Reviewer’s report

Title: Burden of disease and economic evaluation: are we investigating what really matters?

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Reviewer: Rebecca Mitchell

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This paper describes the main characteristics of economic evaluations conducted in Spain during 1983 to 2008 and then examines the association of common measures of the Spanish burden of disease in 2006 (i.e. DALY, YLL, YLD and mortality) relative to the number of economic evaluations conducted. I found this paper very interesting and have a couple of minor comments and have picked up a couple of typographical errors and suggested a couple of minor amendments in the text to aid readability and/or for clarification.

Minor essential revisions:

1. The abstract conclusion first sentence should read ‘whether’ not ‘wheter’.

2. Introduction – last sentence of paragraph 1 – add in ‘resources i.e. ‘...because those resources used inefficiently...’’. Para 2 of the introduction, first sentence, do you mean ‘the conduct of economic evaluations’? i.e. the number of economic evaluations has increased over time, rather than the development of economic evaluations has evolved? If this is meant to be ‘conduct of evaluations’, I’d add in at the end of the first sentence ‘...innovation and the explicit need to ensure effective use of existing resources’. In the second sentence, I’m not quite sure what is meant here, it might benefit from some additional text at the end e.g. ‘...from efficient investments in interventions with proven benefits in health outcomes.’ ‘Somehow’ should be deleted from the next sentence and start with ‘The efficiency level can be measured...’

3. Para 3 of introduction – I think this should be ‘South European’ or ‘Southern European’ and para 4 should probably be ‘..we examined whether full economic research...’ not ‘how economic research’. I’d also add in here an e.g. of what ‘full economic research’ is. It’s mentioned in the methods, but I think it needs to be in the aim too – or else delete the ‘full’ from the aim and just define ‘full economic research’ in the methodology. I’m not sure if ‘recommendations’ is the right word here, maybe ‘information’ obtained might be better?

4. Data and methods – para 2 – suggest rewording of the first sentence for readability, something like ‘The results from a previous review that examined economic evaluation studies published within the years 1983-1999, updated with the studies published until 2008, were examined’.

5. In the selection criteria, why would ‘abstracts’ of papers be excluded – is this
meant to be ‘abstracts only’? Some clarification is needed here.

6. In classification parameters, can a bit more be added regarding what is meant by ‘perspective of analysis’? Eg, ‘...perspective of analysis in terms of xxxx’. This should be ‘affiliation’ not ‘filiation’. This typo re ‘affiliation’ also appears in Table 1. With specifying the main disease cause, were there any papers that looked at multiple diseases, what did you do with these? Would there be some double-counting if more than one disease was considered in a paper? Line 10, I think you can delete the word ‘has’ and in line 12 I’m not sure what is meant by the term ‘exposure of the results’ here. This needs clarification.

7. Results – para 1, line 1 – to aid readability, I’d change this to ‘...87 studies identified from the 1983-1999 review were excluded...’. At the end of this para, I think some description of the key aspects of Table 1 could be added in the text.

8. In ‘Association between economic evaluation research and disease burden’, para 1, line 3 – for clarification, I suggest adding ‘...There is a mismatch between DALYs and conduct of economic evaluations. For example, communicable, ....’, then delete ‘that’ after ‘nutritional conditions’ and then in line 8, I’d add ‘In particular, depression and dementias were in the first positions of DALY rankings for disease specific sub-categories, while in terms of economic studies they...’. In line 10, delete ‘Something similar happens with’ and replace with ‘Similarly,’, then add at the end in line 12 ‘...cancers) are high in DALY rankings yet had a low number of economic evaluations conducted.’ Delete ‘on the contrary’ and add ‘In contrast’ and in line 13 change ‘would be’ to ‘are’ over-represented.

9. Discussion – the discussion might need a little bit more in terms of explanation as to why some health conditions have not had a high number of economic evaluations conducted relative to their disease burden. For some of the health conditions, where there have been a low number of economic studies conducted, it does not necessarily mean that there is a ‘known efficiency profile’ – e.g. in injury prevention. There might be a lesser number of economic researchers funded and/or interested in costing trauma prevention measures or less research conducted on the evaluation of injury prevention measures, than say cardiovascular disease. Also, I don’t think it necessarily holds true that generically research priorities are established by ‘the interests and concerns of investigators or pressure from advocacy groups’. For example, in Australia, national health priorities are identified based largely on the burden of disease and/or the projected burden of disease in the population. Advocacy groups often then advocate for particular interventions or particular research to be conducted.

10. Para 1 should this be ‘mild to moderate’? Line 6 – add in '..evaluations compared to the disease burden for infectious...'. Line 12, should be ‘physical activity’ and line 13 ‘to prevent adverse cardiovascular outcomes.’

11. Para 2 – need a reference(s) for line 6 – re disagreements between research resources and disease burden.

12. I really like figure 3 – great way to summarise the contrast.
13. Para 3 – for readability – line 1 – suggest something like ‘In contrast, this research has identified the lack of economic evaluations aimed at...’ The last sentence ‘Therefore, DALYs...’ – I don’t think this necessarily follows from the argument stated above, suggest re-working this last sentence.

14. Conclusion – line 6 should be ‘whether’ not ‘wheter’. Line 7 – suggest adding a bit more, something like ‘In terms of economic evaluative studies, this analysis shows that some research areas require greater attention by researchers and policy makers, specifically the areas of xxxx, as these areas have been shown to represented a large proportion of the burden of disease and a priority focus on the economic effectiveness of interventions in these areas is likely to highlight the xxx.’ I think you should specify the health conditions here and what the benefits of conducting economic evaluations in these areas would be.

15. Para 2, line 5 – suggest saying ‘reasoned adequately’ rather than ‘reasoned enough’.

16. Figure 1 – the mortality column in the figure was hard to distinguish due to the colour – depending on final production, column shading might be better.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**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'