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# International Journal of Population Data Science

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## Cohort study of osteoporosis and fracture risk in Wales: does secondary prevention achieve any benefit?

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### Background

Osteoporosis is a global disease with a 30-40% lifetime fracture risk according to the World Health Organisation. Incidence is rising with aging populations; however, medical secondary prevention treatment may reduce fracture risk.

### Objectives

The primary aim was to investigate if secondary medical prevention treatment following an index fracture was associated with survival and subsequent fracture risk.

### Methods

Patients aged  $\geq 60$  years with an index fragility fracture at any anatomical location were identified from the Secure Anonymised Information Linkage (SAIL) databank. A population based e-cohort was created by linking fracture data identified from secondary care datasets and the National Hip Fracture Register data, with linkages to primary care datasets for medical prescription and Office for National Statistics records for mortality.

### Findings

The cohort comprised 81,252 cases between April 2009 and December 2016 of median age 78 years and 22,896 (28%) males. Medical secondary prevention treatment was received by 29,393 cases (36%). Subsequent fractures were reported for 10,907 cases (13%) and 29,026 cases (36%) died during the study period.

### Conclusions

Preliminary findings identified that  $<50\%$  of eligible patients receive secondary medical prevention treatment after an index fragility fracture. These findings may help inform and unify treatment pathways for those at risk of fragility fractures.

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