

PP385: Fracture Risk Assessment in a Primary Care Population: Case Finding Using Routine GP Data, FRAX® & RAIDR® in the UK

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Introduction:

Fracture Risk Assessment using FRAX® estimates 10-year fracture risk (FR₁₀) at major sites & the hip. RAIDR® (short for "Reporting, Analysis & Intelligence Delivering Results") uses information **dashboards** to synthesise clinical data for reporting and presentation in primary care. In Newcastle upon Tyne, UK in 2012, it was agreed that FRAX® and RAIDR® could be used to share data between General Practice (GP), Clinical Commissioning Groups & local hospitals to identify patients at high FR₁₀.

Methods:

FRAX® & RAIDR® were used to assess routine GP data for 120,478 patients (50.2% female) from 37 GP practices, aged 40-90 years. FR₁₀ was estimated & hip FR₁₀>10% was used to indicate high fracture risk. Data were included on prescribed osteoporosis treatments (bisphosphonates, strontium ranelate, raloxifene, denosumab & teriparatide)

Results

Table 1 & Figure 1 present mean[range] major & hip fracture risks for patients on and off treatment. Patients at higher fracture risk are being treated, with the mean major FR₁₀ three times greater & mean hip FR₁₀ five times greater in those on treatment. Results were presented to GPs in an **Osteoporosis Dashboard**.

Discussion

Even using conservative estimates from routine GP data, untreated patients with FR₁₀ at the hip up to 47% were identified. Variations may be due to differences in demography, case finding or data quality.

However, information can be fed back using the RAIDR® **Osteoporosis Dashboard** (Figure 2), which presents hip FR₁₀ for all patients. It includes the predicted number of fractures in the next 12 months and a "benchmark" against other GP practices in the city. Each point on the scatterplot represents a patient, identifying whether osteoporosis is diagnosed and treated in each case.

Clicking on a patient brings up his/her source data, including the effect on FR₁₀ of positive responses to unknowns e.g. parental hip fracture (Figure 3).

Using FRAX® and RAIDR®, we aim to:

- Improve data quality and utility.
- Focus case finding on GP practices with higher untreated fracture risk.
- Target treatment to patients at high fracture risk.

Conflict of interest: None reported

Table 1. Ten-year Major & Hip fracture risks for patients on & off treatment (mean[range])

Age Years	On Osteoporosis treatment			Not on Osteoporosis treatment		
	Major FR ₁₀ Risk (%)	Hip FR ₁₀ Risk(%)	Hip FR ₁₀ >10% (%/GP)	Major FR ₁₀ Risk (%)	Hip FR ₁₀ Risk(%)	Hip FR ₁₀ >10% (%/GP)
F 59.5	22[1.3-55]	11[0-49]	45[0-75]	8[1-56]	3[0-47]	7.6[0.6-12.3]
M 57.3	9[1.8-24]	4[0-20]	9[0-67]	4[1-27]	1[0-24]	0.6[0-0.9]
All 58.4	19[1.3-55]	10[0-49]	38[0-60]	6[1-56]	2[0-47]	4.0[0.2-6.5]

Figure 1. Mean & range of 10-year Major & Hip fracture risks for patients on & off treatment

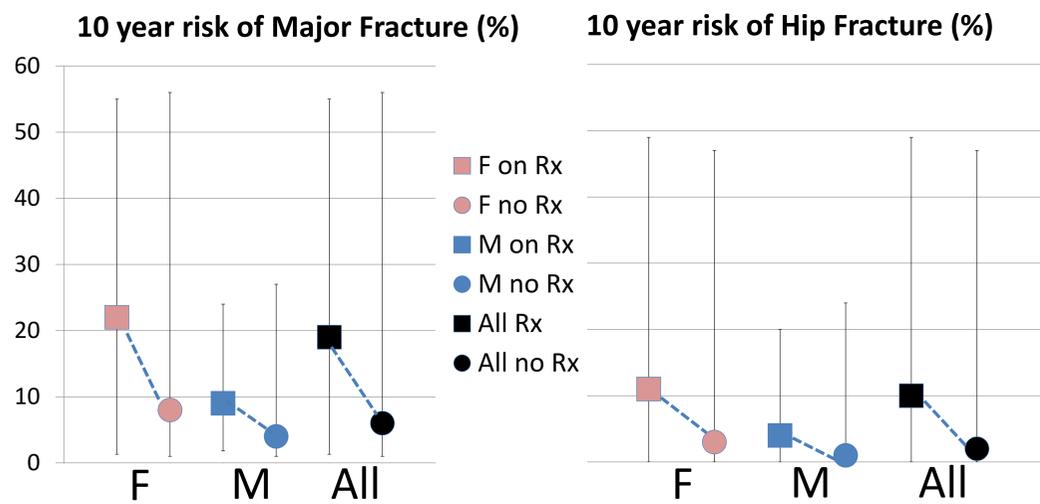


Figure 2. Osteoporosis Dashboard, showing 10-year hip fracture risk

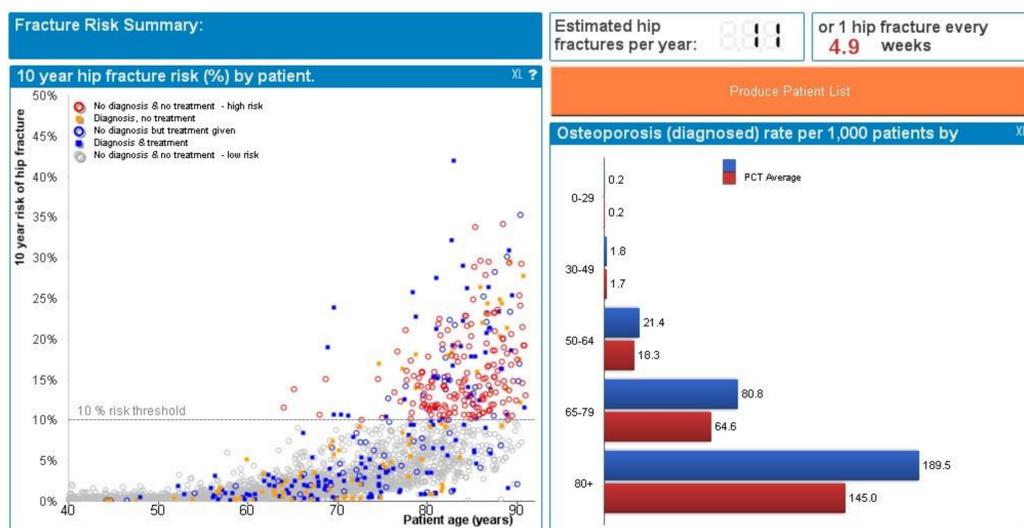


Figure 3. Osteoporosis Dashboard, showing risk factors

