Reviewer's report

Title: Calculation of NNTs in RCTs with time-to-event outcomes: A literature review

Version: 4 Date: 12 December 2008

Reviewer: Ingram Olkin

Reviewer's report:

I have now read the current version, and am sorry that I still have a problem with the paper. The authors have examined a number of papers and have reported on various aspects of the published papers. A central thesis is that computations for the number needed to treat (NNT) in a large number of papers have been carried out incorrectly. Thus, for example, in Table 3, study #1 reported 14 NNT whereas the recalculated number is 17.5. This fact is interesting, but as a reader I need to know how did the authors of study #1 arrive at the estimate 14, and how did the authors recalculate the estimate to arrive at 17.5.

In brief, I want to see the methods for calculating NNT used by the authors of the 18 studies, if they are different. If the authors of the 18 studies used the same method, then only one needs to be shown.

Point estimates are essential, but so are confidence intervals, and here again I would like to see confidence intervals that the authors used and the recalculated confidence intervals. One of the reasons is that point estimates are relatively fragile in that small perturbations can make large differences in the estimate.

In table 3 one of the columns shows an absolute difference in the two estimates of the NNT, and another column shows the relative difference as a percent. When the NNT’s are small the relative difference percent can become large in a spurious way.

The relative difference percent is a fragile measure and readily leads to misinterpretations.

If these computations appear a bit too statistical, then they could be put into an Appendix. But without these additions, which I believe to be central to an understanding of the issues, the review is somewhat tepid and cursory.