

Hospital Resource Utilisation and Costs of Imminent Subsequent Fractures in Postmenopausal Women: A Distributed Network Analysis using data from the UK and Spain mapped to OMOP Common Data Model

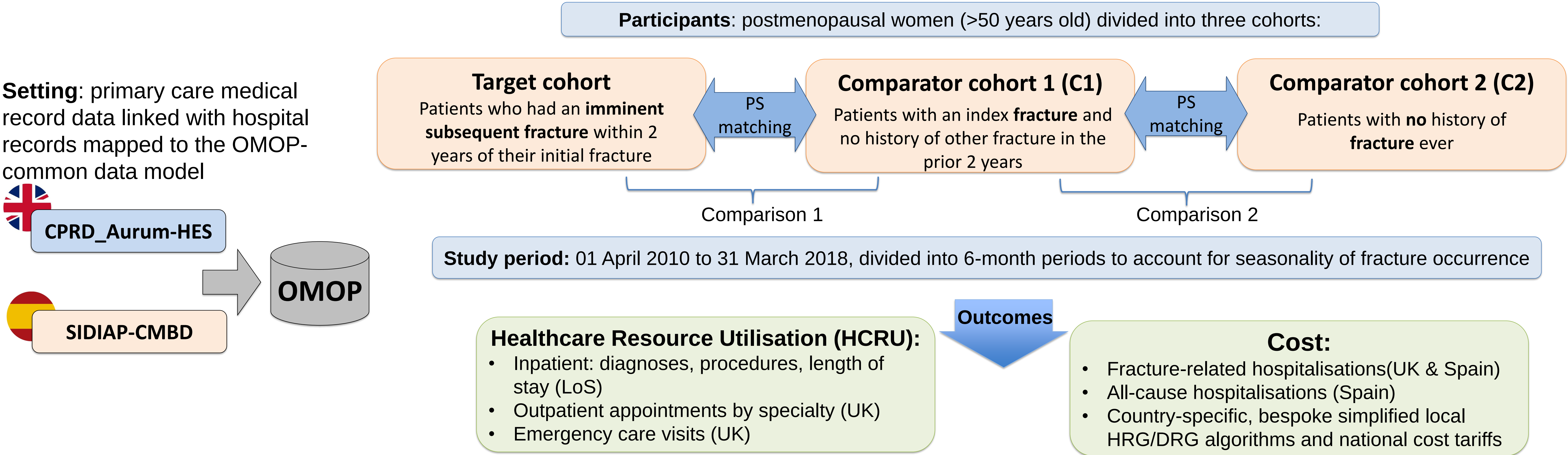
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Objective

To describe **hospital resource utilisation** and **costs** of index and imminent subsequent **fragility fractures** in **postmenopausal** women using **electronic health records** from administrative datasets in the UK and Spain **mapped** to the **OMOP** common data model.

Methods

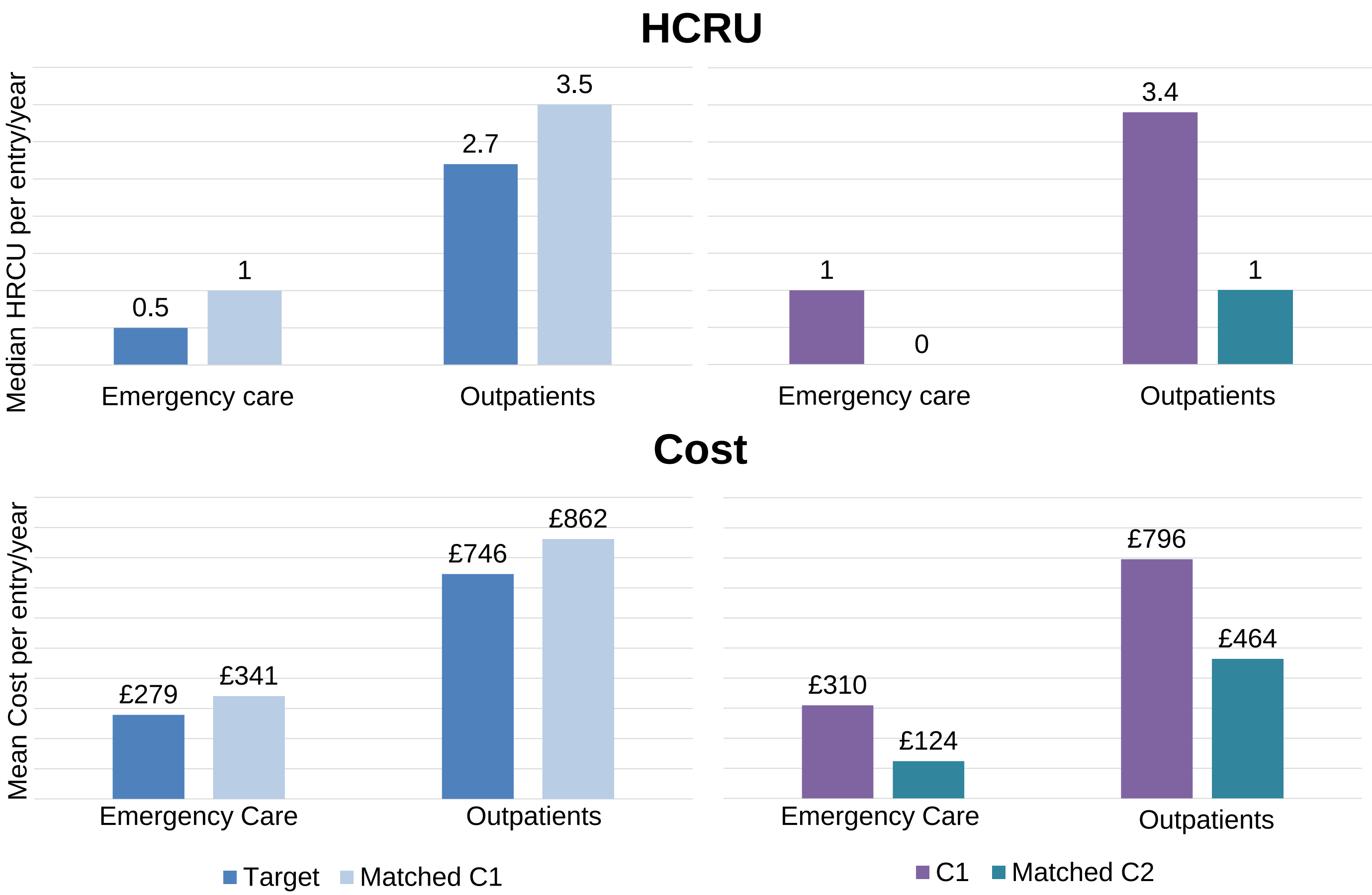


Results

Cohort	UK				Spain			
	Users of secondary care (% of cohort)	Mean number of hospitalisations per entry/year	Mean LoS in days	Mean cost of fracture-related hospitalisation per entry/year	Users of secondary care (% of cohort)	Mean number of hospitalisations per entry/year (SD)	Mean LoS in days	Mean cost of fracture-related hospitalisation per entry/year
Target	54.6%	1.5	6.4	£6,499	32.2%	0.31	8.5	€1,085
Matched-C1	66.9%	1.5	7.1	£6,683	36.1%	0.33	8.6	€1,171
C1	63.5%	1.3	7.1	£5,717	36.1%	0.32	8.6	€1,136
Matched-C2	41.0%	0.7	4.2	£0	18.1%	0.15	7.7	€523

Table 1: Inpatient HCRU and costs, all entries.

- In UK and Spain, a greater proportion of women with a **single fracture (C1)** used **hospital services compared to those with no fracture** (matched-C2) (ratios 1.55 and 1.99, respectively). For women with an imminent subsequent fracture (Target), the % was slightly lower than for matched-C1 (**Table 1**).
- Women in C1 had a **higher mean number of hospitalisations** per year than those in matched-C2 (ratios UK=1.86 and Spain=2.13) with levels for women in Target similar to those in matched-C1. LoS was also higher for C1 vs matched-C2 (ratios UK=1.69 and Spain=1.12) (**Table 1**).
- Cost of fracture-related hospitalisation per entry per year jumped significantly** from having no fracture (matched-C2) to having one (C1), whilst for imminent subsequent fractures (Target) it dropped slightly compared to matched-C1 (**Table 1**).



- In the UK, women with fractures (C1) reported **much higher yearly costs** in **emergency care (150%)** and **outpatient care (72%)** than women without a fracture history (C2) (**Figure 1**).
- Women with an imminent subsequent fracture reported slightly lower costs: emergency care = -13% and outpatient care = -18%. (**Figure 1**).

Conclusions

Osteoporotic fractures place a significant burden on health care systems, with the **first fracture having a significant impact on levels of resource use and costs**, and imminent subsequent ones reporting a generally sustained effect compared to the first fracture.

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Figure 1: Emergency Care and Outpatient HCRU and cost, all entries - UK.