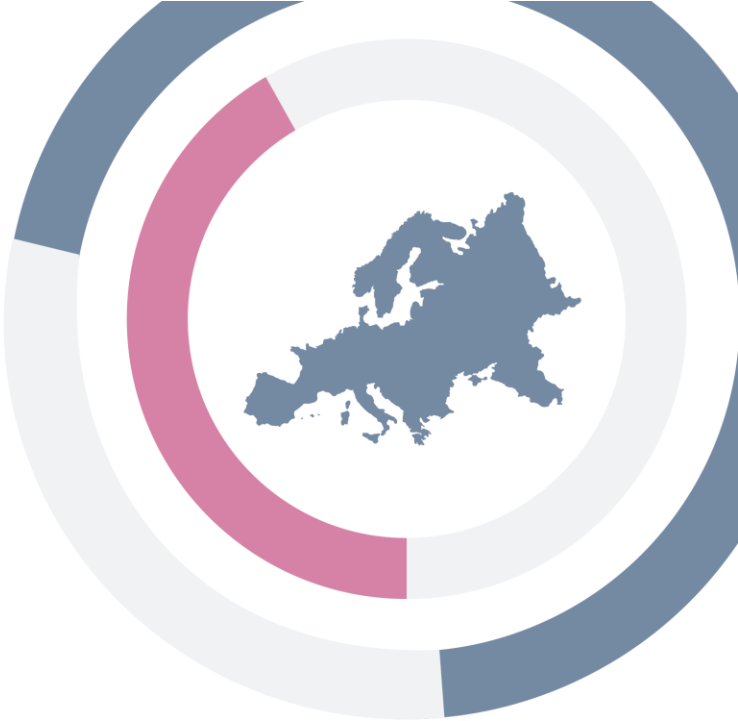
SCOPE '21
ScoreCard for OsteoPorosis in Europe

IOF
International Osteoporosis Foundation

SCOPE 2021

A New Scorecard for **Osteoporosis In Europe**



Why should you be concerned about osteoporosis?

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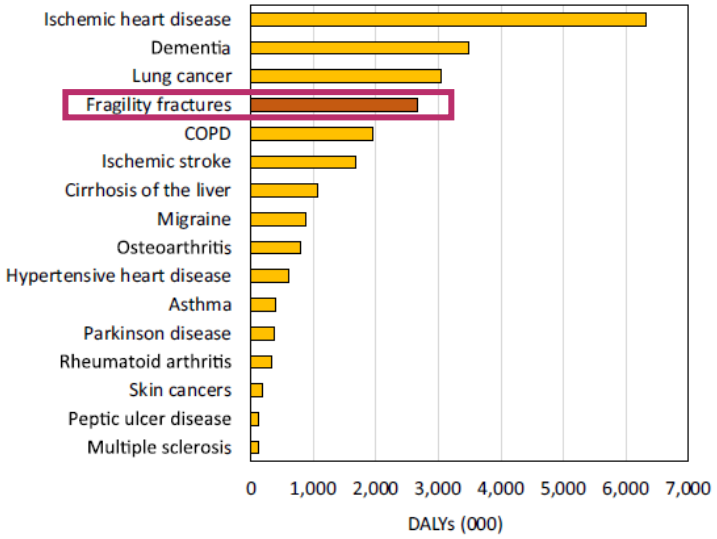
Why should we be concerned about osteoporosis?

Common cause of disability, loss of independence and early death

Disability burden expressed in DALYs* greater than many other common diseases[1]



DALYs by disease in 6 European countries in 17 selected non-communicable diseases (IOF 2018)

*DALYs: Disability Adjusted Life Years

Hip fractures are life-threatening and result in loss of function & independence

In the first year after hip fracture:

- **40% unable to walk** independently[1]
- **80% restricted** in other activities[1] (driving, shopping..)
- **Mortality up to 20%** in Europe[2]

1. Broken bones, broken lives: the fragility fracture crisis in six European countries. IOF 2018
2. Keene GS, Parker MJ, Pryor GA (1993) Mortality and morbidity after hip fractures. Bmj 307:1248-1250

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Increasing fragility fracture incidence with the ageing of Europe's population

Number of adults aged +75 years expected to increase between 2019-2034

+42.6%
MEN AGED 75+

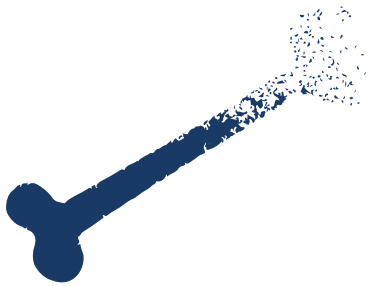
+29.6%
WOMEN AGED 75+

Annual number of fractures

+24.8%

2034
5.34
MILLION

2019
4.28
MILLION



Kanis et al., Archives Osteoporos 2021

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Europe is facing a fragility fracture crisis

SCOPE 2021 reveals

Enormous burden

of osteoporosis and fragility fractures

Gaps and inequalities

in service provision and uptake

allows comparisons between countries, as well as benchmarking against the first SCOPE report, which reflected data from 2010

The International Osteoporosis Foundation and its member societies call for strategies both at 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

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A new ScoreCard for OsteoPorosis in Europe (SCOPE)

Summarising key indicators of the burden of osteoporosis and its management in the **27 members states of the European Union (EU27) + Switzerland and the UK (termed as the EU27+2)**

4 Domains Covered

Burden of Disease

Policy Framework

Service Provision

Service Uptake

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Burden of Disease

The burden of osteoporosis, **fractures and forecasts for the future**

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Europe is facing a fragility fracture crisis

Costs in the EU27+2 in 2019

Direct cost of incident fractures: **€36.3 billion**

Ongoing cost resulting from fractures that occurred before 2019 (Long-term disability costs): **€19.0 billion**

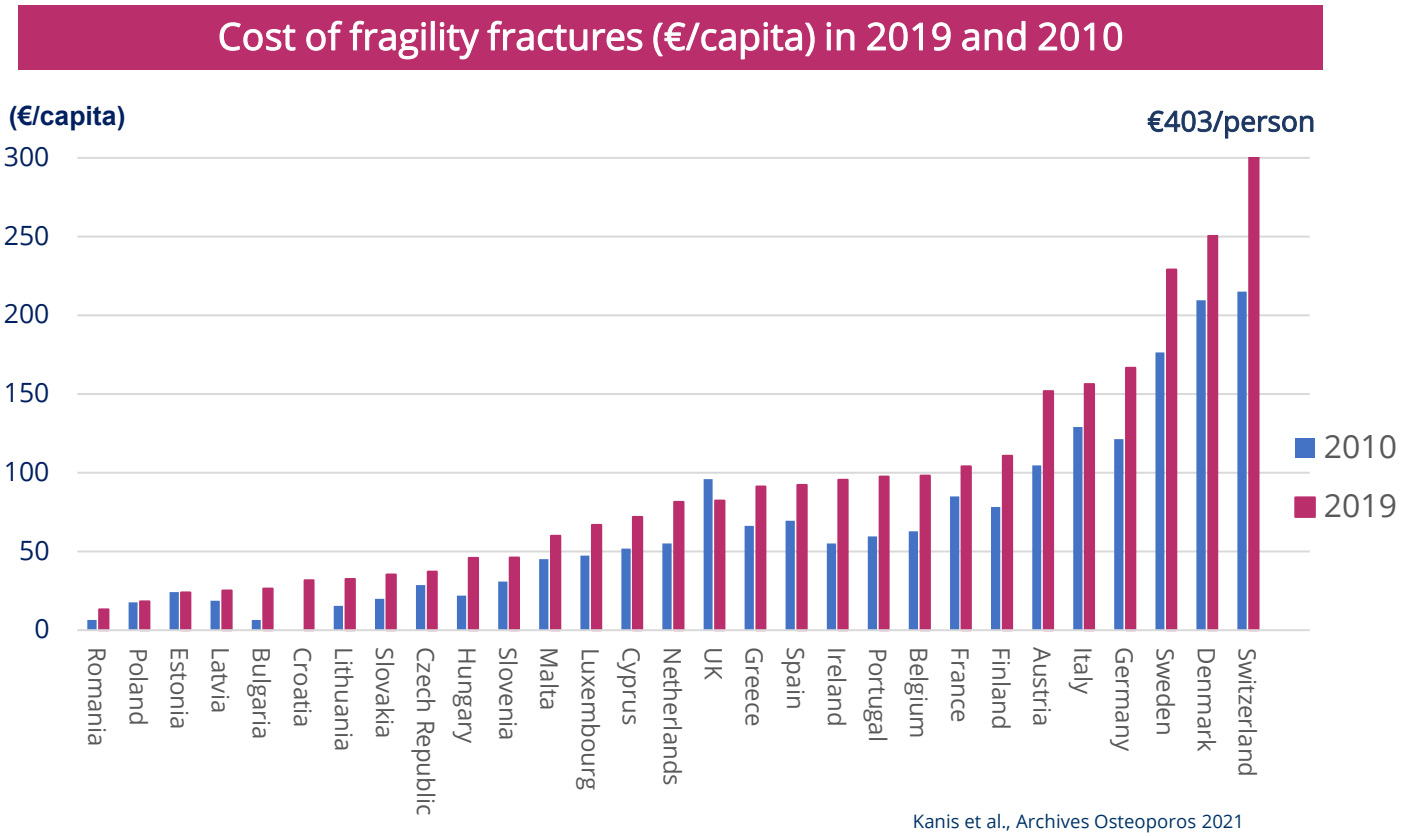
Cost of pharmacological intervention (assessment & treatment): **€1.6 billion**

Total direct cost: €56.9 billion (excluding value of QALYs* lost)

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

Kanis et al., Archives Osteoporos 2021

Increasing direct costs of osteoporotic fractures for each individual

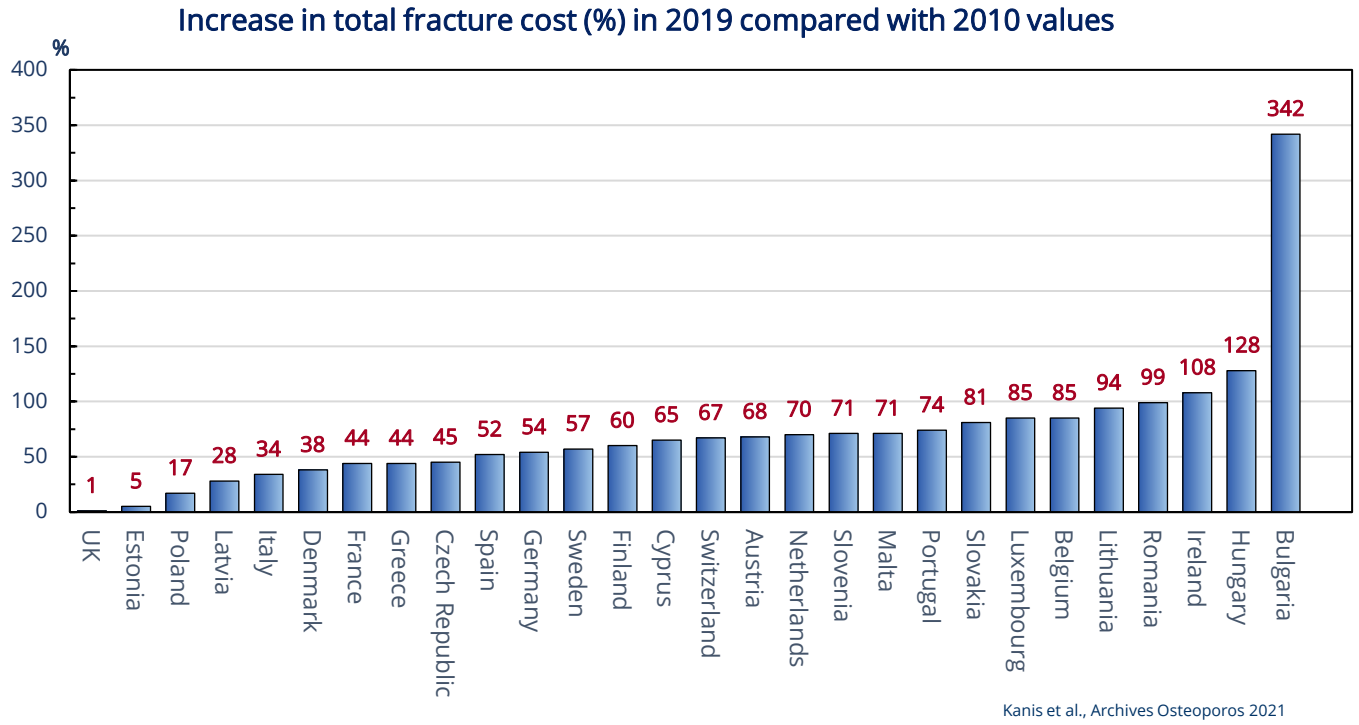


Kanis et al., Archives Osteoporos 2021

Average cost change between 2010 and 2019 in the EU27+2

€85.77/person (in 2010) → **€109.12**/person (in 2019)

Increase in total fracture cost (%) between 2010-2019



Kanis et al., Archives Osteoporos 2021

Largest absolute increases in total cost associated with the larger populations

France
+€2,1 billion

Italy
+€2,4 billion

Germany
+€4,8 billion

Individuals with Osteoporosis in the EU27+2

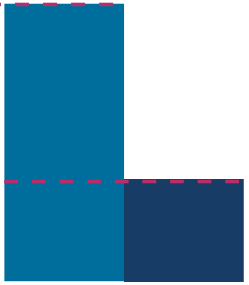
4 times as many women with osteoporosis as men

32 MILLION

with Osteoporosis
In 2019

25.5 MILLION WOMEN

6.5 MILLION MEN



Kanis et al., Archives Osteoporos 2021

Prevalence of osteoporosis[1]

aged 50+

22.1%

aged 50+

6.6%

Total European population

5.6%

1. Hernlund E, Svedbom A, Ivergard M, Compston J, Cooper C, Stenmark J, McCloskey EV, Jonsson B, Kanis JA (2013) 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 8:136

New fragility fractures in the EU27+2

Twice as many fractures occurred in women compared to men

Hip fractures

- 600,000 women
- 220,000 men
- **19%** of all fractures

Vertebral

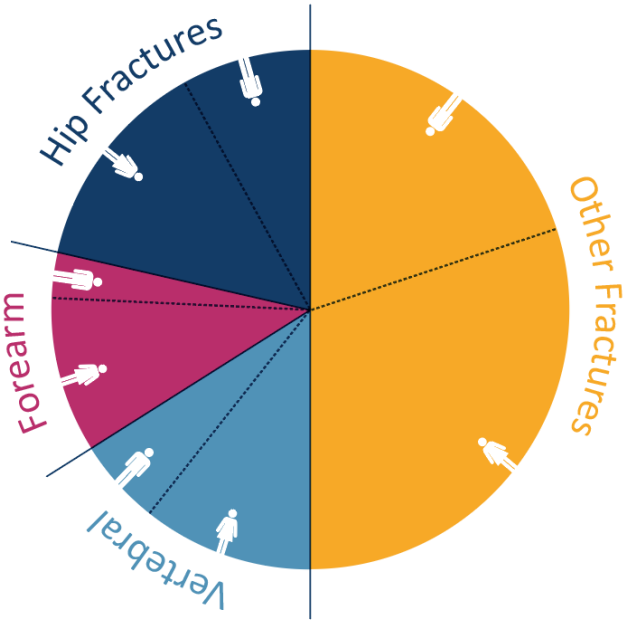
- 430,000 women
- 230,000 men
- **16%** of all fractures

Forearm

- 530,000 women
- 110,000 men
- **15%** of all fractures

Other fractures

- 1,300,000 women
- 860,000 men
- **50%** of all fractures



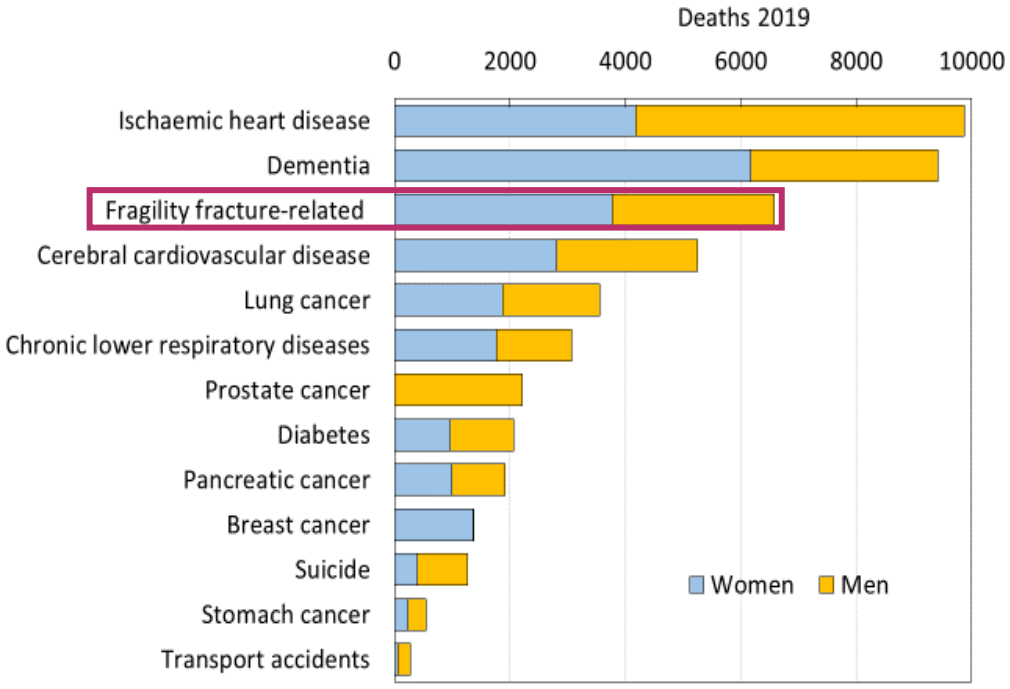
4.3 million new fragility fractures in 2019

Kanis et al., Archives Osteoporos 2021

Osteoporotic fractures are associated with premature mortality

Fragility fracture is the 3rd most common cause of death

Comparison between number of deaths and relevant causes in 2019 (Sweden)

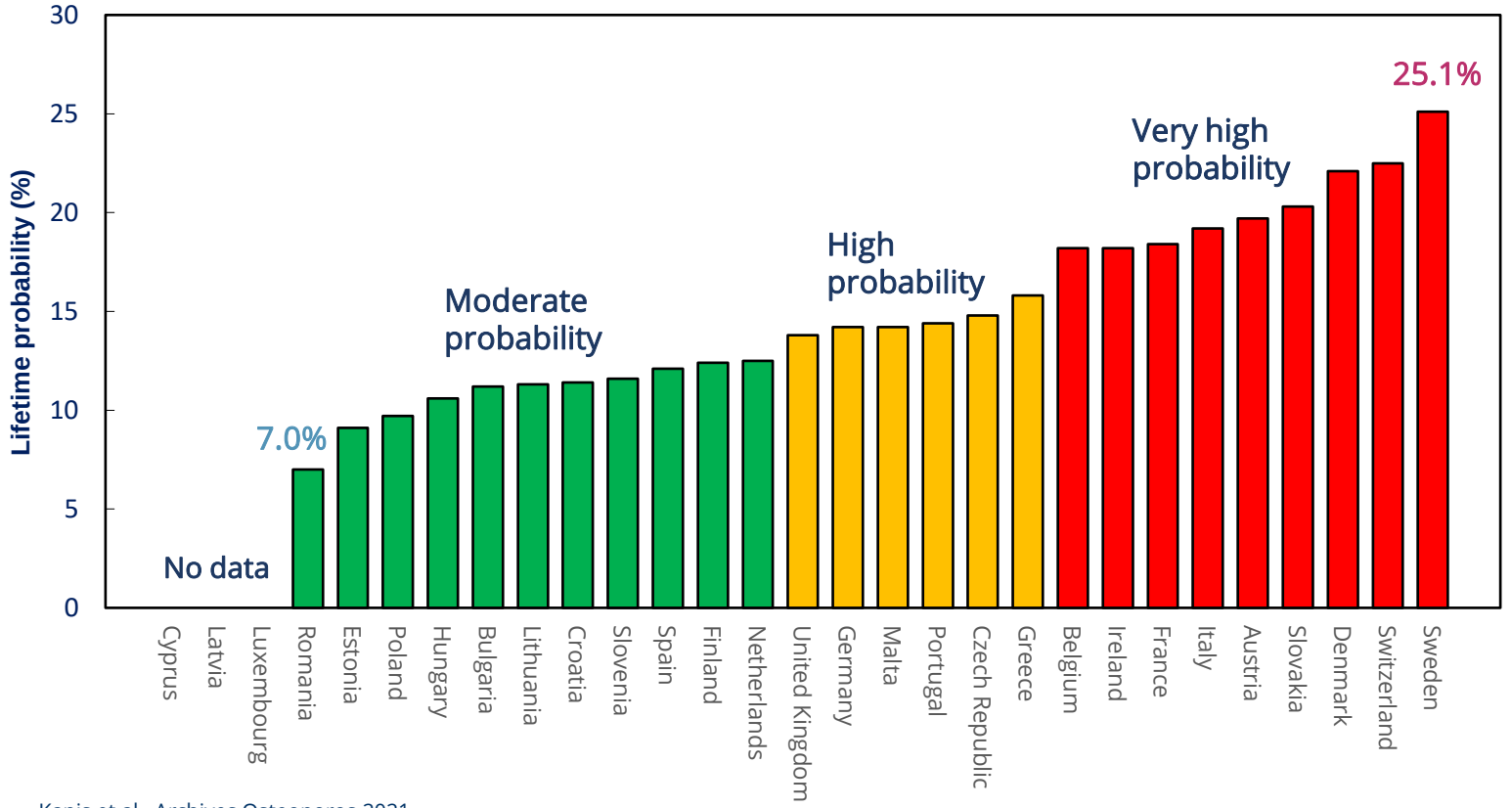


Kanis et al., Archives Osteoporos 2021

EU27+2 ➡ **248,487 fractures** related to deaths in 2019

Lifetime probability of hip fracture in women varies markedly by country

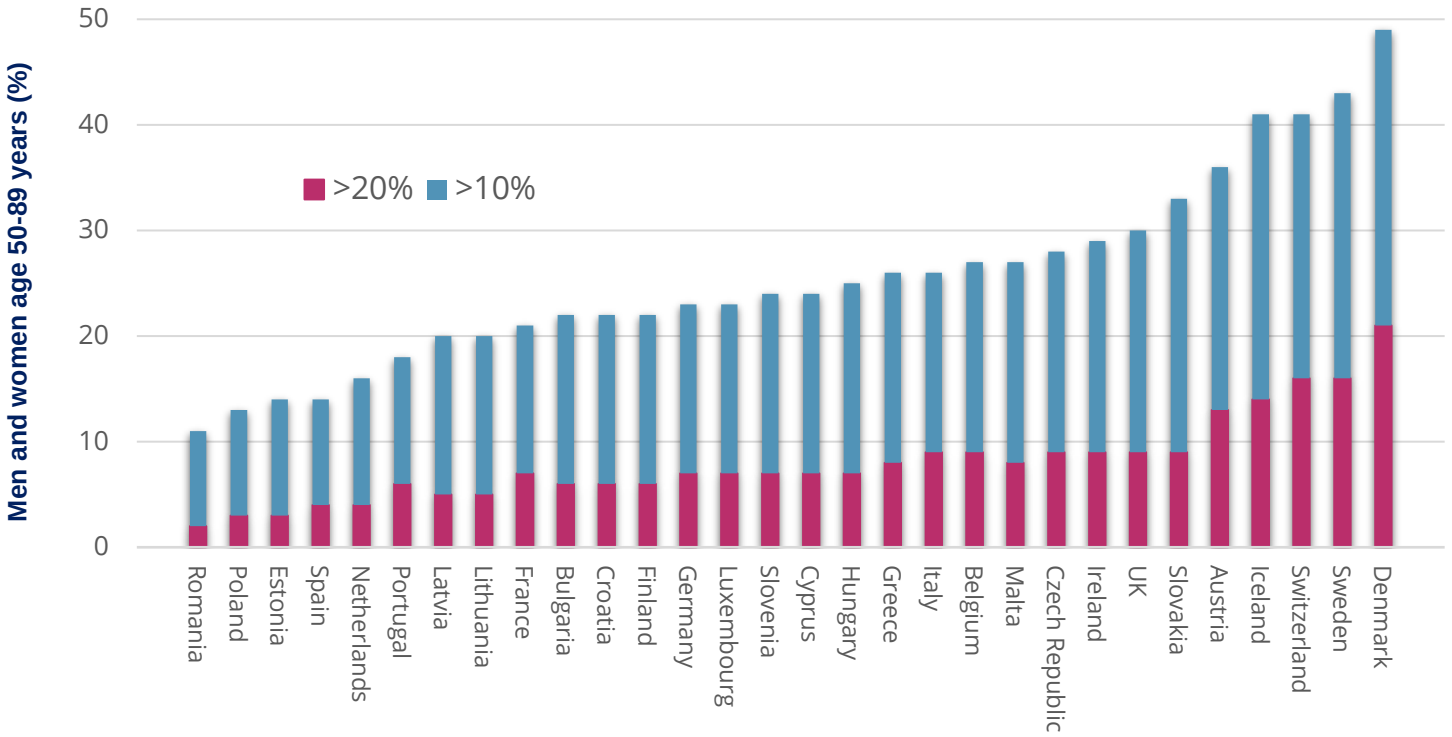
Remaining lifetime probability of hip fracture (%) in women in the EU27+2 from the age of 50 years



Kanis et al., Archives Osteoporos 2021

FRAX® Risk : 10-year probability of a major osteoporotic fracture

Proportion of men and women (%) aged 50-89 years with a 10-year probability of a major fracture



Kanis et al., Archives Osteoporos 2021

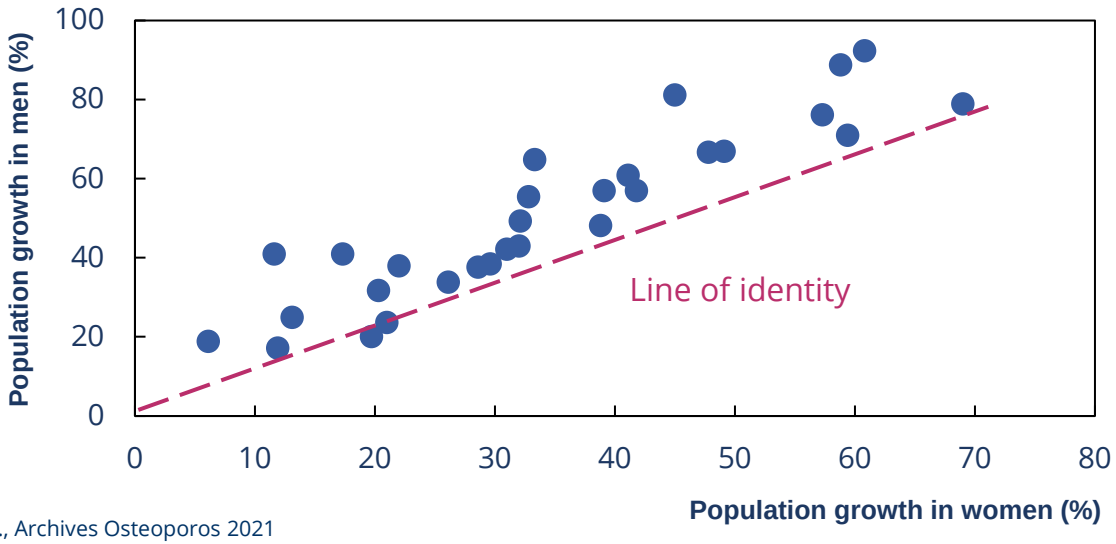
- **23.8 million Europeans are at high risk** of major fracture
- **14.8 million are at very high risk** of major fracture

Population projections: increased markedly in the aged population by 2034

Estimated increase in population aged ≥75 years between 2019-2034

42.6% in men

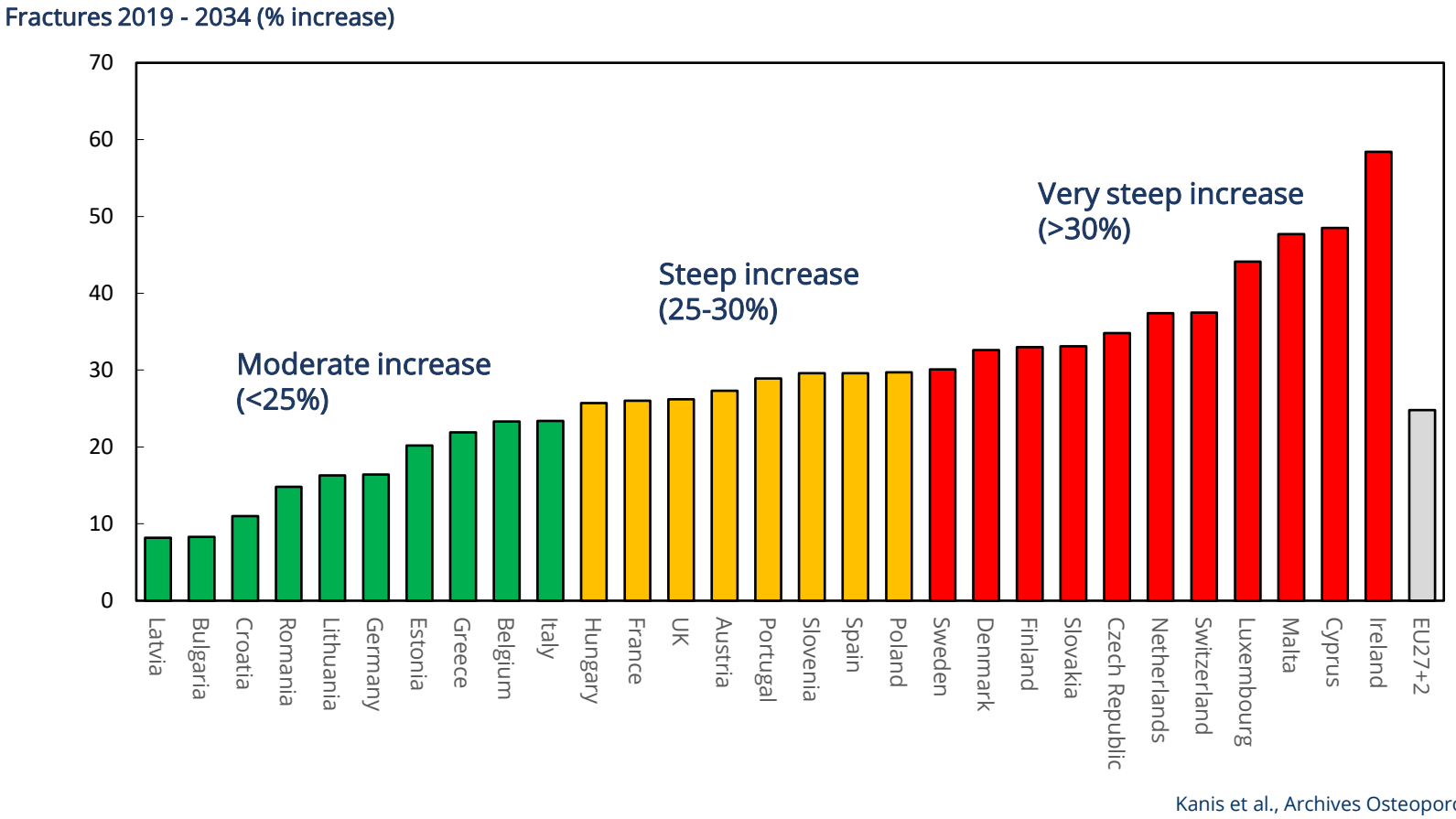
29.6% in women



Kanis et al., Archives Osteoporos 2021

The increase in men aged ≥75 years is more significant than that in women in all EU27+2 countries

Increase in the annual number of fragility fractures by 2034



Kanis et al., Archives Osteoporos 2021

In 2034, 5.34 million individuals will be affected by osteoporotic fractures in the EU 27+2
→ increase of 1.06 million (+24.8%) from 2019

Policy Framework

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

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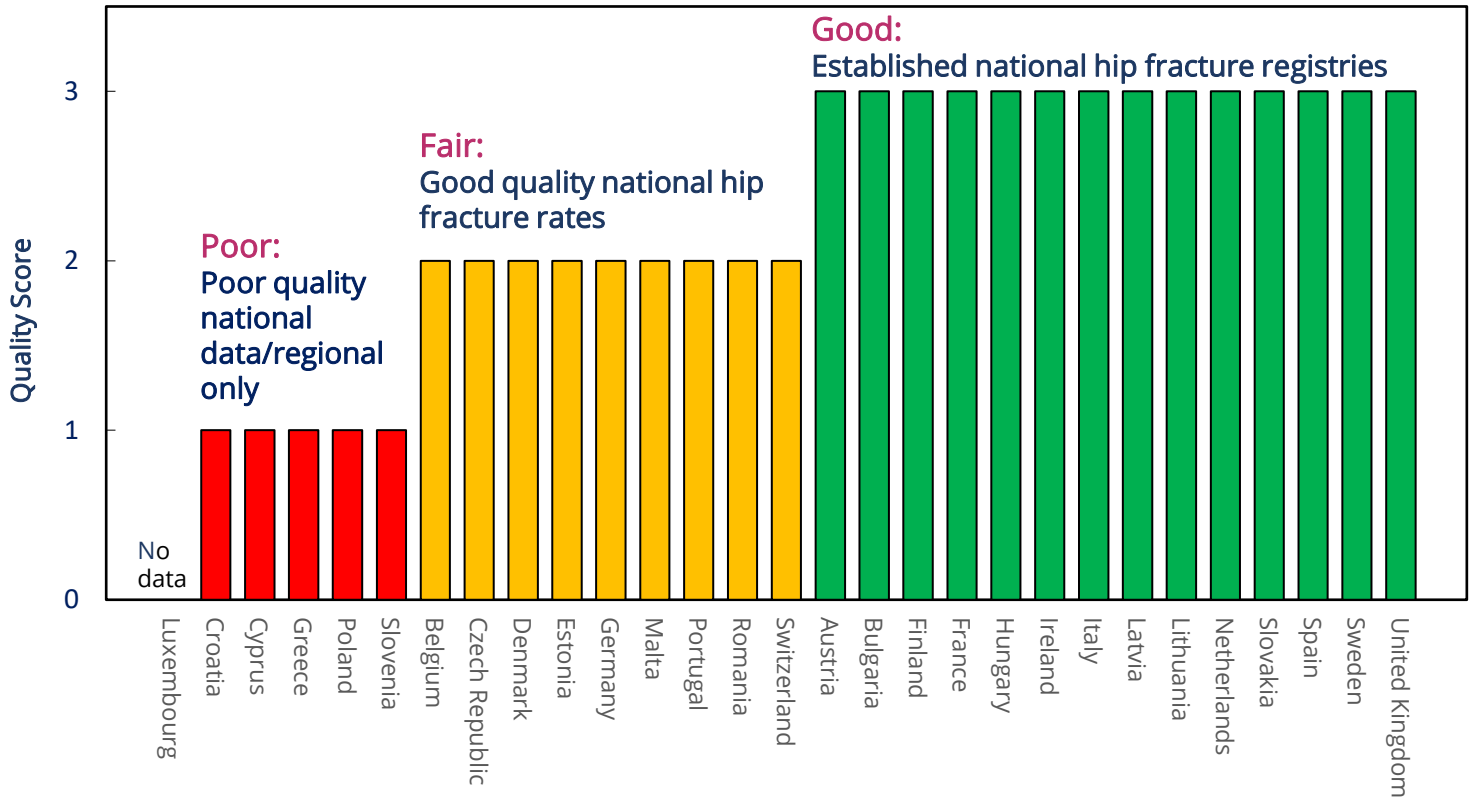
Quality of information on the epidemiology of hip fractures in the EU27+2

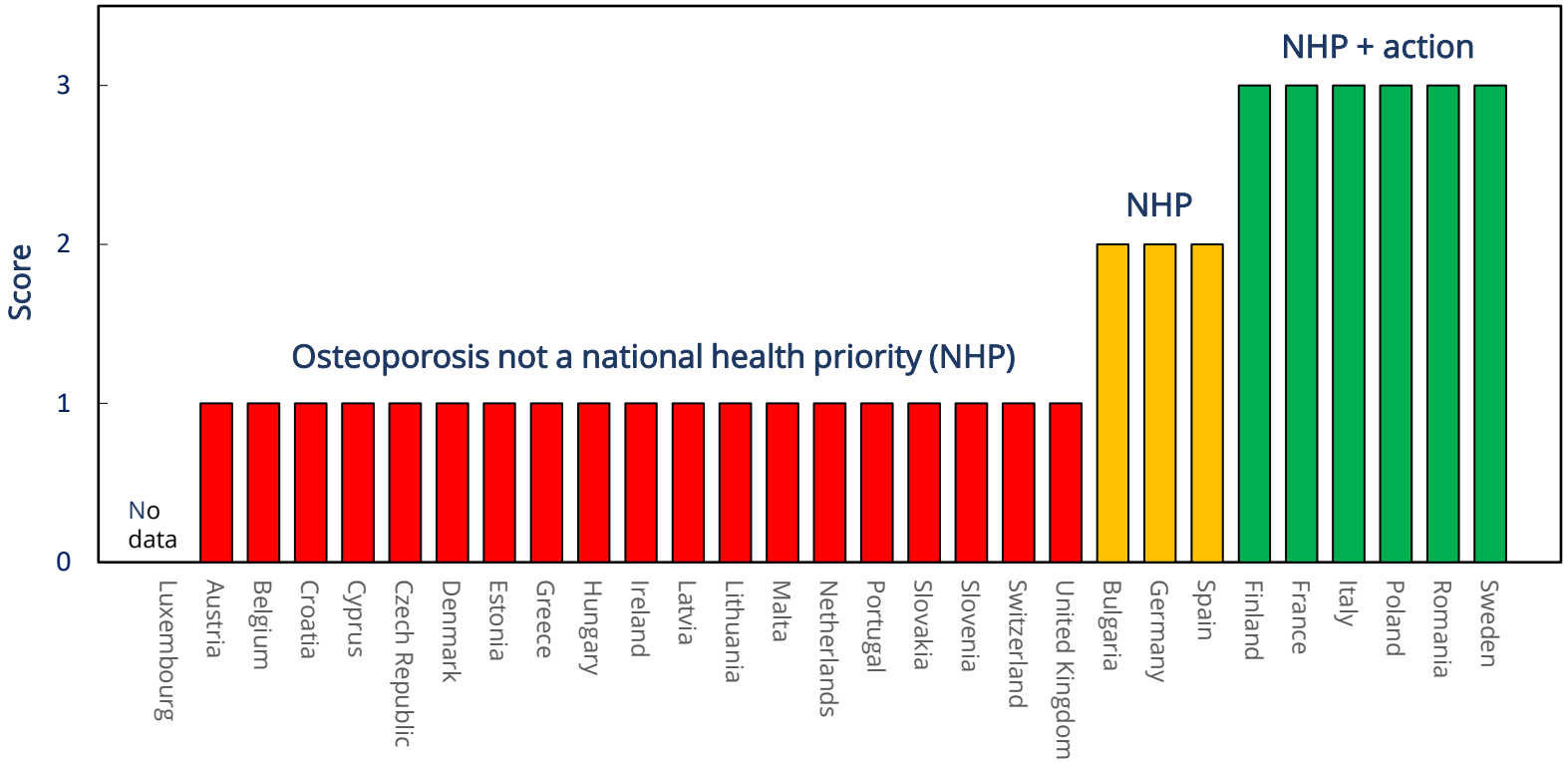


Kanis et al., Archives Osteoporos 2021

- The capture of information on hip fracture has improved since 2010
- 14 countries have now established national fracture registries

Is osteoporosis a National Health Priority (NHP)?

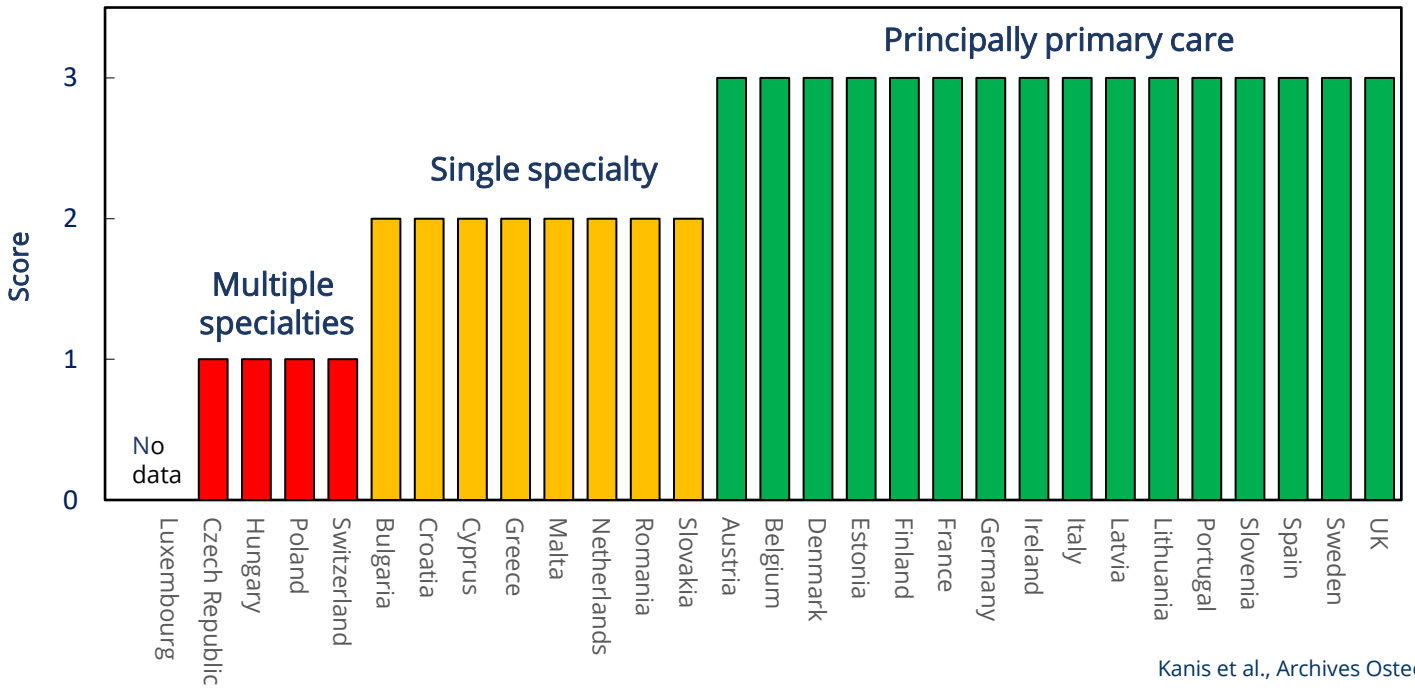
No NHP recognition by governments and health care providers for osteoporosis prevention and treatment = **Serious impact on society in all countries**



Kanis et al., Archives Osteoporos 2021

Who manages osteoporosis?

Primary care physicians are principal providers of osteoporosis care in 16 of the 28 countries



Kanis et al., Archives Osteoporos 2021

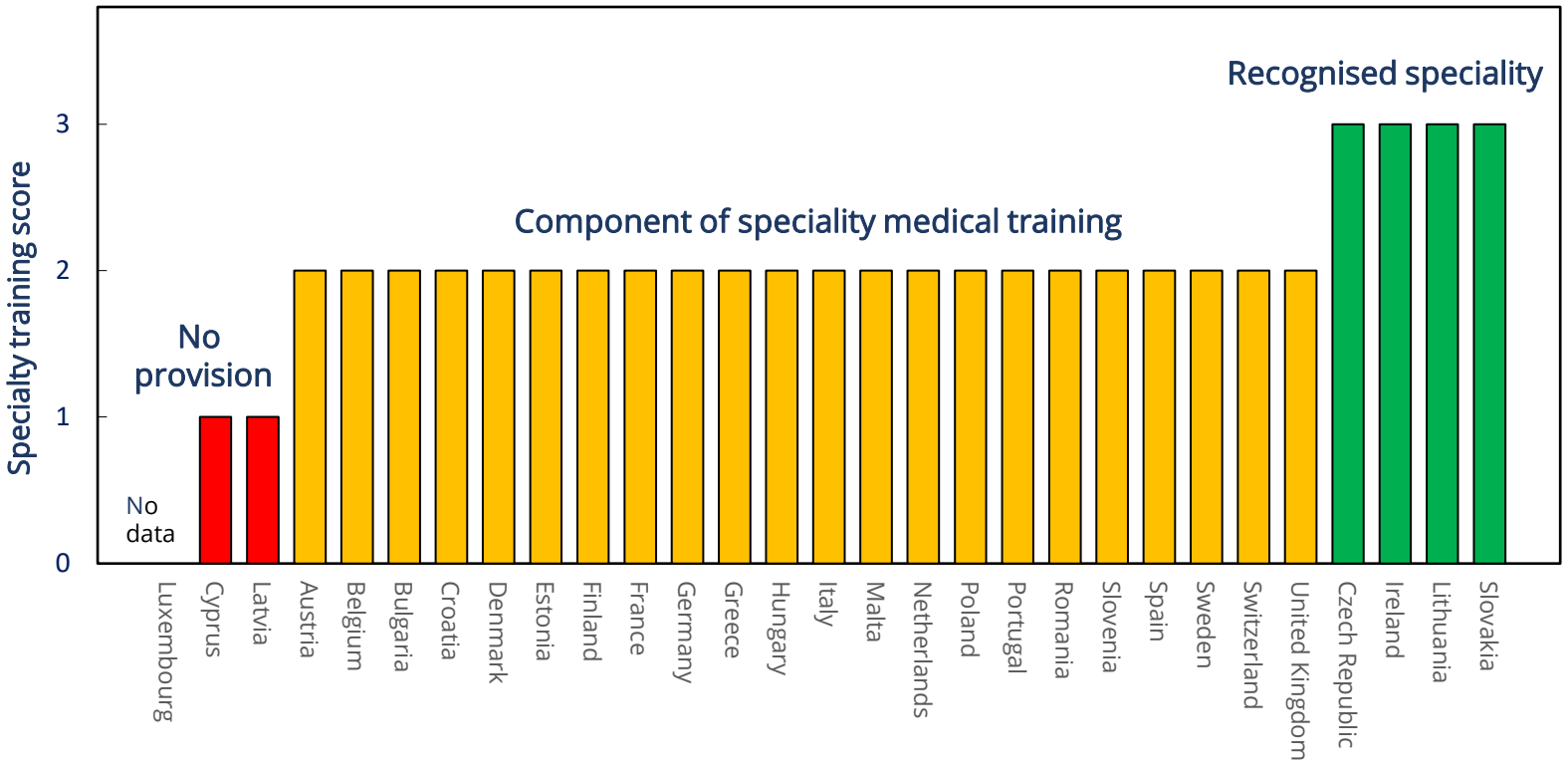
Ideal care pathway would be:

Long-term management → Preferable by trained GPs

Initial evaluation - FLS → Undertaken by Specialists

Is osteoporosis a component of specialty training?

Osteoporosis or bone diseases are recognized specialities in only 4 countries



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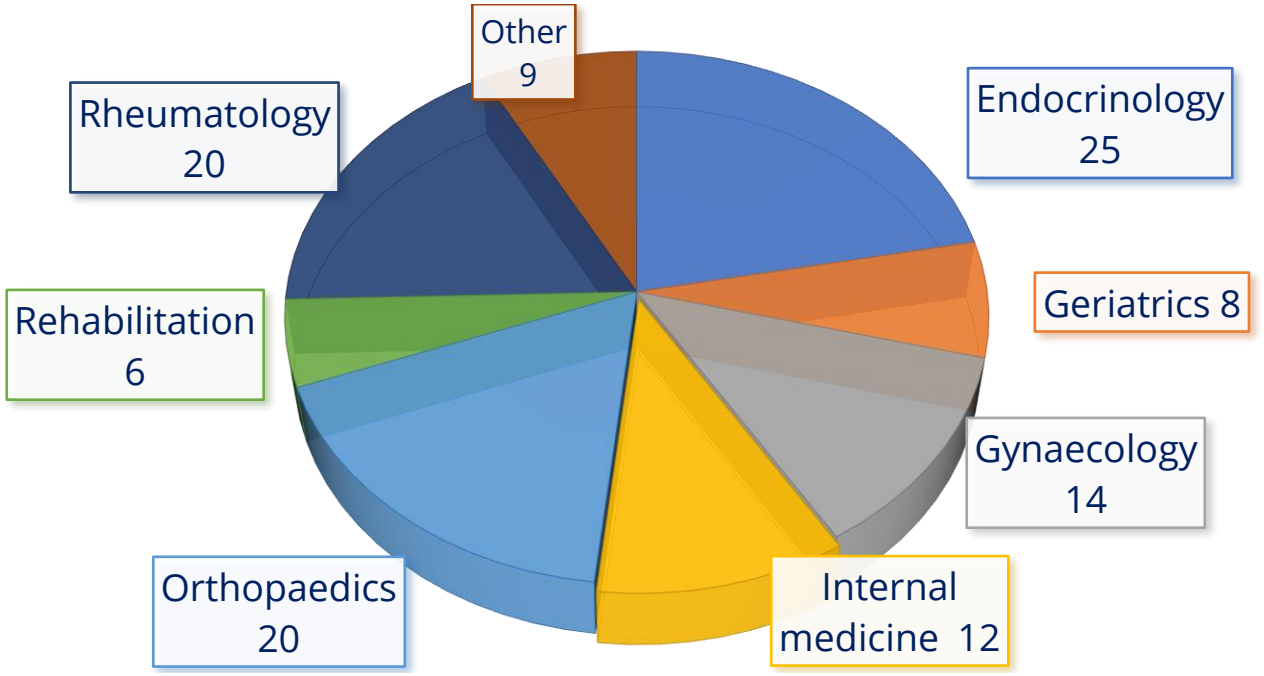
A wide variety of specialties for osteoporosis

The specialty representation in the EU27+2 countries (%)

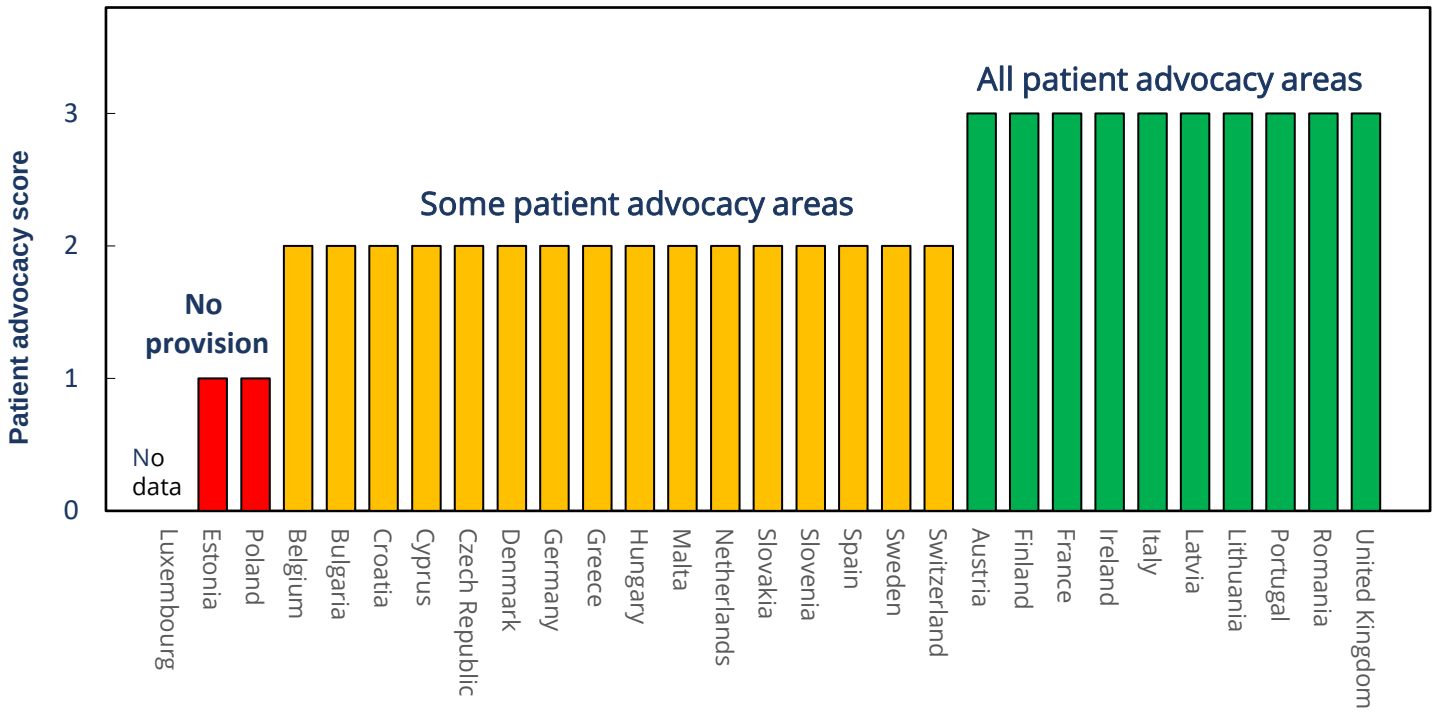


Kanis et al., Archives Osteoporos 2021

That may reflect inconsistencies in patient care and training of primary care physicians

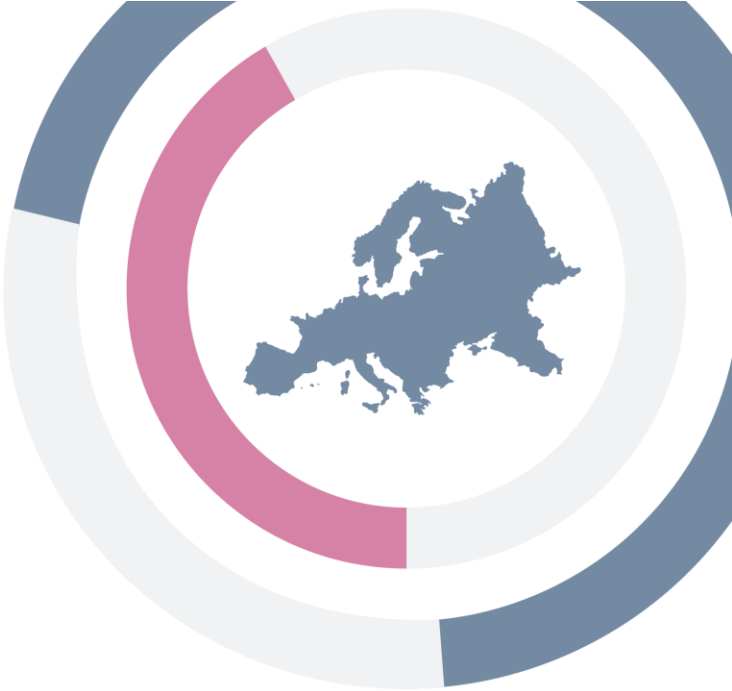
Patient organisations play an important role in 4 areas of advocacy

Policy – Capacity building & Education – Peer support – Research & Development



Kanis et al., Archives Osteoporos 2021

In 10 countries: all four of the advocacy areas are covered by at least one patient organisation



Service Provision

Assessment and Treatment of Osteoporosis

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Reimbursement of approved drug treatments in the EU27+2

- A wide variety of approved drug treatments is available
- Less than half of the European countries offer full reimbursement (2019)
- Reimbursement ranges may vary dependent on drugs, medical indication or specialist prescription
- In several countries, reimbursement is conditional on clinical criteria - e.g. based on BMD test results, age

Restricted access to reimbursed treatment may impair the delivery of long-term healthcare in many countries

Restriction in reimbursement for osteoporosis treatment

Registered treatments that are not reimbursed in the EU27+2

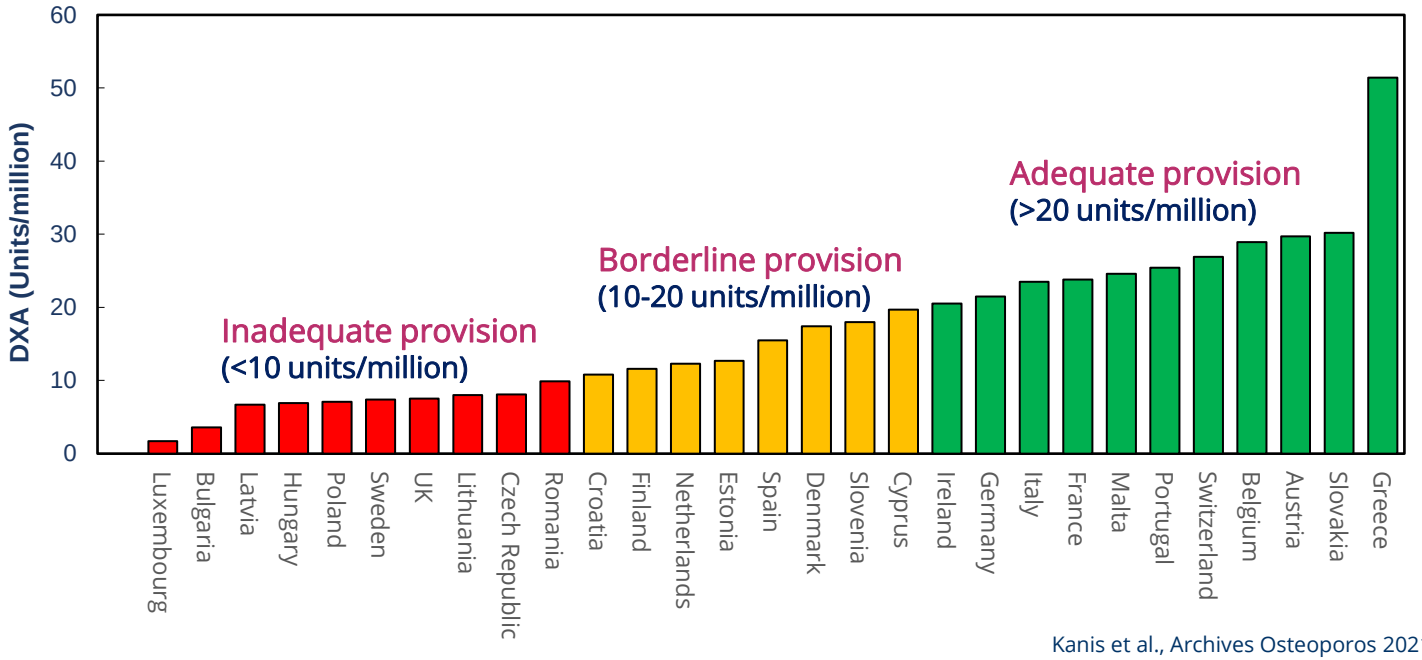
Treatment	Countries where reimbursement is not offered for osteoporosis*
Risedronate	Malta
Alendronate	Malta, Slovakia
Ibandronate	Cyprus, Malta
Zoledronate	Bulgaria, Ireland, Malta, Poland
Raloxifene	Czech Republic, Estonia, Finland, Hungary, Latvia, Lithuania, Malta, Poland
Denosumab	Cyprus, Ireland, Malta
Strontium Ranelate	Only markets with reimbursement: Cyprus, Italy, Lithuania, the Netherlands, Romania, Spain, UK [removed from several markets]
Teriparatide and PTH	Estonia, Ireland, Latvia, Malta, Poland, Romania
Alfacalcidol/Calcitriol/Calcidiol	Finland, Ireland, Lithuania, Malta, Poland, Romania

*Data for Luxembourg not reported

Kanis et al., Archives Osteoporos 2021

DXA available units per million of population

DXA assessment is a cornerstone for proper management of osteoporosis - diagnosis, risk prediction, patient allocation for treatment and monitoring



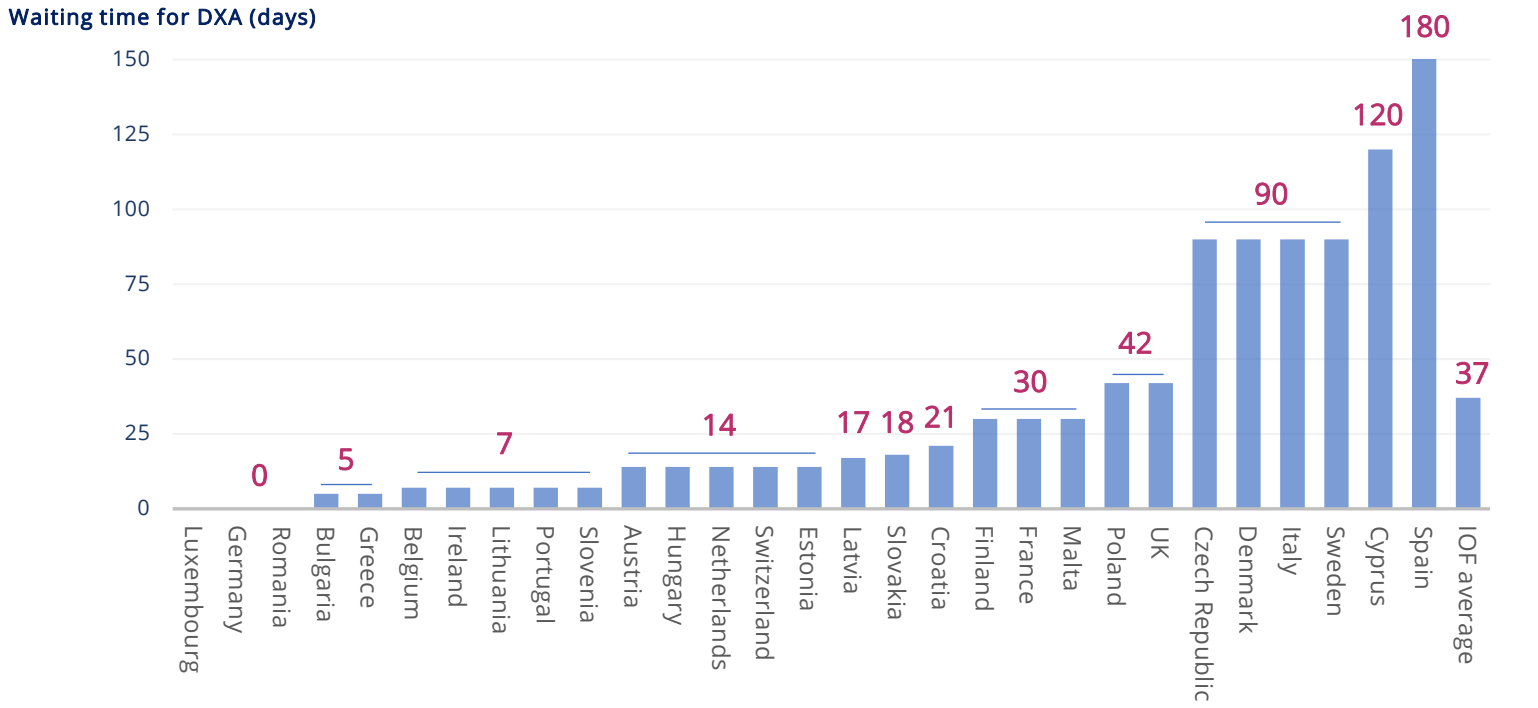
Kanis et al., Archives Osteoporos 2021

- 60% of countries had the minimum recommended number of DXA machines for their population, estimated at 11 DXA units/million
- Only minor (5%) increase in DXA equipment between 2010 – 2019*

*when placed against the rise in the number of fragility fractures over the same interval (+17% for the EU27+2 (not including Croatia/Switzerland))

Patient's access to DXA – close relation to waiting time and reimbursement policy

Wide range of waiting time for DXA depending on countries (0 to 180 Days)



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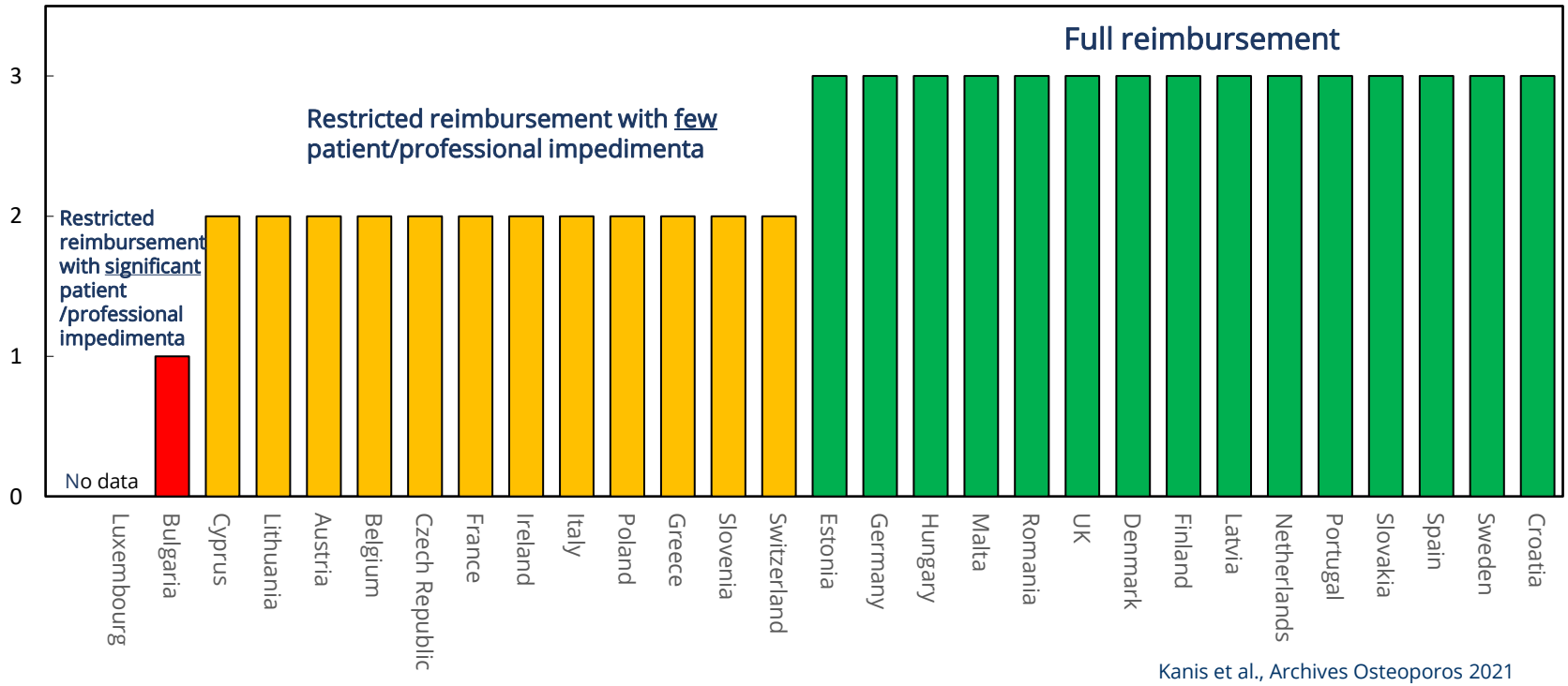
No clear relation between waiting time and DXA availability

Majority of the EU27+2 countries provide full reimbursement for DXA



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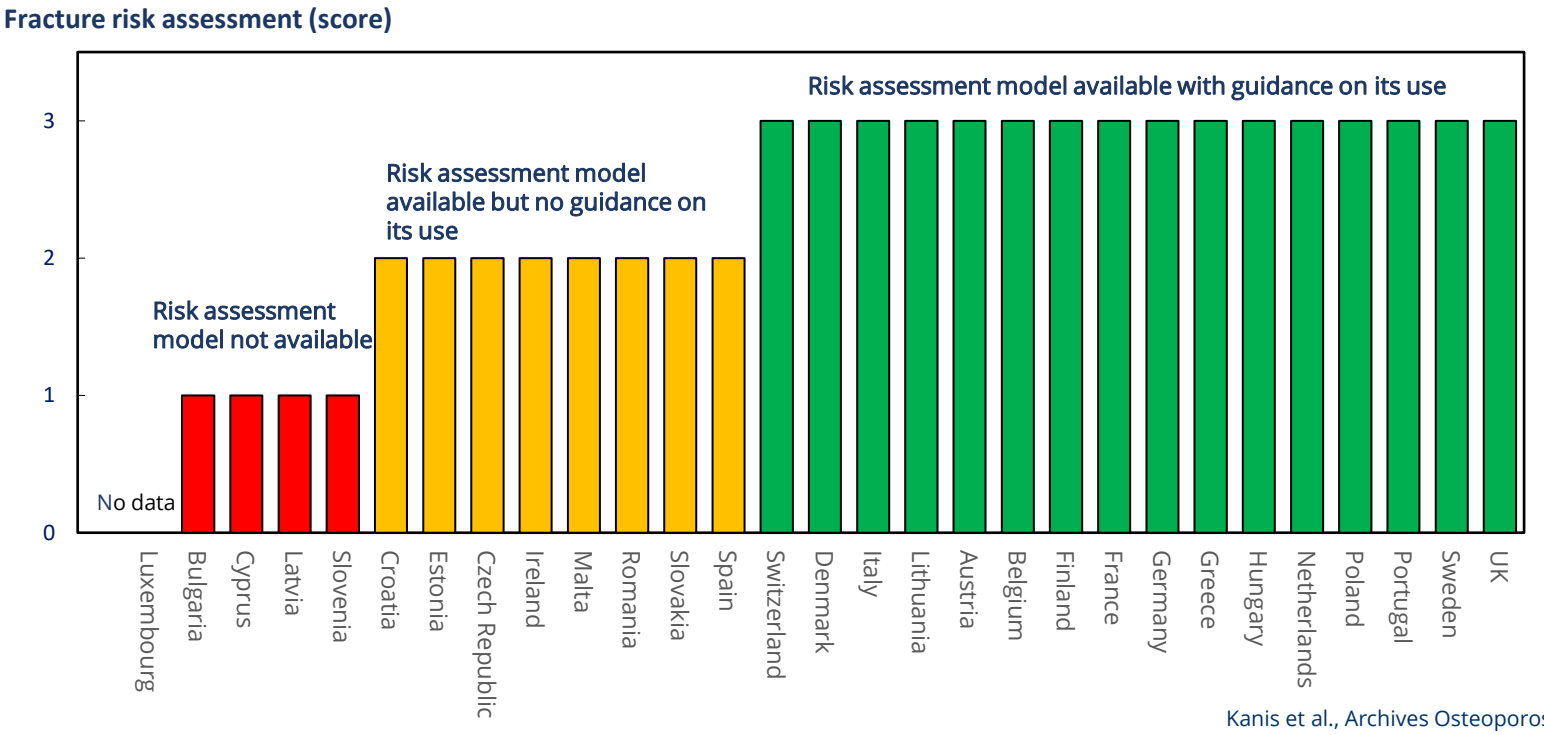
Reimbursement for DXA varies between countries in terms of the required criteria and level of reimbursement awarded

Availability of country-specific FRAX® risk models and guidance

Essential elements for the effective targeting of treatment to patients at highest risk



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- Risk assessment models (usually FRAX) were available in 24 of 29 countries
- Only 16 countries include guidance on the use of risk assessment within national guidelines

Guideline quality for assessment and treatment

Guidelines for osteoporosis care and quality

23 had guidelines for secondary osteoporosis

Including glucocorticoid-induced osteoporosis

25 countries had guidelines for osteoporosis in men

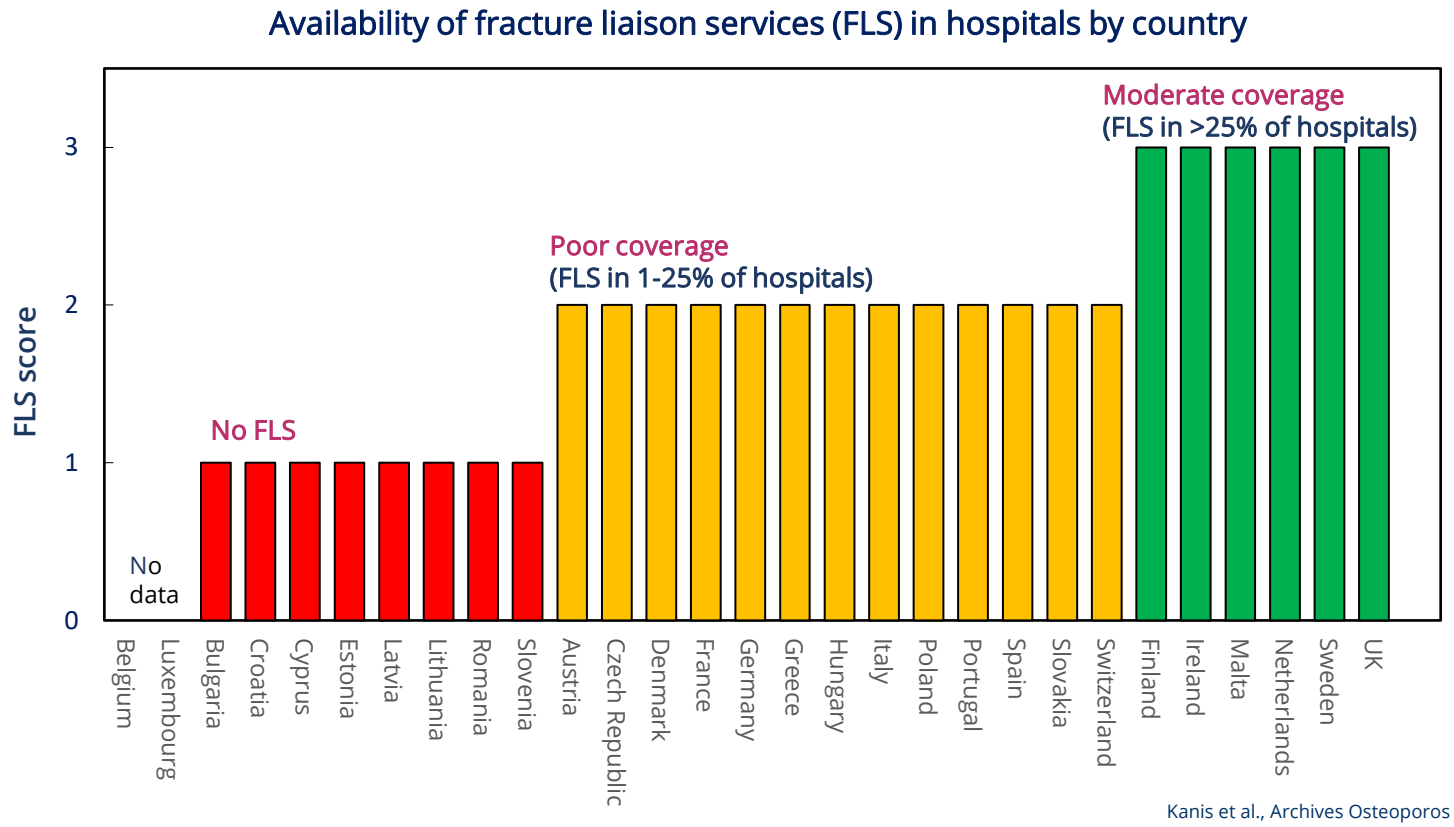
Osteoporosis management guidelines available in **27 of 29 countries** in the EU27+2*

*no data available in Cyprus and Malta

1/2 of the member states (14 of 26 states) reported having high-quality guidelines

Proportion of hospitals having Fracture Liaison Services (FLS) in EU27+2

Also known as **coordinator-based** secondary fracture prevention services



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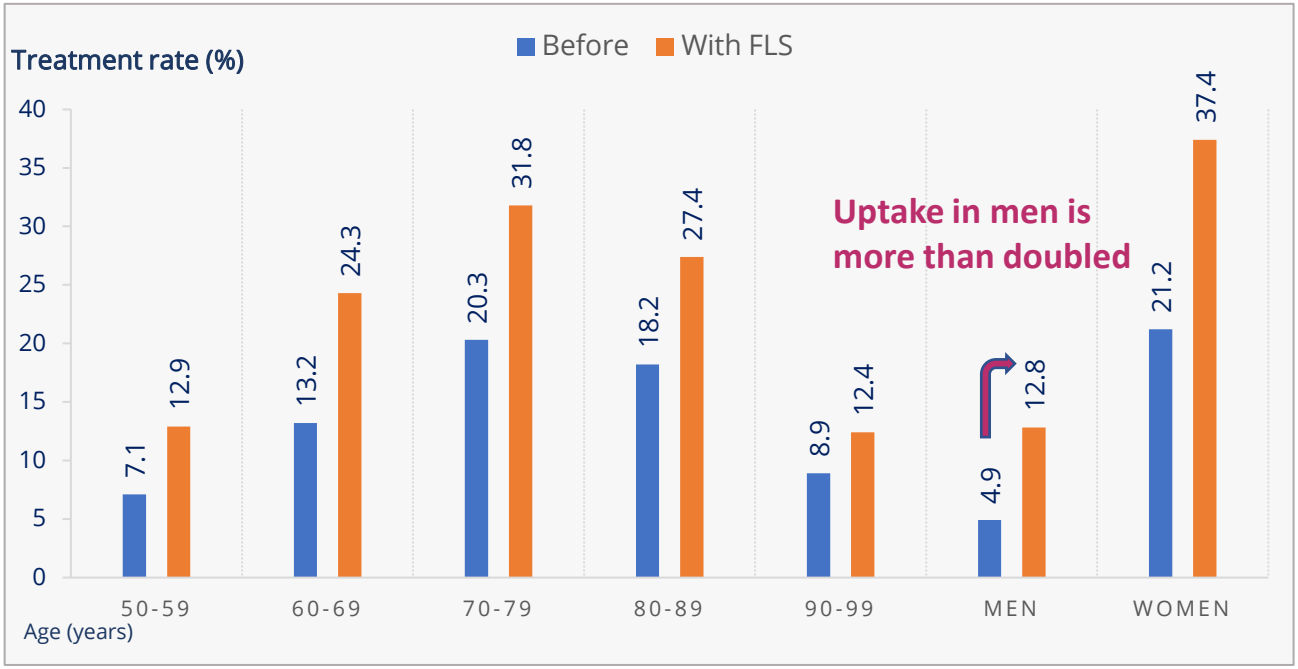
- In 8 countries : no FLS
- In 13 countries : FLS in place in only 1-25% of hospitals

FLS improves treatment uptake

Treatment uptake with FLS increased by **76%** in women within the first year after their fracture (Sweden)

Treatment uptake in the year following a major osteoporotic fracture before and after the institution of FLSs by age and sex



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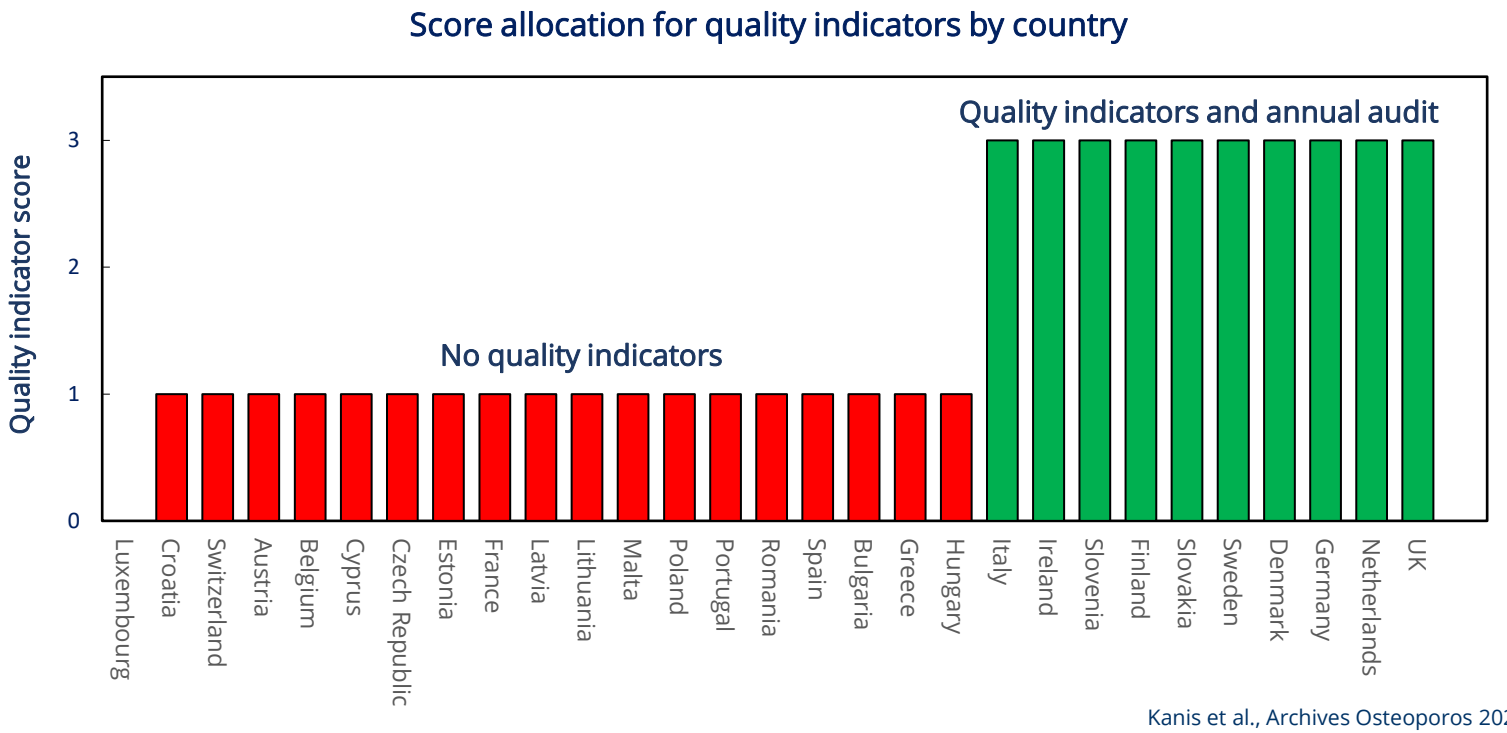
Use of quality indicators and regular audit for national healthcare agencies

National quality indicators allow to measure the quality of care provided to patients



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- In 10 countries: annual reporting system on quality indicators in place
- In 18 countries: no use of quality indicators

Service Uptake

Risk assessment, Treatment gap,
Waiting time for hip surgery

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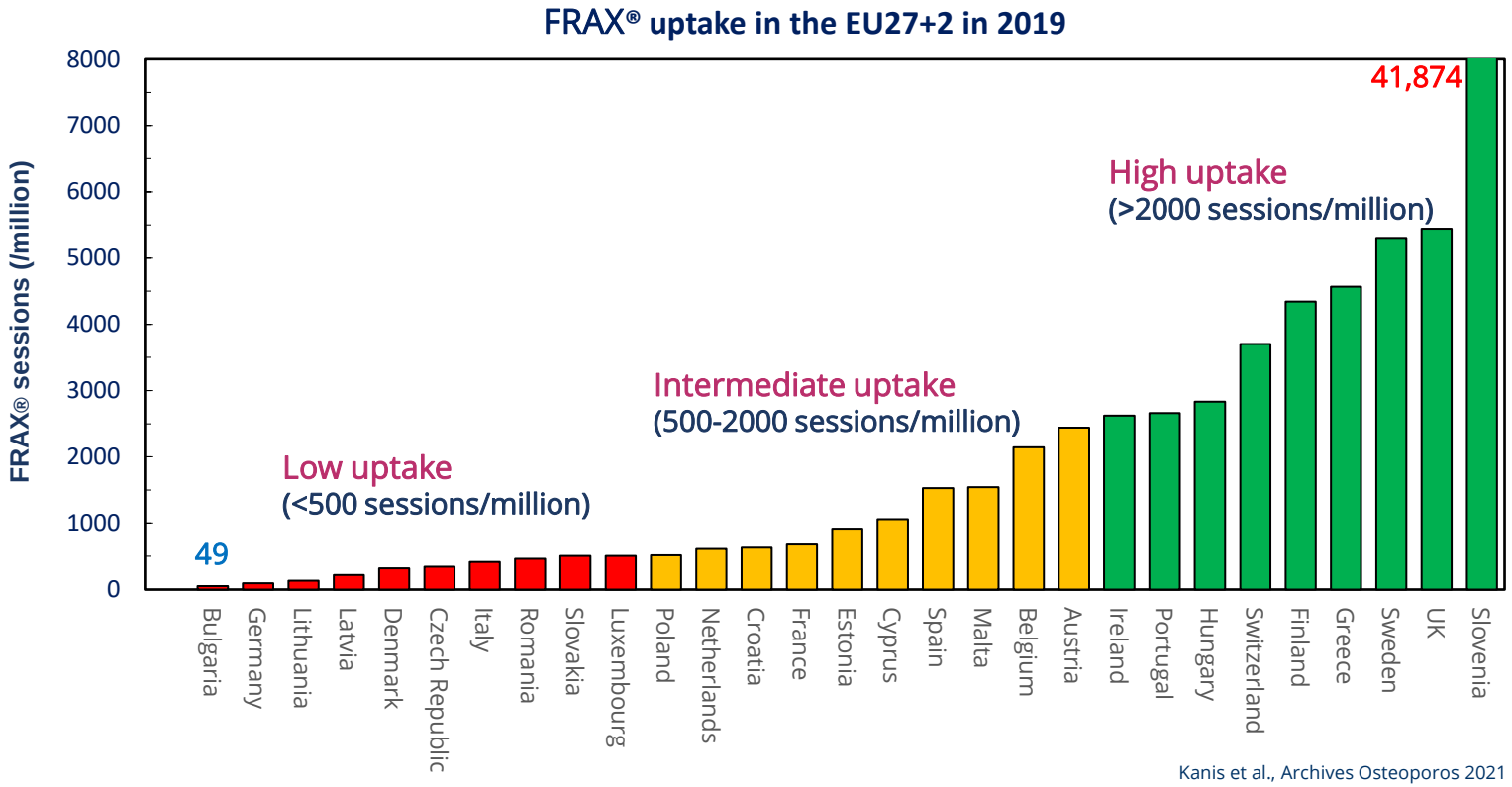
Uptake of FRAX® calculations

FRAX® is now a component of many national guidelines for the assessment of osteoporosis



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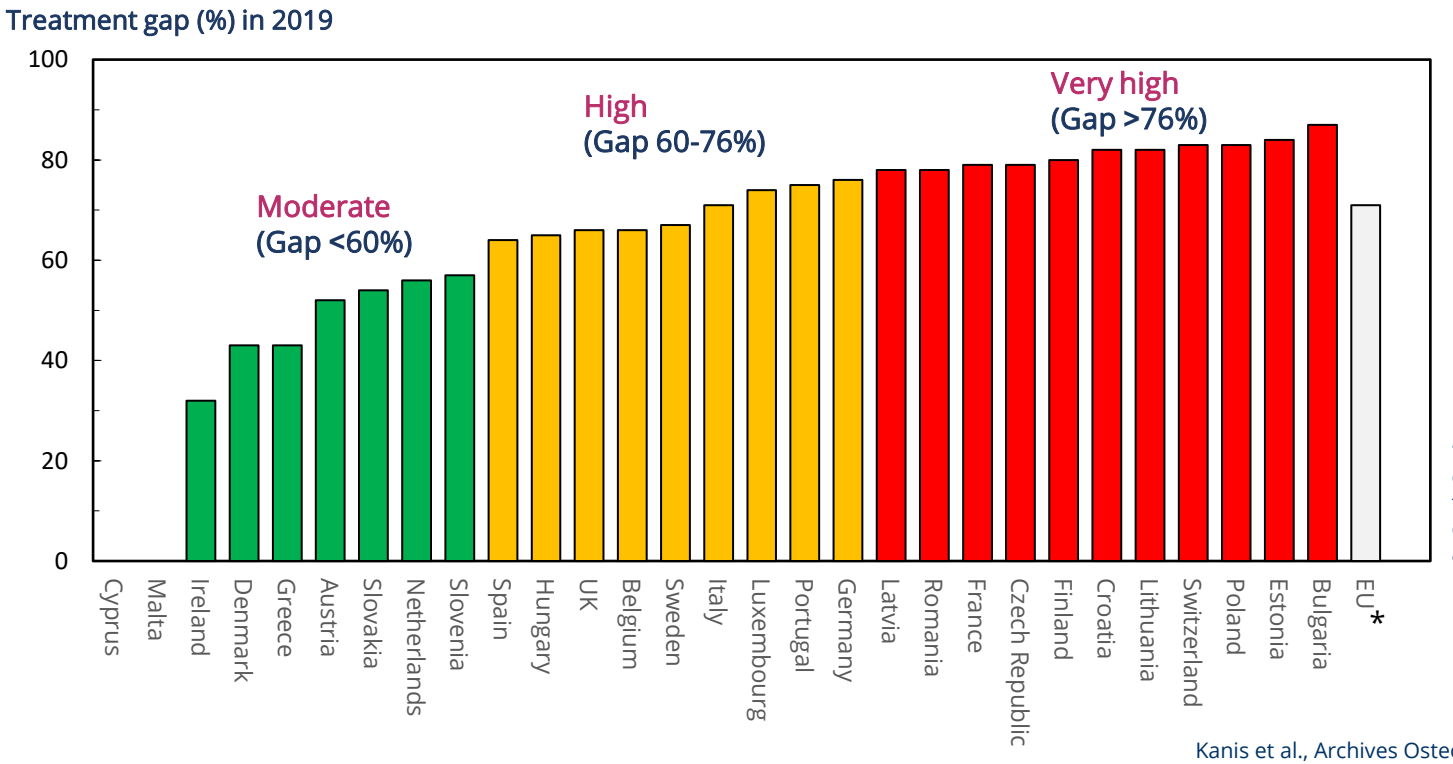
- Average uptake for the EU27+2: **1,555 sessions/million people** in the general population
- Enormous range: from **49 to 41,874 sessions/million**
- **FRAX® is underutilised** compared to DXA: e.g. Denmark (319 FRAX® calculations /million) versus 67,000 BMD test /million per year

Treatment uptake and gap

How many European women at high fracture risk receive treatment?



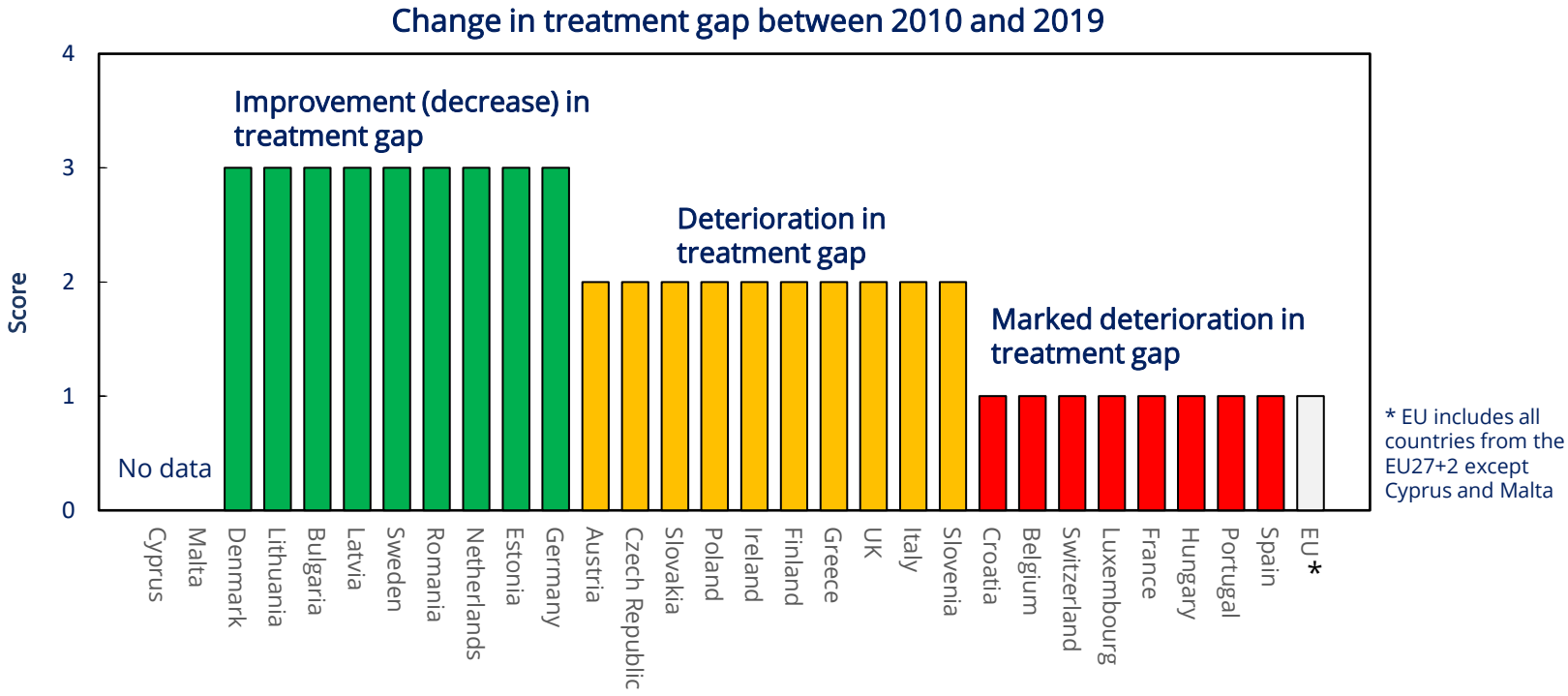
* EU includes all countries from the EU27+2 except Cyprus and Malta

Kanis et al., Archives Osteoporos 2021

- Average treatment gap for the EU27+2 : 71% in 2019
- 14.8 million of 21 million women eligible for intervention are left untreated

Change in treatment gap since 2010

Average gap : **55%** in 2010 vs **71%** in 2019 → **significant increase**



* EU includes all countries from the EU27+2 except Cyprus and Malta

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The changes between 2010 – 2019 in treatment gap

Increase
in 18 countries

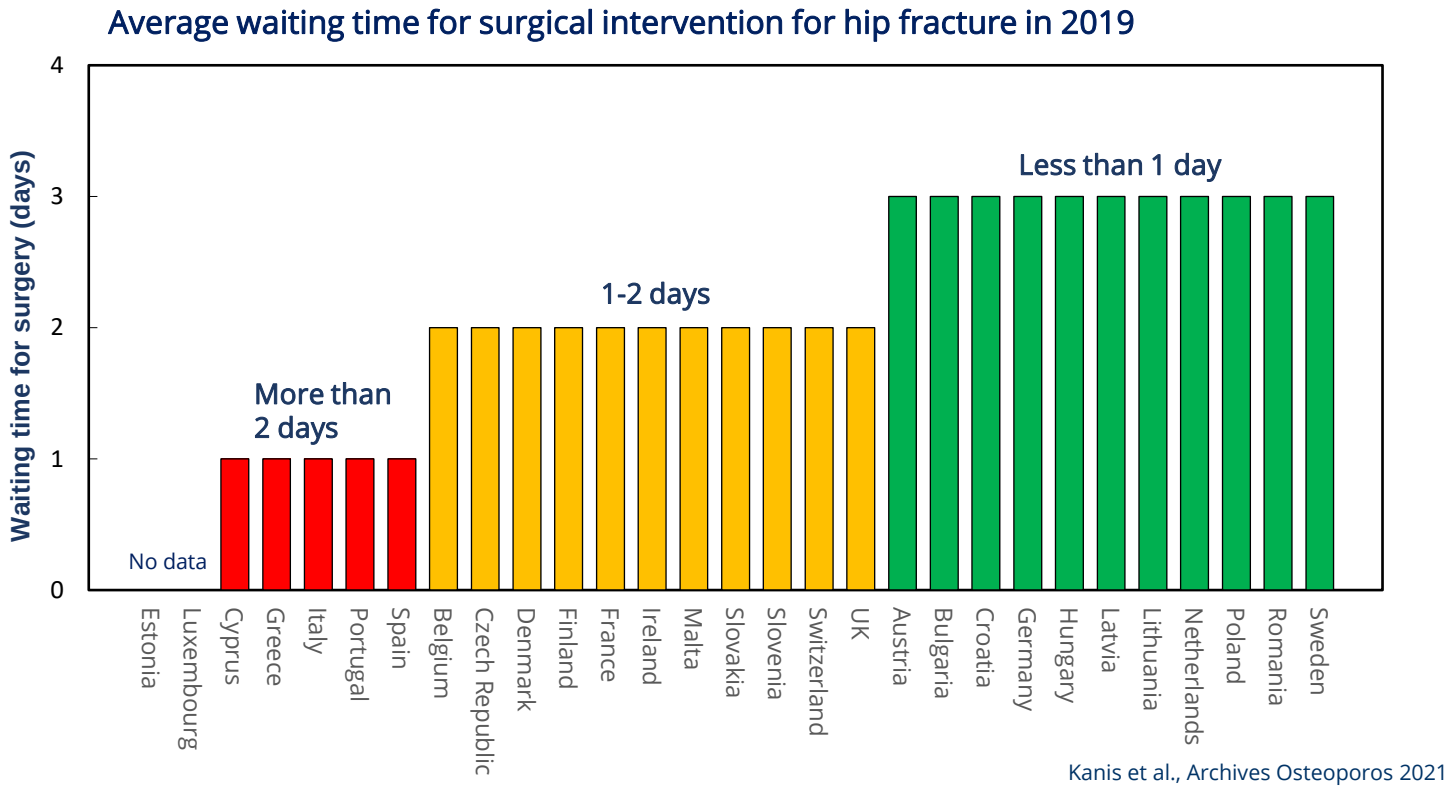
Decrease
in 9 countries

Societies such as the IOF address this global crisis

where 14.8 million European women requiring osteoporosis care are untreated

Waiting time for hip surgery

Early surgery (<48h) is associated with a significant reduction in mortality at 1 year and an increase in patient's quality of life



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- Waiting times : from patients' admission to hospital to surgery
- More than 90% of hip fracture cases received surgery in most of the EU27+2 countries*

*Data acquired through an IOF questionnaire in 2020

Summary of Scorecard

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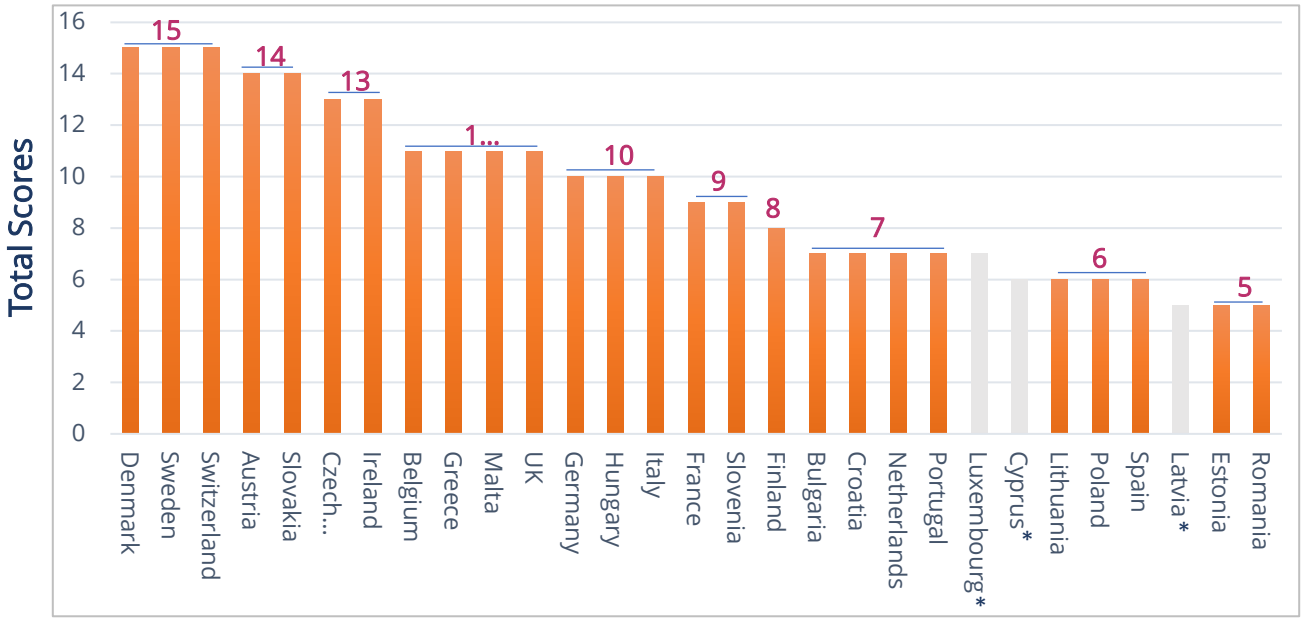
Scorecard for Osteoporosis in Europe (SCOPE)

Key indicators for osteoporosis care with scores developed for the Burden of disease and Healthcare provision (Policy framework, Service provision, Service uptake)

Burden of disease



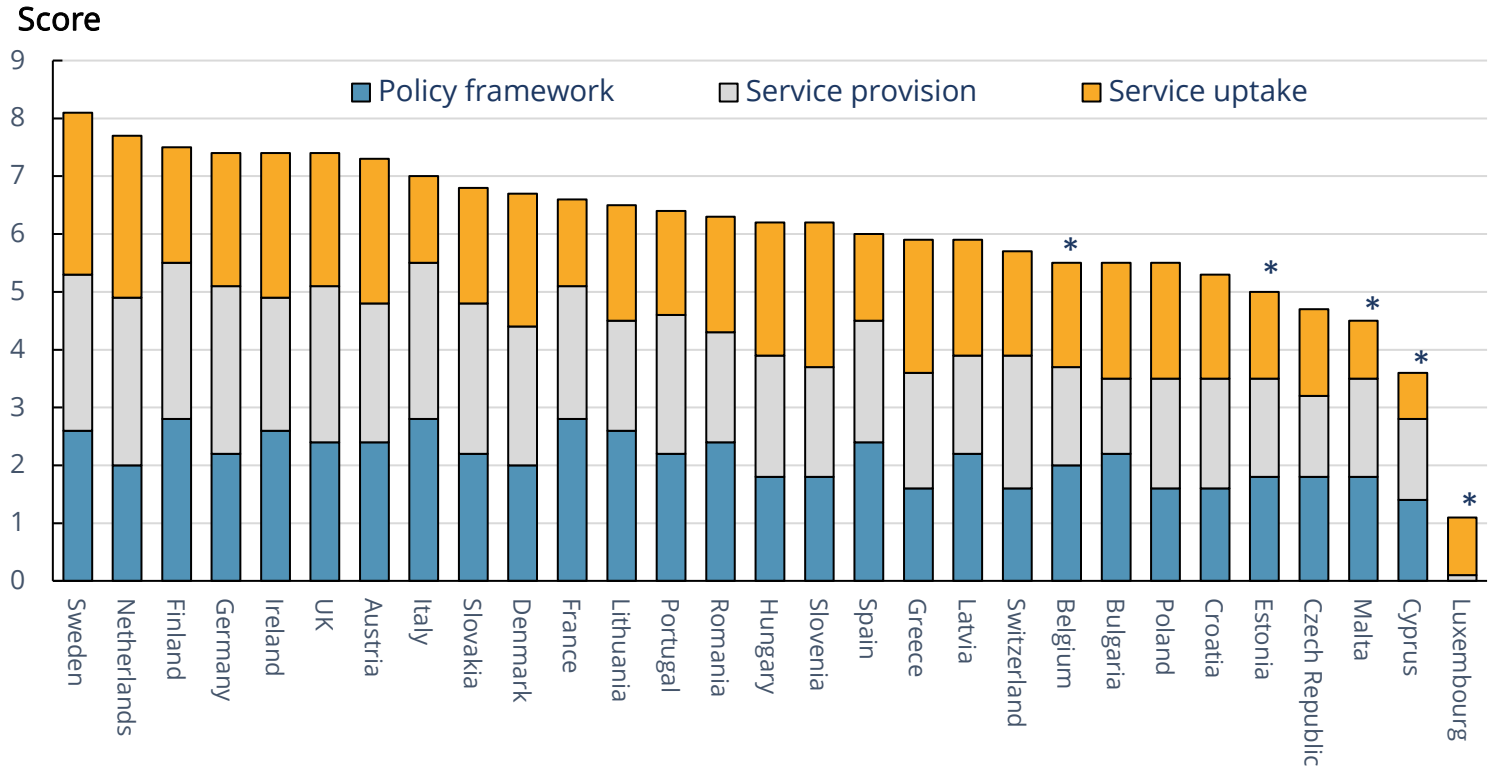
*The places of Luxembourg, Cyprus and Latvia are uncertain since there were gaps in the information base.

Kanis et al., Archives Osteoporos 2021

Higher score = Greater burden

Policy framework, Service provision and Service uptake

These can be considered **aspects of healthcare delivery**



* There was one or more missing metric which decreases the overall score.

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The highest healthcare delivery did not necessarily match the burden of disease

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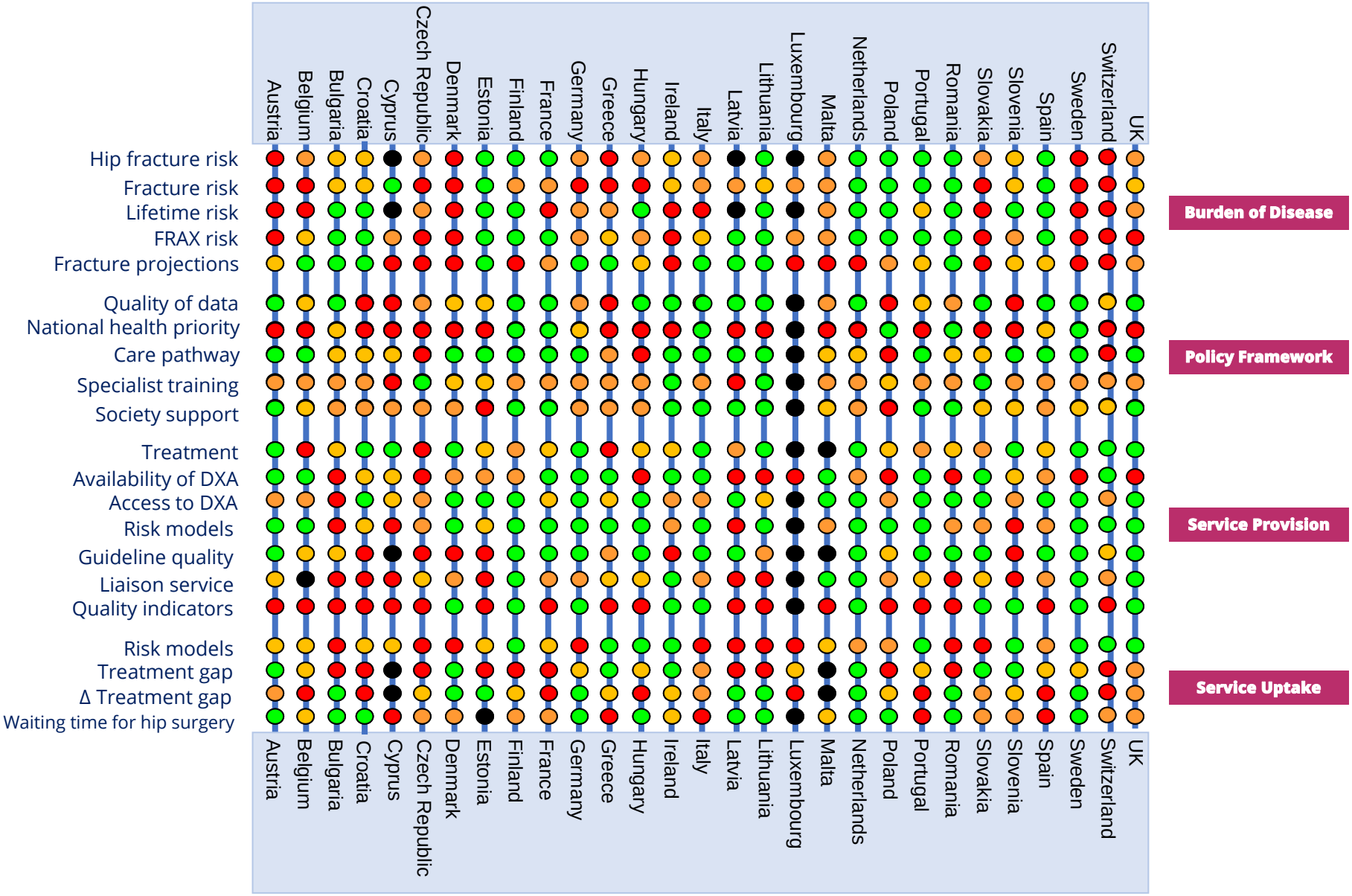
SCOPE 2021 since the first SCOPE in 2010

15 of the 16 scorecard metrics on healthcare provision used in both surveys

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

SCOPE 2021 serves as a guide to the performance targets to support the delivery of the outcomes required

Scorecard for Osteoporosis in Europe 2021



Summary of Scorecard

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

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