Reviewer's report

Title: What differences are detected by superiority trials or ruled out by noninferiority trials? A cross-sectional study on a random sample of two-hundred two-arms parallel group randomized clinical trials.

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Reviewer: Vance Berger

Reviewer's report:

First, in the Background Section, the difference to be detected does not by itself determine the sample size, but it does partially do so. This should be clarified. Same paragraph, I would replace "meaningful" with "realistic". This is not mere semantics, and hopefully the distinction will be clear. Next paragraph, it is not quite true that planning a trial needs a noninferiority margin as input. I wrote a paper with Valerie Durkalski that offers an alternative to this usual paradigm. Also, the point about one being smaller than the other is not true in any absolute sense, but rather only in the sense of all other things being equal. This should be clarified.

But the manuscript suffers from another problem, and that is perhaps best expressed as "Who cares?". What decision is informed by knowing the margins currently used in practice? This seems to me an exercise without a purpose, or an answer without a question. Pages 9 and 11 strike me as the real heart of the manuscript, and the rest should probably be built around this. In fairness, I understand why the authors did what they did, and I once did the same thing. There is this perception, right or wrong, that journals want to see a study. So they did a study. A useless one at that, but still a study. I once did the same thing only to get the journal to look at the real point, which had nothing to do with the study itself. Likewise here, the study aspect of this strikes me as nothing more than a distraction. I cannot speak for the journal, of course, but I would think that the manuscript would become stronger with more discussion and less nonsense about which other studies use which noninferiority margins.