Reviewer's report

Title: Impacts of the Finnish service screening programme on breast cancer rates

Version: 2 Date: 25 September 2007

Reviewer: Alessandro Barchielli

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The authors are clear about how this study builds on past experiences. The methods seem scientifically sound and the authors now present some helpful clarifications of concepts, previously unclear, such as refined mortality, but results presented in tables are not appropriately explained. Therefore a better explanation of the results should be presented to help the reader (in particular if not directly involved in screening programmes evaluation) to understand the paper.

In particular, as concern routine mortality and incidence-based mortality, the reasons of the differences between results in table 1 or 2 (comparison between observed after screening and expected based on pre-screening) and in table 3 (with the inclusion of the experience in ages not included in the screening programme) are not fully explained. The question is not only to clarify the statistical modelling, but to explain the logical interpretation underlying statistical analysis. I suppose that the main difference is that mortality in ages not involved in the screening shows an increasing trend also in the more recent period (see age-specific comparison in table 1 and 2). The statistical model of table 3 assumes that this increasing trend should affect also screening ages in absence of screening? But figure 3 shows a consistent decreasing trend in mortality since the mid-1990s in all age groups. So, what is the authors explanation?

In conclusion, authors should clearly explain the logical reasons of the above mentioned differences in results between table 1 or 2 and table 3.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

- Introduction (Reference 14). Olsen & Gøtzsche reported that there is no reliable evidence that screening for breast cancer reduces all-causes mortality, and considered breast cancer mortality a misleading outcome for screening evaluation. Therefore the sentence relative to this bibliographic reference is
inappropriate
- Results. Page 8, row 8th, Table 2 or Table 1?
- Results. Page 8, last row: -3,1% instead of 3,1%

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**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