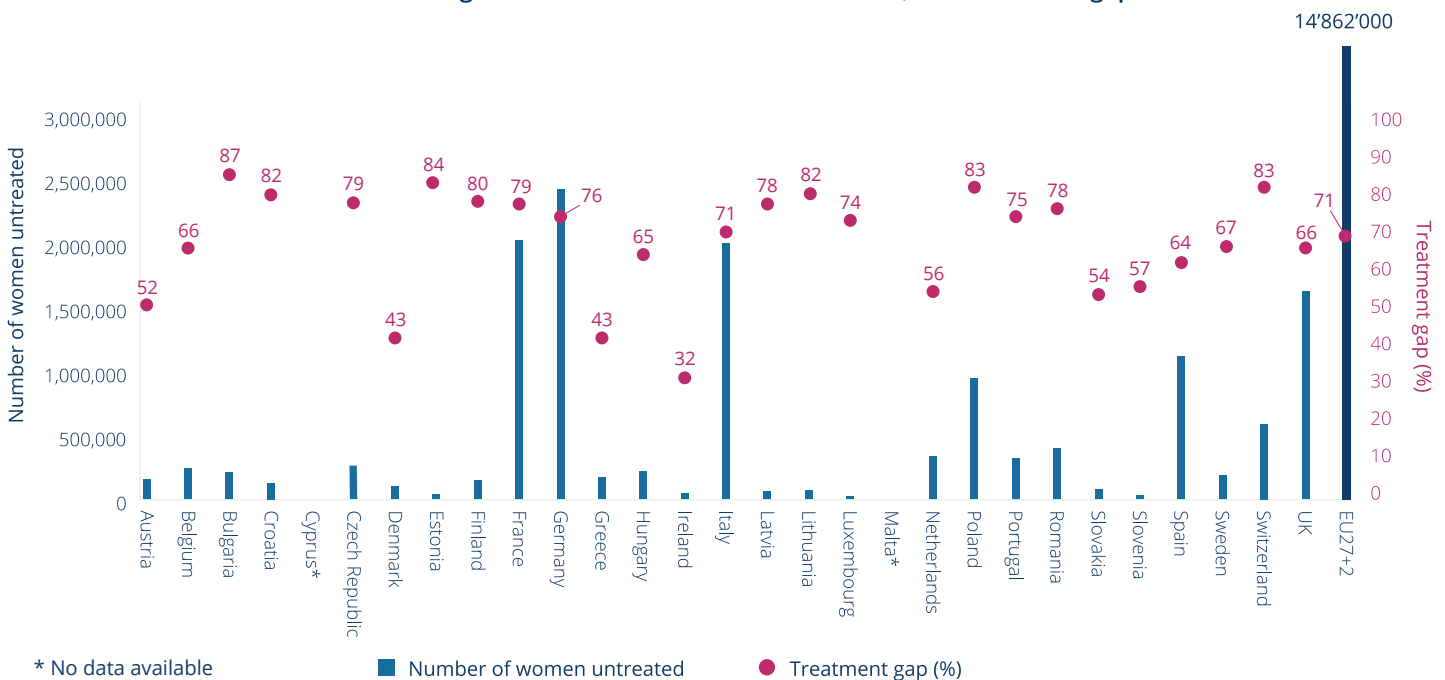
“  
 Today, I am scrupulous about taking my medicine - I must say that I have begun to live normally again and I have started to dance again - something that helps me to stay young.  
 ”

Santina, Italy

Many studies have shown that a significant proportion of men and women at high fracture risk do not receive therapy for osteoporosis<sup>14,15</sup>. National treatment guidelines are available in the majority of the surveyed European countries (26 of 29), and most recommend osteoporosis medications for women with a prior fragility fracture. For this reason, intervention thresholds which allow patients to be allocated to treatments are generally defined as the 10-year probability of a major fracture (e.g., FRAX® 10-year probabilities) that equals or exceeds that of a woman with a prior fragility fracture.

SCOPE 2021 defined as **the treatment gap** the rate of women who exceed the intervention threshold but do not receive treatment. On average, the treatment gap in the EU27+2 countries in 2019 was 71%, and 15 million women eligible for osteoporosis therapy remained untreated.

Number of women eligible for treatment who are untreated, and treatment gap in 2019<sup>2</sup>



Fracture Liaison Services (FLS) are an important way to significantly improve treatment uptake for secondary fracture prevention. A large recent study revealed that **treatment uptake following FLS implementation increased by 76%** within the first year after a major osteoporotic fracture in Swedish women<sup>16</sup>. In men, the uptake was more than doubled<sup>17</sup>.

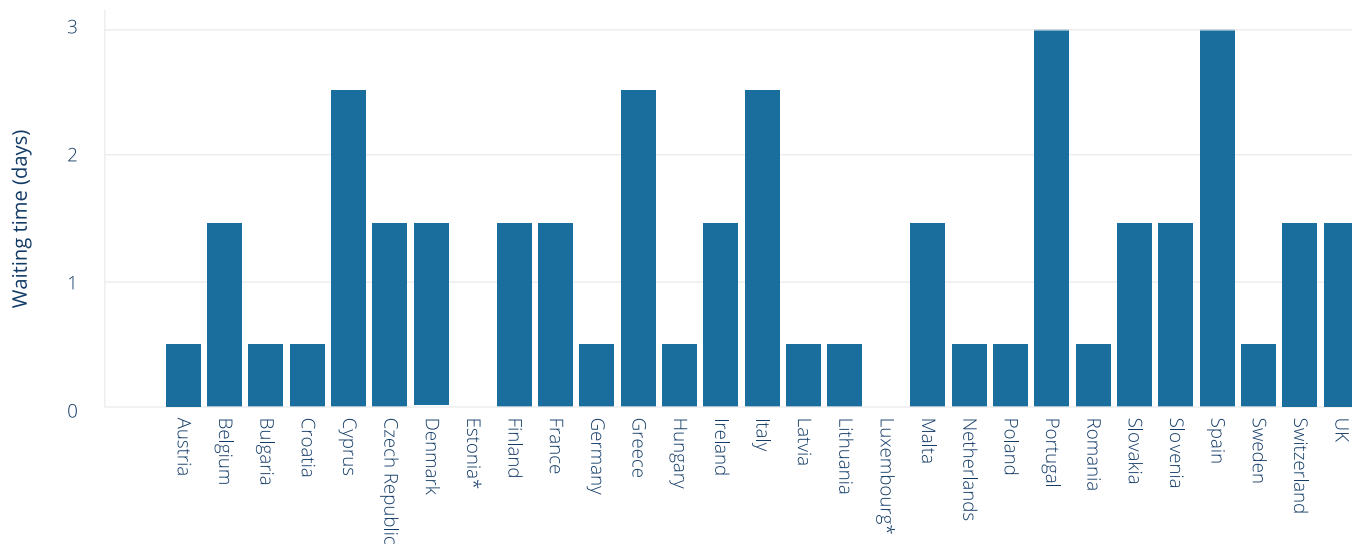
This points to the urgent need for widespread implementation of coordinated post-fracture care services in European hospitals.

## Waiting time for surgery after hip fracture

Approximately 5% of people with a hip fracture die within 1 month and about 25% within 12 months<sup>18</sup>.

**Early surgery (< 48 hours) 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<sup>19</sup>.

Average waiting times between hospital admission and surgical intervention (IOF audit, 2020)<sup>2</sup>



\*No data available

**In the majority of countries more than 90% of hip fracture patients receive surgery<sup>2</sup>.**

Exceptions included Bulgaria, Cyprus, Czech Republic, Hungary and Spain, where only 65-90% of hip fracture cases received a surgical intervention.



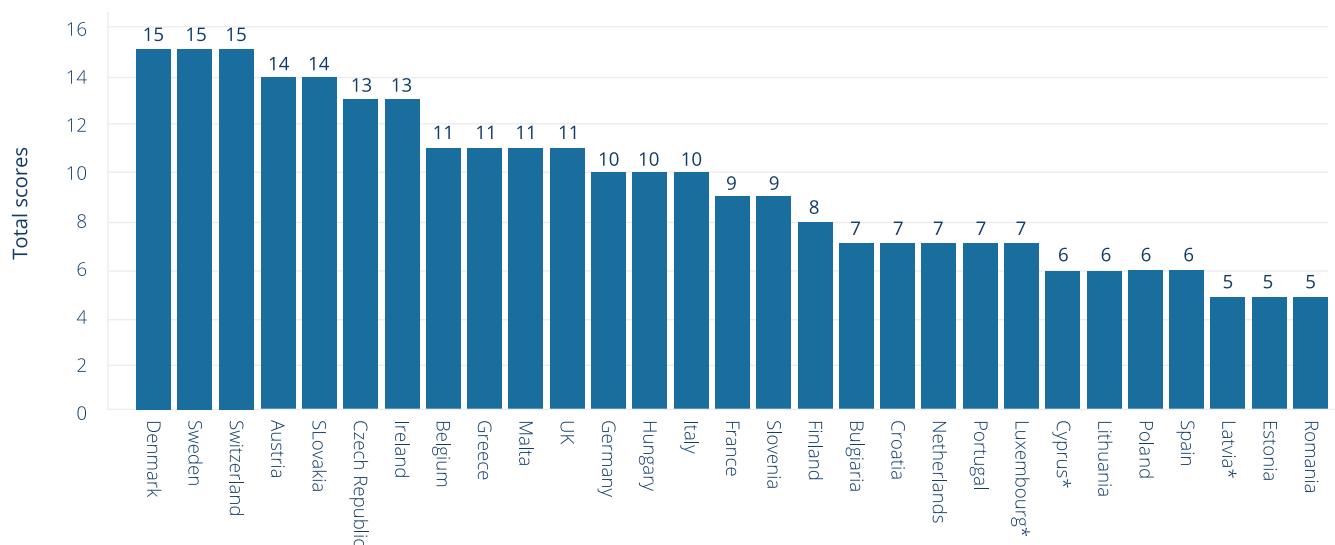
**Early surgery after hip fracture is associated with a significant reduction in mortality and an increase in the proportion of patients returning to their original residence.**

# SUMMARY OF SCORECARD

The second edition of the Scorecard for Osteoporosis in Europe (SCOPE 2021) allows health and policy professionals to **assess key indicators on the healthcare provision for osteoporosis** within countries and between countries in the EU27+2.



Total scores by country for metrics related to Burden of disease<sup>2</sup>



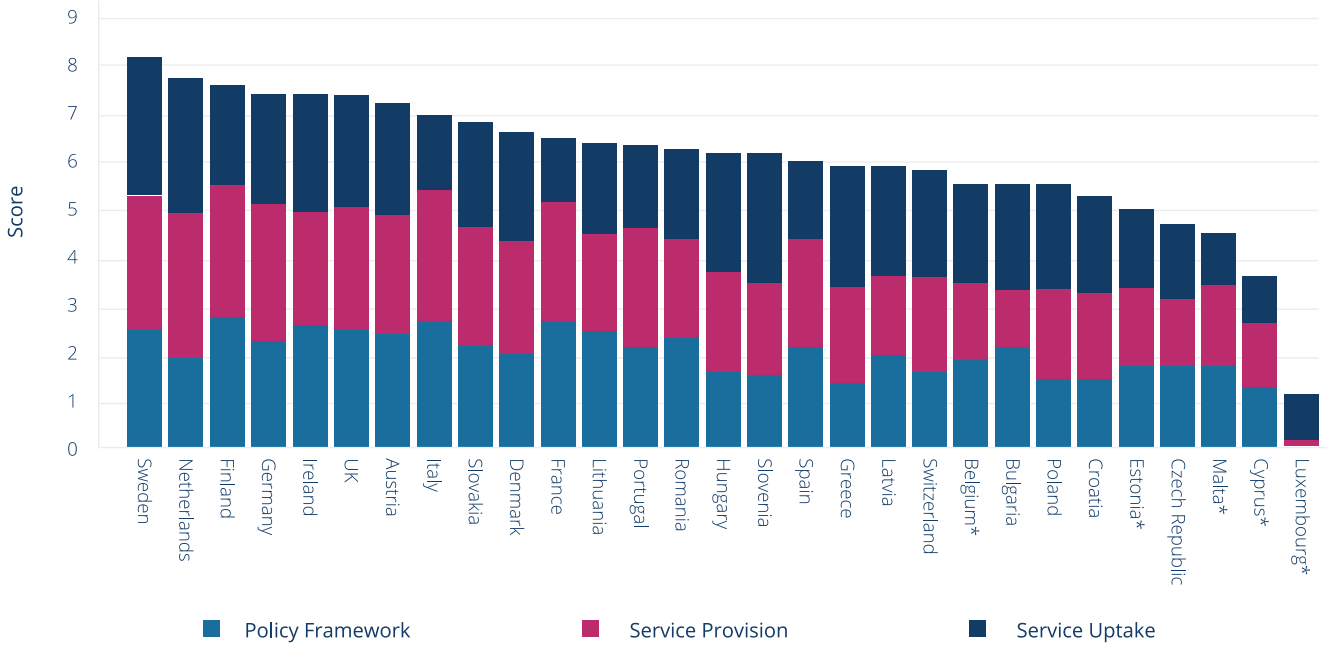
\*Scores for Luxembourg, Cyprus and Latvia are uncertain as there were gaps in the information base.

The above figure summarizes the Burden of Disease in the EU27+2 countries in 2019 in order of score rank. **The higher the score, the greater the burden.** Denmark, Sweden and Switzerland were countries with the highest osteoporosis burden.

The mean scores for each of the 3 domains (Policy framework, Service provision, Service uptake) regrouped under Healthcare provision are given in the next page.



The mean scores by country for metrics related to Healthcare provision<sup>2</sup>



\* There were one or more missing metrics which decreases the overall score.

## Comparison of the change in the scores for Healthcare provision between 2010 and 2019\*

### Countries with improvement



### Countries unchanged / with marginal change



### Countries with worse score



(The number) indicates the change in the scores between 2010 and 2019.

Croatia and Switzerland were not included in the 2010 SCOPE Report.

\* Luxembourg is not included because of the large amount of missing data.

\*\* There was missing data for one or more metrics.

# Scorecard for Osteoporosis in Europe

- UK
- Switzerland
- Sweden
- Spain
- Slovenia
- Slovakia
- Romania
- Portugal
- Poland
- Netherlands
- Malta
- Luxembourg
- Lithuania
- Latvia
- Italy
- Ireland
- Hungary
- Greece
- Germany
- France
- Finland
- Estonia
- Denmark
- Czech Republic
- Cyprus
- Croatia
- Bulgaria
- Belgium
- Austria

Burden of Disease		Description	Units	Score		
Hip Fracture Risk	The age-standardised incidence of hip fracture in women	rate/100,000	<400	400-500	>500	Unknown
Fracture Risk	All osteoporotic fractures in men and women in 2019	rate/1000 >50 years	<18	18-21	>21	Unknown
Lifetime Risk	Remaining lifetime risk of hip fracture (Women aged 50y)	%	<13	13-16	>16	Unknown
FRAX Risk	Men and women with a > 10% ten-year probability of a major fracture	% in 50-89 y age range	<22.5	22.5-27.5	>27.5	Unknown
Fracture Projections	Increase in fracture number 2019-2034	% >50 years	<25	25-30	>30	Unknown
Policy Framework						
Quality of Data	Hip fracture register	Score	3	2	1	Unknown
National Health Priority	The presence of government backed NHP	Score	3	2	1	Unknown
Care Pathway	Management in primary care	Score	3	2	1	Unknown
Specialist Training	Osteoporosis an established speciality	Score	3	2	1	Unknown
Society Support	Patient support societies	Score	3	2	1	Unknown
Service Provision						
Treatment	Reimbursement and problems that arise	Score	3	2	1	Unknown
Availability of DXA	Number of DXA units available	Units/million of the general population	>20	10-20	<10	Unknown
Access to DXA	Reimbursement and problems that arise	Score	3	2	1	Unknown
Risk Models	Availability of country-specific risk models and guidance	Score	3	2	1	Unknown
Guideline Quality	Quality and scope of guidelines for assessment and treatment	Score	9-10	7-8	<7	No Data
Liaison Service	Provision for fracture liaison services (FLS)	Hospitals with FLS (%)	>25	1-25	0	Unknown
Quality Indicators	Presence and use of quality indicators	Score	3	2	1	Unknown
Service Uptake						
FRAX Uptake	FRAX sessions	Units/million of the general population/year	>2000	500-2000	<500	Unknown
Treatment Gap	Proportion of women at high risk who are untreated	% >50y	<60	60-76	>76	Unknown
Δ Treatment Gap	Change from 2010	Score	3	2	1	Unknown
Waiting Time Hip Surgery	Average waiting time for hip surgery	days	<1	1-2	>2	Unknown

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.

# CALL TO ACTION FOR A EUROPE WITHOUT FRAGILITY FRACTURES

As shown in SCOPE 2021, the burden of osteoporotic fractures across Europe is both costly and projected to increase significantly. The findings show that much needs to be done to improve the prioritisation of osteoporosis and fracture prevention and care, as limited progress has occurred in the decade since the first SCOPE audit of 2010. Furthermore, as reflected so clearly in the comparative scorecard, there is great variation across Europe in terms of service provision and uptake. Most concerning is that eight of the 29 countries face a high disease burden yet are performing poorly in terms of service provision and uptake.

**The International Osteoporosis Foundation and its European national osteoporosis societies therefore call for a Europe-wide strategy and parallel national strategies to provide coordinated osteoporosis care and reduce debilitating fractures. The immense and projected burden on individual lives and national health care systems can only be addressed with urgent, targeted action.**

**We urge these evidence-based actions to ensure that all Europeans have access to the best diagnosis and treatment for osteoporosis and the prevention of osteoporotic-fractures:**

## POLICY FRAMEWORK

1. Ensure high quality information about the burden of disease through a national fracture registry, which includes hip fractures and clinical vertebral fractures.
2. Mandate osteoporosis as a government-backed National Health Priority with implementation of a national action plan.
3. Provide high-quality training in osteoporosis, including for primary care of osteoporosis patients, and ensure that osteoporosis is a recognized and established component of specialty training.
4. Support strong and effective patient organisations which can advocate on behalf of patients and work closely with medical and research associations.

## SERVICE PROVISION AND UPTAKE

5. Provide reimbursement for approved treatments to ensure accessibility for all those at high risk of fractures.
6. Establish adequate provision of DXA services throughout the country, and ensure that these services are accessible, without barriers to reimbursement.
7. Ensure that guidance on the use of risk assessment tools is included within national guidelines and is routinely used by clinicians.
8. Ensure that high-quality management guidelines for osteoporosis in women, men and for secondary osteoporosis are available, and widely used in clinical practice.
9. Widely implement Fracture Liaison Services for the routine assessment and management of all individuals who have sustained a low trauma fracture.
10. Implement systems to measure and audit the quality of care provided to people with osteoporosis and associated fractures.

Through the implementation of the actions listed above, European countries can prioritise osteoporosis and fracture prevention and reduce the high treatment gap which is leaving almost 15 million European women unprotected against costly and debilitating osteoporosis-related fractures.

## Closing statements



Osteoporosis is a major concern in Europe as it results in 4.3 million fragility fractures and health care costs in excess of €56 billion annually. Seeking to prioritise osteoporosis prevention in the EU27+2 countries, the SCOPE 2021 report has tracked key indicators of burden and service uptake which will help Europeans measure how well their country is able to provide quality care, including access to risk assessment and medications. It also provides a new benchmark to follow trends in osteoporosis management, and to measure future progress.

**Professor John A. Kanis**

IOF Honorary President and Lead Author of SCOPE

SCOPE 2021 clearly shows that osteoporosis is a major health care burden in Europe, resulting in enormous, and growing, costs to national health care systems. As well as revealing wide discrepancies in service provision and uptake within the EU, SCOPE has exposed an unacceptable treatment gap and poor provision of post-fracture care programs to prevent secondary fractures. IOF joins national osteoporosis societies in Europe in calling for a Europe-wide strategy and parallel national strategies to provide coordinated osteoporosis care and to reduce debilitating fractures and their impact on individual lives and health care systems.

Given the projected increase in fracture burden, urgent action must be taken.

**Professor Cyrus Cooper**

President of IOF



# ACKNOWLEDGEMENTS

## SCOPE 2021 Steering Committee

**Professor John A. Kanis**, WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, UK, Mary Mckillop Institute for Health Research, Australian Catholic University, Australia

**Professor Nicholas C. Harvey**, MRC Lifecourse Epidemiology Centre, University of Southampton, UK

**Professor Eugene V. McCloskey**, Department of Oncology and Metabolism, University of Sheffield, UK

**Dr Fredrik Borgström**, Medical Management Centre, Department of Learning, Informatics, Management and Ethics (LIME), Karolinska Institutet; Quantify Research, Sweden

## SCOPE 2021 Authors

**Professor John A. Kanis**, WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, UK, Mary Mckillop Institute for Health Research, Australian Catholic University, Australia

**Nicholas Norton**, Quantify Research, Sweden

**Professor Nicholas C. Harvey**, MRC Lifecourse Epidemiology Centre, University of Southampton, UK

**Trolle Jacobson**, Quantify Research, Sweden

**Dr Helena Johansson**, Mary Mckillop Institute for Health Research, Australian Catholic University, Australia, WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, UK

**Professor Mattias Lorentzon**, Institute of Medicine, Gothenburg University, Sweden, Mary Mckillop Institute for Health Research, Australian Catholic University, Australia

**Professor Eugene V. McCloskey**, Department of Oncology and Metabolism, University of Sheffield, UK

**Carl Willers**, Quantify Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Sweden

**Dr Fredrik Borgström**, Medical Management Centre, Department of Learning, Informatics, Management and Ethics (LIME), Karolinska Institutet; Quantify Research, Sweden

## SCOPE corresponding National Societies of the IOF

### Austria

• Austrian Society for Bone and Mineral Research  
<https://www.oegkm.at>

### Belgium

• Royal Belgian Society of Physical Medicine and Rehabilitation  
<https://www.prmbelgium.org/>  
• Belgian Bone Club  
<http://www.bbcbonehealth.org/>

### Bulgaria

• Bulgarian Society for Clinical Densitometry  
• Bulgarian League for the Prevention of Osteoporosis  
• Bulgarian Medical Society of Osteoporosis and Osteoarthritis

## **Croatia**

- Croatian League Against Rheumatism

## **Cyprus**

- Cyprus Society Against Osteoporosis and Musculoskeletal Diseases

## **Czech Republic**

- Czech Society for Metabolic Bone Diseases  
<https://smos.cz/>

## **Denmark**

- Danish Bone Society  
<https://www.danskknogleselskab.dk/>

## **Finland**

- Finnish Osteoporosis Association  
<https://www.suomenosteoporoosiyhdistys.fi/>

## **France**

- Research and Information Group on Osteoporosis  
<http://www.grio.org/>
- Société Française de Rhumatologie  
<https://sfr.larhumatologie.fr/>
- Association Française de Lutte Anti-Rhumatismale  
<https://www.aflar.org/>

## **Germany**

- Bundesselbsthilfeverband für Osteoporose  
<https://www.osteoporose-deutschland.de/>
- German Society for Endocrinology  
<https://www.endokrinologie.net/>
- Umbrella Organization of German Scientific Societies of Osteology - Dachverband Deutschsprachiger Wissenschaftlicher Gesellschaften für Osteologie (DVO)  
<http://www.dv-osteologie.org/>

## **Greece**

- Hellenic Osteoporosis Foundation  
<https://www.heliost.gr/en/>
- Hellenic Society for the Study of Bone Metabolism  
<http://www.eemmo.gr/en/english-version/>
- Butterfly – Bone Health Society  
<http://www.eemmo.gr/>

## **Hungary**

- Hungarian Society for Osteoporosis and Osteoarthritis  
<http://www.moot.hu/>

## **Ireland**

- Irish Osteoporosis Society  
<https://www.irishosteoporosis.ie/>

## **Italy**

- Societa Italiana dell'Osteoporosi del Metabolismo Minerale e delle Malattie dello Scheletro  
<https://www.siommmms.it/>
- Italian Federation of Osteoporosis and Diseases of the Skeleton  
<https://www.fedios.org/>
- Fondazione Italiana Ricerca Malattie Dell'osso  
<http://www.fondazionefirmo.com/>

## **Latvia**

- Latvian Osteoporosis and Bone Metabolic Diseases Association  
<http://osteoporozesasociacija.lv/>

## **Lithuania**

- Lithuanian Osteoporosis Foundation

## **Malta**

- Malta Osteoporosis Society

## **Netherlands**

- Osteoporosis Vereniging  
<https://osteoporosevereniging.nl/>
- National Association ReumaZorg Nederland  
<https://reumazorgnederland.nl/>

## **Poland**

- Polish Osteoarthrology Society  
<http://www.osteoporoza.pl/>
- Polish Foundation of Osteoporosis  
<http://www.pfo.com.pl/>

## **Portugal**

- Portuguese Society of Osteoporosis and Metabolic Bone Diseases  
<https://www.spodom.pt/>

## **Romania**

- Association for Prevention of Osteoporosis in Romania  
<https://www.aspor.ro/>

## **Slovakia**

- Slovak Society for Osteoporosis and Metabolic Bone Diseases  
<http://www.osteoporoza.sk/>
- Slovak Union against Osteoporosis  
<http://www.osteoporoza.sk/>

## **Slovenia**

- Slovene Bone Society

## **Spain**

- Hispanic Foundation of Osteoporosis and Metabolic Bone Diseases  
<https://fhoemo.com/>
- Spanish Society for Research on Bone and Mineral Metabolism  
<https://seiommm.org/>

## **Sweden**

- Swedish Osteoporosis Society  
<https://www.svos.se/>

## **Switzerland**

- Swiss Association against Osteoporosis  
<http://www.svggo.ch/>

## **United Kingdom**

- Bone Research Society  
<https://boneresearchsociety.org/>
- Royal Osteoporosis Society  
<https://theros.org.uk/>

## **SCOPE corresponding National Societies**

### **Bulgaria**

- Bulgarian Society of Endocrinology  
<https://endo-bg.com/en/>

### **Estonia**

- Estonian Orthopaedic Society  
<https://www.ortopedia.ee/en/estonian-orthopaedic-society>



# REFERENCES

1. International Osteoporosis Foundation (IOF). *Broken Bones, Broken Lives: The fragility fracture crisis in six European countries, 2020* [https://www.osteoporosis.foundation/sites/iofbonehealth/files/2019-06/1.%202018\\_EU6\\_Report\\_BrokenBonesBrokenLives\\_English.pdf](https://www.osteoporosis.foundation/sites/iofbonehealth/files/2019-06/1.%202018_EU6_Report_BrokenBonesBrokenLives_English.pdf) Last accessed July 2021
2. Kanis JA, et al., *SCOPE 2021: a new scorecard for osteoporosis in Europe*, Arch Osteoporos, 2021, 16(1):82
3. Hernlund E, et al., *Osteoporosis in the European Union: medical management, epidemiology and economic burden*. A report prepared in collaboration with the International Osteoporosis Foundation (IOF) and the European Federation of Pharmaceutical Industry Associations (EFPIA). Arch Osteoporos, 2013, 8:136
4. Kanis JA, et al., *SCOPE: a scorecard for osteoporosis in Europe*. Arch Osteoporos, 2013, 8:144
5. Johnell O, et al., *Mortality after osteoporotic fractures.*, Osteoporos Int, 2004, 15:38–42
6. Kanis JA, et al., *Excess mortality after hospitalisation for vertebral fracture*. Osteoporos Int, 2004, 15:108–112
7. Kanis JA, et al., *The components of excess mortality after hip fracture*. Bone, 2003, 32:468–473
8. Borgstrom F, et al., *Fragility fractures in Europe: burden, management and opportunities*. Arch Osteoporos, 2020,15:59
9. International Osteoporosis Foundation (2012) *Capture the Fracture Report, 2012*. Available at: [https://www.osteoporosis.foundation/sites/iofbonehealth/files/2019-06/2012\\_CaptureTheFracture\\_ThematicReport\\_English.pdf](https://www.osteoporosis.foundation/sites/iofbonehealth/files/2019-06/2012_CaptureTheFracture_ThematicReport_English.pdf) . Last accessed July 2021
10. Åkesson K, et al., *Capture the Fracture: a Best Practice Framework and global campaign to break the fragility fracture cycle*. Osteoporos Int, 2013. 24(8): p.2135-52
11. Javaid MK, et al., *Effective secondary fracture prevention: implementation of a global benchmarking of clinical quality using the IOF Capture the Fracture® Best Practice Framework tool*. Osteoporos Int, 2015, 26:2573–2578
12. Kanis JA, Cooper C, Rizzoli R, Reginster JY, On behalf of the Scientific Advisory Board of the European Society for Clinical and Economic Aspects of Osteoporosis (ESCEO) and the Committees of Scientific Advisors and National Societies of the International Osteoporosis Foundation (IOF), *European guidance for the diagnosis and management of osteoporosis in postmenopausal women*. Osteoporos Int, 2019, 30:3–44
13. Lekamwasam S, et al., *A framework for the development of guidelines for the management of glucocorticoid-induced osteoporosis*. Osteoporos Int, 2012, 23:2257–2276
14. Borgström F, et al., *Fragility fractures in Europe: burden, management and opportunities*. Arch Osteoporos, 2020, 15:59.
15. Harvey NC, et al., *Mind the (treatment) gap: a global perspective on current and future strategies for prevention of*

*fragility fractures*. *Osteoporos Int*, 2017, 28:1507–1529

**16.** Axelsson KF, et al., *Association Between Recurrent Fracture Risk and Implementation of Fracture Liaison Services in Four Swedish Hospitals: A Cohort Study*. *J Bone Miner Res*, 2020, 35:1216–1223

**17.** Axelsson KFL, M. *Personal communication*. Received by Kanis JA, 2020

**18.** Kanis JA, et al., *The components of excess mortality after hip fracture*. *Bone* 2003, 32:468–473

**19.** National Clinical Guideline Centre (2011) *The Management of Hip Fracture in Adults*. London.  
<https://www.nice.org.uk/guidance/cg124/evidence/full-guideline-183081997>. Last accessed September 2021

*The development of this report has been supported by an unrestricted grant from Amgen.*





**Our vision is a world without fragility fractures  
in which healthy mobility is a reality for all.**

- f** [facebook.com/iofbonehealth/](https://facebook.com/iofbonehealth/)
- t** [twitter.com/iofbonehealth/](https://twitter.com/iofbonehealth/)
- in** [linkedin.com/international-osteoporosis-foundation/](https://linkedin.com/international-osteoporosis-foundation/)
- ig** [instagram.com/worldosteoporosisday/](https://instagram.com/worldosteoporosisday/)
- y** [youtube.com/iofbonehealth/](https://youtube.com/iofbonehealth/)
- p** [pinterest.com/iofbonehealth/](https://pinterest.com/iofbonehealth/)

©2021 International Osteoporosis Foundation

9 rue Juste-Olivier • CH-1260 Nyon • Switzerland  
T +41 22 994 01 00 • [info@osteoporosis.foundation](mailto:info@osteoporosis.foundation)

[www.osteoporosis.foundation](http://www.osteoporosis.foundation)

