Reviewer’s report

Title: Use of methods to calculate the number needed to treat in randomised controlled trials where the outcome is time to an event: literature survey

Version: 1 Date: 7 March 2008

Reviewer: Andy P Grieve

Reviewer’s report:

Major Compulsory Revisions

1. Methods: I would question the choice of journals. Since these journals are at the top of the tree in terms of quality it might e expected that articles appearing there are more likely to use the appropriate methods of calculation. Perhaps a more general review would be better.

2. Results: The statement “The NNT is used as effect measure to present the results from RCTs with binary and time-to-event outcomes in the current medical literature” is a fact although I would question the phrase “current medical literature” since the review is restricted to 4 journals. However it suggests that the NNT is used frequently whereas in fact it is used in less than 10% of clinical trials reported in these journals.

3. Page 4. Background: It seems to me that the whole premise of this work is that the use of NNT is a good thing. It is true that Laupacis et al introduced it as a “useful clinical measure” and it has been argued that it is more easy to understand than some of its competitors such as the risk ratio and the odds ratio. Nonetheless statisticians (Hutton, J. Roy Statist Soc Ser A 2000; 163:403–419; Grieve, Pharmaceutical Statistics 2003) I would like to see some evaluation of the value of the NNT.

4. Pages 6-8. Results: This is a fairly uncontroversial, standard presentation of results. I have one or two niggles about the presentation of the results from Table 2 and 3 in the text and they have largely to do with a somewhat cavalier use of percentages. So for example we are told that 63.6% of the Lancet articles using time-to-event data used the appropriate calculations – but that is only 7/11. We are told that none of the BMJ articles dealing with time-to-event data used the appropriate method – but this is 0/4 and it might be argued that 0/4 is not unduly inconsistent with the overall rate which is just under 50%.

5. Pages 8-9 Discussion: My personal view of confidence intervals for number needed to treat is that they can often be more confusing than illuminating. Altman’s work in which we are recommended to report CIs for the NNT in the form “NNTH 14 to 1 to NNTB 5.” In those case where the ARR is not statistically significantly different from 0. Again I would want some discussion about this.
6. Page 2/3. Background : It is true that the NNT is relatively well-known – however it is not clear to this reviewer that it is well understood. It is useful to have an estimate of the frequency of its use in reporting clinical trials. I would like to see some discussion as to whether it is understood by the general readership of the journals.

**What next?:** Reject because too small an advance to publish

**Level of interest:** An article of limited interest

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

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

'I declare that I have no competing interests'