Reviewer’s report

Title: A Systematic Review on Methods of Health Research Economic Impact Evaluation: An urgent need in an era of economic crisis

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Reviewer: Elizabeth Kalucy

Reviewer’s report:

The article addresses the important challenges in measuring economic impact of research, which is necessary to convince governments and primary sectors to invest in the health research sector, especially in developing countries with limited financial resources and low rates of investment in research even before the economic crisis. The article is a useful description of the diverse criteria and outcomes used to examine economic benefits, though without any attempt at synthesis of the similarities and differences between different methods, or discussion of the most suitable methods.

However, the reasoning is at times difficult to follow, at least partly because of the quality of written English translated from Iranian. With fairly extensive editing the article would read much better.

The paper is balanced, representing the field well after an extensive search of the literature.

Major Compulsory Revisions

Background:

1. The following sentence is an example of the confusing reasoning. “Therefore, in order to secure funds for health research, every country should prove that their investment in health research should have economic benefits.” The authors should clarify whether they mean countries should be able to measure the economic benefits of their research, or should not invest in research which has no potential economic benefits.

2. Results: At the end of this section, the structure would be improved if the three questions to be answered were listed in the same order as the following sections which address each question in turn, and if the sections did not overlap so much in their content.

3. The section headed “Which methods can be used to assess the economic impacts of research?” is much longer than the sections addressing the other questions. This is partly because there is considerable space allocated to the question of attribution, which may be better moved to the following section.

4. The following sentences would be clearer if rewritten:

Sentence 2. “Ecologic studies examine the relation between the expenses spent
on research conduction…” I suggest that the sentence would read better as
“Ecologic studies examine the relation between the costs of conducting
research…..” This illustrates the language problems which make it harder to
understand this article.

Sentence 6. The major problems in these kinds of studies… re-write
Sentence 7. So the important point is …..re-write to clarify
Sentence 11. Another proposed solution … this meaning of this sentence is
unclear.

5 Section headed “Economic rent”. Point 3 on health benefits indicators is not
correct. QALYs are a measure of health benefits, not of the cost of implementing
results. The apparent confusion between cost of implementation and value of
results in terms of health benefits needs to be clarified.

6 In section headed ‘Which economic outcomes are attributed to health research,
I suggest a better word would be attributable’. This is the section appropriate for
describing the attribution issue and ways to address it.

7 The paragraph commencing “The next question is…” should be a dot point
heading consistent with the other two questions as in Point 2.

8 Under ‘Important considerations” the ethical principles described do not in my
opinion relate to the question of whether the cost of implementing research would
be included in evaluation of economic benefits. The authors use examples where
costs outweigh benefits, an appropriate use of economic evaluation. There
seems to be some confusion between implementing research findings by making
the clinical (or policy) world aware of them and capable of applying them, and the
circumstances in which results are applied. If a research study has specific
results, this does not mean clinicians or policy makers should always apply the
findings regardless of circumstances. The authors should consider other costs of
implementing research results: dissemination, training, education, changing
clinical practice, developing guidelines appropriate to local and clinical context
etc.

9 The Discussion section could be tightened and possibly shortened, which may
be achieved by editing and removal of repetition.

9 Paragraph 5 commencing “what is evident in all these studies…..” Sentence 3
reads “No doubt, if research findings are not applied, only the economic impacts
of health research may be estimated.” This relates to point 7 above, it would be
helpful for the authors to clarify what they mean by implementation and
application.

Minor Essential revisions

10 Reference 20 is incorrectly cited using authors’ first names rather than family
names.
Discretionary Revisions

Even if it is proven that the return is low or nothing at all, the necessity of assessing economic benefits is still prominent, because it is in fact an alarming sign for wastage of investments, and the weaknesses should be identified using the assessment results and consequently be corrected. This opinion point from the Background would be best placed in the discussion, or otherwise referred to in the discussion about implementation and application.

11 The sentence illustrates one of the risks of assessing economic benefits of research. Inability to demonstrate benefits, which may be due to measurement and data issues or implementation failure may be interpreted as wasted investment, and could then affect further research investment. It would be useful to include some discussion about the potential reasons for lack of measurable economic benefits from research projects, and the risks for future research investment.

12 The authors raise an interesting point about economic benefits from domestic and foreign research. Presumably developing countries could benefit from foreign research if it is relevant to and applicable to their context. The authors may wish to comment on the possibility of developing countries justifying their low research investment by relying on foreign research even if this cannot be applied locally. However, spillover benefits of research investments from other countries would probably be welcome, as long as they were not considered as benefits from domestic research.

13 The conclusions could be strengthened, with inclusion of the final paragraph of the Discussion.

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: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.