

We found variation in incidence of subsequent fractures across countries, primary care, and hospital data.

Under-diagnosis and treatment of osteoporosis require greater

focus for better quality of care across aging population in Europe.

Imminent Subsequent Fractures In Postmenopausal Women With Fragility Fractures: Incidence And Patient Characteristics From Six European Countries

Background: The occurrence of a first fragility fracture increases the imminent risk of subsequent fractures in the next 1 to 2 years. Most studies have been conducted in a single country or using different methodologies, making comparison between countries difficult.

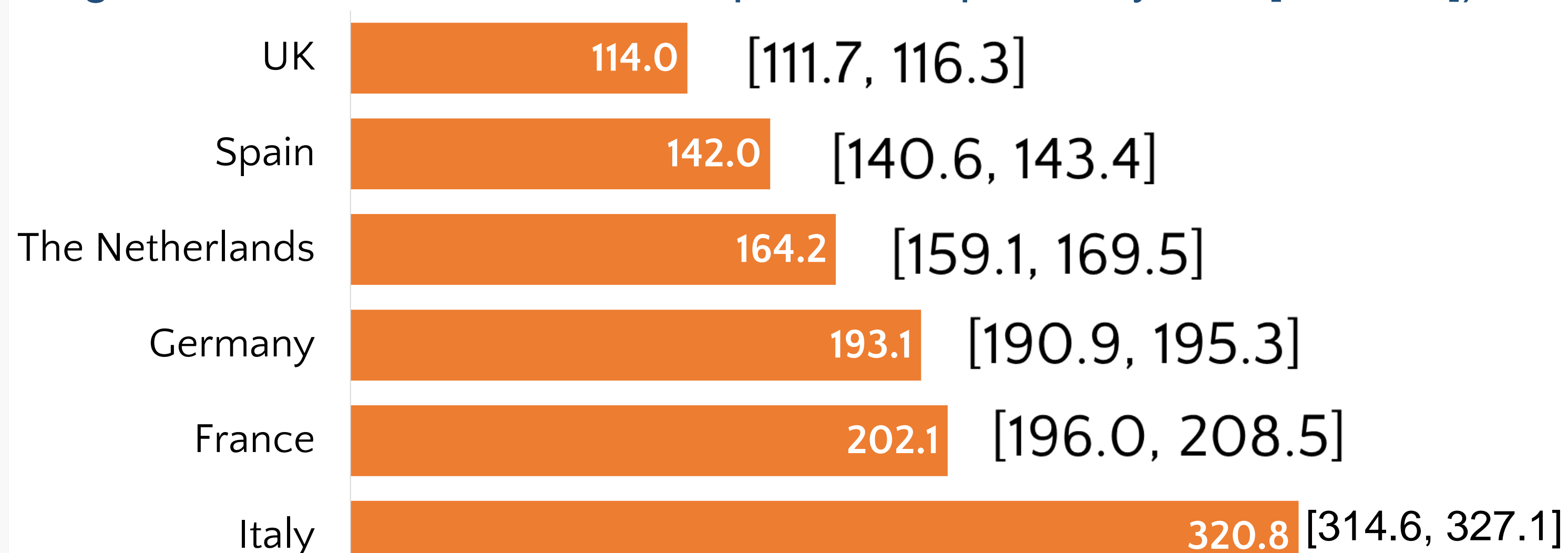
Results

- Patients with imminent subsequent fractures (ISF) had higher rates of comorbidities and comedications.
- Low osteoporosis treatment across countries (1.7 - 15.9%).

Table 1. Patient characteristics

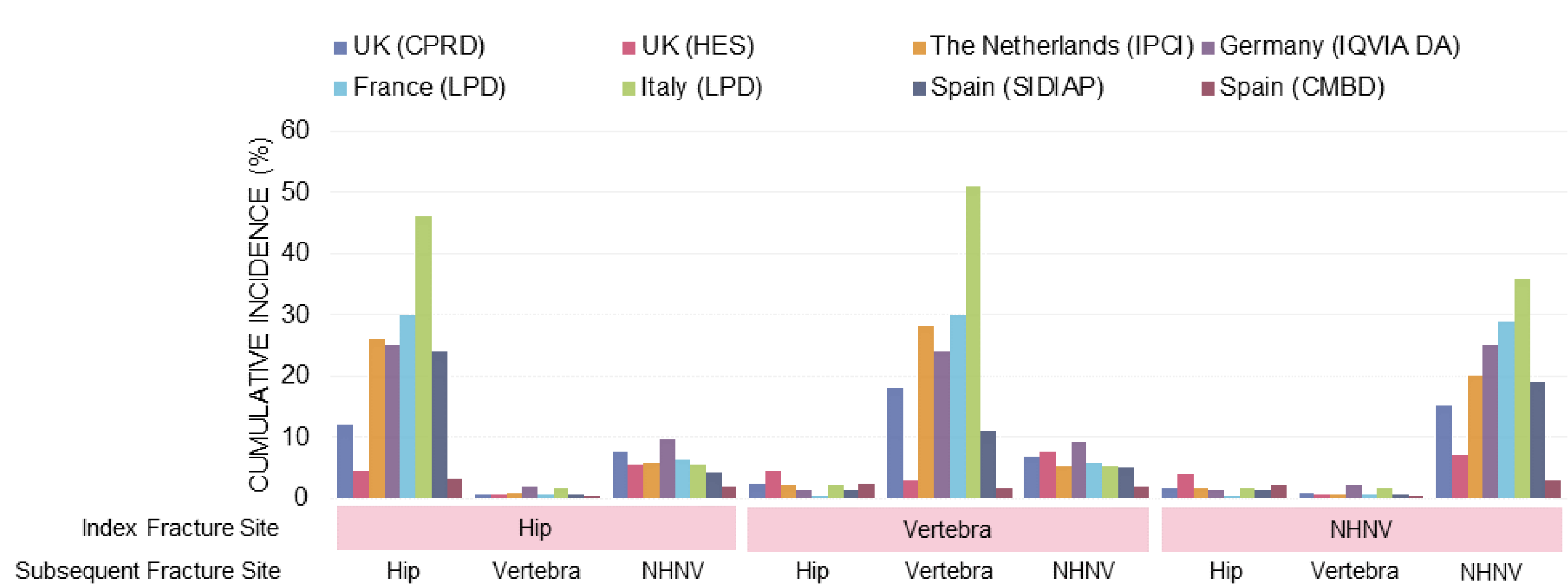
Characteristics	CPRD (UK)		IPCI (NL)		DA Germany		LPD France		LPD Italy		SIDIAP (ES)	
	ISF (n = 9271)	No ISF (n = 38837)	ISF (n = 3863)	No ISF (n = 12560)	ISF (n = 29204)	No ISF (n = 72382)	ISF (n = 4096)	No ISF (n = 10823)	ISF (n = 10202)	No ISF (n = 14204)	ISF (n = 38904)	No ISF (n = 105088)
Age, median (IQR)	74 (63-83)	72 (61-83)	71 (61-81)	69 (60-80)	74 (64-81)	72 (62-80)	70 (61-79)	67 (59-78)	75 (66-83)	74 (63-83)	74 (63-82)	72 (62-82)
Cardiovascular disease, (%)	39.5	37.1	30.2	25.4	40.6	35.6	17.1	16.8	41.4	38.1	28.3	28.3
Hypertension, (%)	51.9	50.2	40.6	30.0	47.8	43.3	37.0	35.7	63.0	60.3	41.1	41.6
Osteoporosis, (%)	27	21.6	14.1	9.3	45.6	34.8	38.8	19.3	40.0	37.7	15.3	16.6
Osteoporosis drugs, (%)	2.5	1.7	2.9	3.0	13.2	7.1	15.9	7.2	13.7	9.4	5.8	6.9

Figure 1. Incidence rate of ISF per 1,000 person-years [95% CI]



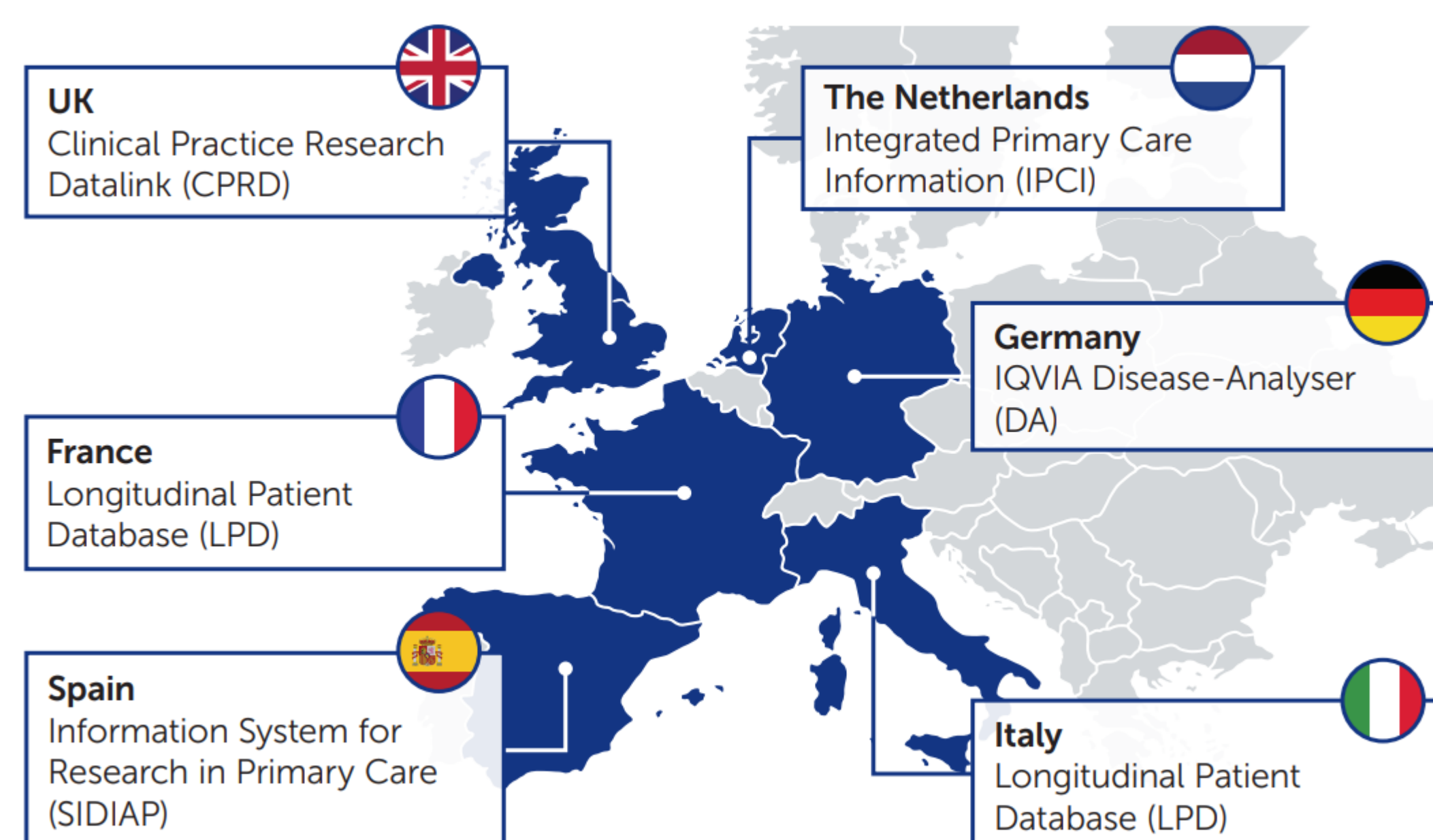
- ISF in primary care occurred most frequently at the same site of the index fracture, whilst in hospital records: non hip non vertebral (NHNV) in UK, hip in Spain.

Figure 2. Two-year cumulative incidence of ISF



Methods

1 Data sources



Hospital data linkage:
CPRD linked with Hospital Episode Statistics (HES),
SIDIAP linked with Conjunt mínim bàsic de dades (CMBD)

2 Eligibility criteria

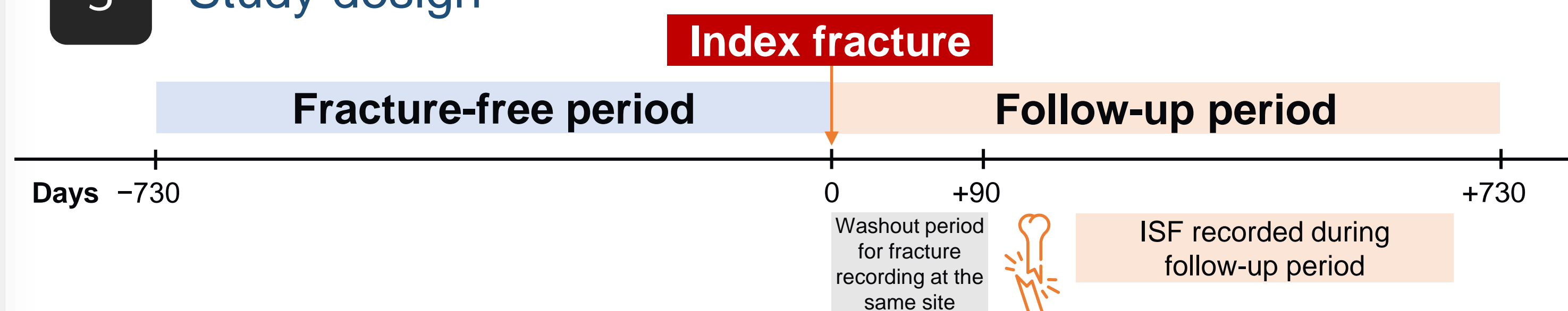
Inclusion Criteria

- Women aged ≥ 50 years
- Index fragility fracture between April 2010 to April 2018
- ≥ 730 days observation period prior to index fracture

Exclusion Criteria

- History of fracture in 730 days prior
- Cancer (except non-melanoma skin cancer), Paget's disease of the bone, or other metabolic bone diseases at any time prior to and including index date

3 Study design



Statistical analysis:

- Incidence rate (IR) per 1,000 person years (PY) of ISF
- Site-specific cumulative incidence, stratified by the index fracture site, accounting for competing risk of death

Strength: Network study allowed for the same methodology to be applied across six different European data sources.

Limitation:

Hospital records in UK and Spain did not include emergency room visits, thus missing fractures which do not need to be hospitalised. Higher IR of subsequent fractures in primary care could indicate re-recording of initial fracture.



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