Reviewer’s report

Title: The relative efficacy of nine osteoporosis medications for reducing the rate of fractures in post-menopausal women

Version: 2 Date: 3 June 2011

Reviewer: Iñaki Imaz

Reviewer’s report:

This is a quite interesting article which tries to clarify an uncertain issue using new methods. Because its results don’t solve uncertainties, it is still more important to explain clearly the methods. This is the major weakness we must bring out.

Major compulsory revision:

1) The authors must report which are the baseline effects they establish to compare between prior to subsequent effects. The authors say that predefined priors were used but they don’t clearly explain how they reach those priors, or which information was used to calculate them. In addition to this, the authors say that (subsection of methods called “outcomes”) unadjusted odds ratios were estimated but they don’t say how they were calculated.

2) The robustness assessment has not been clearly explained. First at all, the figures 2, 3, 4 and 5 should have title, and the results of differences between classical and Bayesian analysis should be clearly presented.

Minor essential revisions:

1) A minor but also compulsory revision of the abstract should be done because the results section says:

“The drugs with the largest effect size for non-vertebral fractures was zoledronic or denosumab, while the drugs with the highest probability of reducing …”

but it should be revised, saying: “were zoledronic and denosumab, while the drugs with the largest effect size for reducing …”

2) “Results” section. “Bayesian ITC estimate…” section.

The first paragraph ends saying: “In addition, there is not enough evidence to detect differences in efficacy between any of the drugs”

but it should be said:

“… between any of the drugs for non-vertebral fractures”.

Level of interest: An article of importance in its field
**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests