Reviewer's report

Title: Cost-Utility Analysis of Drug Treatments in Patients with HBeAg Positive Chronic Hepatitis B in Thailand

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Reviewer: Milena Pavlova

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Research article
Cost-Utility Analysis of Drug Treatments in Patients with HBeAg Positive Chronic Hepatitis B in Thailand
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The paper aims to compare the cost-utility of alternative drug treatments for patients with HBeAg positive CHB compared with palliative care. A social health economic perspective and Markov analysis are applied to frame the measurement of costs and outcome. The authors conclude that generic lamivudine with the addition of tenofovir rescue when drug resistance occurred, generic lamivudine with the addition of tenofovir based on the road map concept, and tenofovir monotherapy are cost-saving interventions compared to palliative care.

Overall the manuscript adheres to the relevant standards for reporting and data deposition. The title reflects well the content of the paper. The abstract provides sufficient details on all parts of the paper. However, the aim of the paper should clearly state the alternatives that are being compared. Now this becomes clear only in the results and discussion section. It is not necessary to list all therapies in the study aim, a reference to table 1 would be sufficient. The aim should clarify whether authors compare combinations of therapies to palliative care, or each of the therapies to palliative care. Also, the societal perspective should be defined within or directly after the study aim.

Below additional comments on how to improve the paper:

- Major Compulsory Revisions

1. The aim of the paper should be better motivated. Why are these alternative chosen for a comparison, in particular why palliative care? Also, what is the practical relevance of this specific study for health policy/insurance in Thailand? This question is now only partially answered.
2. In the background section, the authors should also acknowledge previous cost-utility studies on this topic even if they are carried out outside Thailand. Now this is practically absent in the paper.

3. The method section should provide more details on how the study was designed and carried out:
   a) Sampling: How is the sample selected from the study population defined in the method section? How many participants? How is the membership to an alternative treatment defined? Randomization or patient choice (before the study was initiated or at the start of the study)?
   b) Scenarios: The scenarios can be visualized in the form of a figure (they are not directly obvious from figure 1). The role of the scenarios in the study should be clarified in the methods section.
   c) Data: It is not clear to me why are authors using international data for their analysis if they claim in the background section that they contribute to research by providing a study in Thailand? Transferability of economic evaluation results is rather uncertain and this questions the validity of the conclusions.

4. There is no table 3 in the paper while there is a reference to table 3 in the results section.

5. The study limitations are addressed but their implications for the conclusions are not well discussed. This part of the discussion section should be extended.

6. The discussion and conclusions are supported by the data but the conclusion section should be extended to place the results in the context of health policy/insurance in Thailand. This also refers to the practical implications of the study motioned above with regard to the background section.

- Minor Essential Revisions

7. The text some time lacks consistency. Just one of many examples: the first sentence in the discussion implies a very different study aim then that defined in the background section. The text should be thoroughly checked for inconsistencies.

8. The use of English language is acceptable. I believe that authors can copyedit themselves the final version. Overall, there is a very heavy use of medical terminology, which might make the paper less understandable for the general health service research audience.

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

**Quality of written English:** Needs some language corrections before being published
**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests