Primary care resource utilisation and costs of fragility fractures in postmenopausal women in the UK using CPRD data mapped to OMOP Common Data Model

Gianluca Fabiano[1] gianluca.fabiano@ndorms.ox.ac.uk
Xihang Chen[1] xihang.chen@ndorms.ox.ac.uk
Trishna Rashod-Mistry[1] trishna.rathod-mistry@ndorms.ox.ac.uk
Antonella Delmestri[1] antonella.delmestri@ndorms.ox.ac.uk
Lucy Njoki Njuki[1] lucy.njuki@ndorms.ox.ac.uk
Alireza Moayyeri[2] Alireza.Moayyeri@ucb.com
Joshua Warden[2] Joshua.Warden@ucb.com
Eng Hooi Tan[1] cheryl.tan@ndorms.ox.ac.uk
Rafael Pinedo-Villanueva[1] rafael.pinedo@ndorms.ox.ac.uk

Background: Fragility fractures increase the demand for healthcare services, but this impact is poorly understood and managed in the UK. A key risk factor for fractures is a history of previous ones, with recency of the latter playing a crucial role.

Objectives: To describe the primary care resource utilisation and direct costs of imminent subsequent fractures in postmenopausal women with fragility fractures in the UK using data from the Clinical Practice Research Datalink (CPRD) mapped to the OMOP Common Data Model (OMOP-CDM).

Methods: A retrospective time-stratified age and propensity score observational network cohort study using data between 2010 and 2018 identified three cohorts of women aged ≥50 years: a target cohort with an imminent subsequent fracture, a comparator cohort 1 (CC1) with a fracture not followed by an imminent subsequent one, and a comparator cohort 2 (CC2) without fractures. Women could contribute to more than one cohort over time. Incremental primary care consultation counts, and associated costs based on staff roles using national unit costs were compared between target and matched CC1, and then between full CC1 and matched CC2.

Results: The target cohort consisted of 14,653 entries from 9,522 women, with 482 (5.1%) being non-service users (i.e., no visit records), while matched CC1 included 40,504 entries from 38,215 women, 3.4% of whom (1,307) were non-users. The median number of visits per woman per year was 14.0 in the target cohort and 13.5 in CC1 (14.5 and 14 median visits for service users, respectively). The median overall primary care consultation cost per woman per year amounted to £483.6 for the target cohort and £453.9 for CC1.

Full CC1 included 50,449 entries from 47,265 women, with 1,802 (3.8%) being non-service users, while matched CC2 comprised 251,328 entries by 162,586 women, 8.9% (14,393) of whom were non-users. The median number of visits per woman per year was 12.5 in full CC1 and 9.5 in matched CC2 (13.0 and 10.5 mean visits for service users, respectively). The median overall primary care consultation cost per woman per year was £423.9 for full CC1 and £329.0 for CC2.

Conclusions: Having a first fracture is associated with an increase in the proportion of women accessing primary care services, as well as in the number of visits and associated costs per year. An imminent subsequent fracture also leads to an increase in demand of primary care services, although of lower magnitude. Further analyses are needed to better understand use of hospital care by this population.