Reviewer’s report

Title: Dealing with indeterminate outcomes in antimalarial drug efficacy trials: A comparison between complete case analysis, multiple imputation and inverse probability weighting

Version: 2 Date: 16 Jul 2019

Reviewer: Roderick Joseph Little

Reviewer's report:

Review of BMRM-D-18-00204R2

1. Line 96. It is not clear what "this" is referring to -- CC analysis, not Eq. (2), right?

2. Line 261. But the model did include regimen as a covariate, right? I think you mean the sample size was too small to stratify on treatment, but this could be more clearly phrased.

3. Line 329. It is odd to include the analytical estimate based on Eq. (2) here, but not include it as a method to be compared elsewhere, particularly given that it corrects the bias. RMSE is easy, and estimates of SE are readily computed for this method. I wonder if none of the other methods did any better, somewhat deflating the findings of the simulation.

4. Line 339. ML is fully efficient, and MI is asymptotically efficient as the number of imputes increases. I think you mean the variance of the estimates increase, but this reflects loss of information in the data, not statistical efficiency.

5. Discussion. The simple analytical method in Eq. (2) does not appear to be discussed at all, but to me it captures the main idea, though MI and weighting may be useful for including covariates.

6. Acknowledgement. Thanks for now acknowledging my "substantial contribution", but (admittedly on a self-serving note) you might say what that contribution is…

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons
CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal