Reviewer's report

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

Version: 3 Date: 18 March 2010

Reviewer: Terry Haines

Reviewer's report:

The authors have improved the clarity of the method of the manuscript. However, this makes clearer some of the methodological / analysis problems they would have encountered.

Major compulsory revision.

Fracture risk and the validation analysis

With only 18 fractures and random division of the dataset into 10 portions, there are going to be very few fractures (indeed none in some) in each dataset. Thus the confidence intervals surrounding the AUC will be extreme given extremely low numbers in each of these smaller datasets. The authors have taken the average of these point estimates and have not presented confidence intervals for each individually or as a whole. Thus the uncertainty in estimates within each individual dataset and overall have been not been presented for the reader to consider.

The authors would have been better to divide the dataset into one development and one test dataset. That way, they would be likely to have between 7 and 11 fractures in each dataset. They should also have a person blinded to the study hypothesis randomly divide the dataset and to designate one as the development and one as the validation dataset, so that the authors are not seen to be manipulating this process (I am not implying that they did, this is just to add to the methodological strength of this process).

The 95% confidence intervals for sensitivity, specificity and AUC should be presented for the development and the validation dataset so that the readers can see the level of uncertainty in these results.

Level of interest: An article of importance in its field

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