Reviewer’s report

Title: A Statistical Framework for Quantifying Clinical Equipoise for Individual Cases during Randomized Controlled Surgical Trials

Version: 2 Date: 22 November 2011

Reviewer: Jonathan Alistair Cook

Reviewer’s report:

The revised paper and the covering letter addresses my main concerns; the requested changes have also generally been made.

I have the following two minor essential revisions (and one discretionary revision):

1. Following from the clarification in the revised paper and the cover letter responses, the added text on belief in section 2.1 (page 7) and in section 2.2 (page 7) the text should be consistent that in referring to the two options singular to avoid confusion. The choice is between surgery and conservative treatment; conservative treatment may vary in its constituent components (as indeed the former probably does) but there are only two basic options. The text in section 2.2 belief is stated in terms of Belief represents the tendency "to expect a particular treatment to perform better than the alternatives" whereas disbelief is stated "an intervention to have a worse outcome as compared to a control intervention"; Specification of the control is varying from plural to singular with former suggesting there might be a third intervention being considered. Similarly the new text in section 2.1 should be clearer that though there are difference conservative treatments the question posed is about the choice of surgery or conservative treatment.

2. Table 2 should be modified as the "Total" row is not a total of the rows above as you expect. This needs some clarification for the reader.

Discretionary Revision:

1. I think it would be more intuitive to a reader to follow if "belief" and "disbelief" were relabelled (and defined) as "belief in surgery" and "belief in conservative treatment" respectively.

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests