Reviewer’s report

Title: World Health Organization fracture risk assessment tool in the assessment of fractures after falls in hospital

Version: 1 Date: 11 August 2009

Reviewer: Eugene McCloskey

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The question addressed here is of interest particularly in a wider setting, but its applicability in the in-patient setting is more difficult to appreciate. Identifying fracture risk in fallers is indeed a worthy aim and such high risk patients would benefit from long-term treatment to reduce fracture risk as well as falls prevention measures. Whether skeletally targeted therapies can reduce hip or peripheral fracture risk in such a short timescale remains a controversial point. The evidence for hip protectors is not as strong as the initial studies suggested and even if partially effective they would not reduce fractures at other sites. Nonetheless, we need to consider falls and fracture risk in such patients.

Major Compulsory Revisions

1. This was a retrospective study of over 20,000 patients aged 40-90 years admitted to a single hospital over 3 years. The participant characteristics are not described in adequate detail – one assumes that most are elderly, but the study includes patients as young as 40 years – more information should be provided including whether acute or elective admissions were included.

2. How would the two risk tools perform in a much more selected population that is at higher risk e.g. over the age of 65 or 70 years? This is a suggestion made by the author in the discussion and it should be possible to do it within the current dataset.

3. The paper concludes that STRATIFY is reasonably good at predicting falls and FRAX is reasonably good at predicting fractures in the fallers, but the data aren’t analysed to see how the combination would work in practice. For example, it appears that FRAX probabilities have only been calculated in the fallers – as most of the fractures occurred on the first fall, the need for FRAX is negated. How would a combination of STRATIFY and FRAX work in the whole study population at admission (or better still in a preselected older segment of the population)?

Minor Essential Revisions

1. The FRAX output is consistently referred to as a score but are more properly called 10-year fracture probabilities. It is not clear whether the numbers refer to major fracture or hip fracture probabilities alone.

Level of interest: An article of limited interest
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests