Reviewer's report

Title: The role of the combination of bone and fall related risk factors on short-term subsequent fracture risk and mortality

Version: 1 Date: 11 September 2012

Reviewer: Lisa Langsetmo

Reviewer's report:

Major compulsory revisions

I expect similar results would be obtained if one assessed total fracture risk (by using FRAX or the Dubbo nomogram) and then stratifying the results. This would have the advantage of incorporating these very important risk factors and allowing a more personalized assessment by using continuous BMD.

1. Were the fracture risk assessments used in the article concurrent with the ones used in the fracture liaison service?

2. If so, is there a rationale for using a simplified system vs. a full assessment of fracture risk to treat? (i.e. ignoring age, and sex for example, and using only categorical BMD)

3. Does using a more complete fracture risk assessment better stratify the risk? Could this be used as part of the liaison service?

There were multiple comparisons made.

4. Were the comparisons pre-specified and if so what was the rationale for each? Why separate out those with bone risk factors alone to compare to those with a combination of risk factors?

One of the findings was a “time interaction” found when comparing those with a combination of risk factors to those with only bone risk factors. I am not sure this is the right description given a) the multiple comparisons used and b) the factor that there were only 9 events in the comparison group. If an event rate is low, then even under the assumption of no true time dependence there might some apparent clustering in time. This is reflected by the very wide confidence intervals including the bizarre HR=8.62 95% CI 1.29-58.82) at time 0. I think it is better to say that overall the hazard of fracture drops off over time for the entire group, and maybe the time dependence of the drop-off is different in some groups. Moreover, since the groups are not balanced, it is unclear whether it is the combination of risk factors per se or the age, sex, and general frailty differences between groups may lead to the posited differences.

Minor and/or Discretionary Revisions

1. Same results are present in the Figure 1 and the Table 1. Is the redundancy necessary?

2. Similar results are presented in the text and Figure 3, but Figure 3 does not
include the wide confidence intervals
3. Table 1: Psychofarmica not English
4. Immobility = < 4 hours of what? (activity, being out of bed)

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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.