Reviewer’s report

Title: Comparative efficacy and safety of second-line treatments for advanced non-small-cell lung cancer with wild-type or unknown status for epidermal growth factor receptor: a systematic review and network meta-analyses

Version: 0 Date: 24 May 2017

Reviewer: M. Hassan Murad

Reviewer’s report:

Overall well done systematic review and NMA. The authors did most steps with rigor and did a lot of work. I cannot verify data extracted from original studies but do not see reasons to doubt the findings. I have several major concern that authors need to address:

In the abstract you say twice: "similar results were found for drug X". I don't know what this means. Be more specific in stating explicitly what these "similar results are (even if you don't put numbers).

In the abstract, reader cannot tell whether the difference between drugs is trivial or important. You state that drug X is superior but by how much? Does it extend survival by a day, a month or a year? HRs are insufficient. Please see published well-conducted network meta-analyses and add some assessment of the absolute difference between drugs. Otherwise, clinicians cannot act on this evidence.

So, do we trust these results? I don't see a rating of the certainty in the results. Read about GRADE and provide such ratings.

Don't use the terms "trial" and "study" interchangeably.

On page 10 you use the term "sponsored treatment". This is not a common terminology, please reword.

There is minimal mentioning of details of the Bayesian approach. Which priors used? Any sensitivity analyses done with different priors? There is tendency these days to get better estimates using empirical priors (see Rebecca Turner's Paper to get such priors).

The last 2 figures in the appendix (risk of bias and contribution matrix) need more explanation on how they were produced and what they mean (in a legend). Detailed explanation is needed.

Any comments about the difference between published and unpublished trials and the impact on publication bias? Other than the table in the appendix, did you suspect publication bias based on this, as opposed to doing funnel plots and asymmetry tests?

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.

Yes

**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:

Needs some language corrections before being published

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