Reviewer's report

Title: An optimal search filter for retrieving systematic reviews and meta-analyses that evaluate the effectiveness of public health interventions

Version: 1 Date: 4 October 2011

Reviewer: Jennifer Tieman

Reviewer's report:

Major compulsory revisions

Effective retrieval of relevant and appropriate numbers of articles is challenging. The aim of this study is “to report on the performance of a methodological filter – the health evidence.ca Systematic Review search filter – for retrieving systematic reviews and meta-analyses that evaluate the effectiveness of public health interventions.”

However, the authors provide little basis for understanding the development of their initial search which they describe as a search filter. Indeed, it is difficult to assess whether it would meet the criteria for search filter development articulated by Glanville, Bayliss et al in 2008 and further developed by Bak, Mierzwinski-Urban et al in 2009. The search in question appears to have been adapted from an earlier filter designed to retrieve systematic reviews, which has been combined with their expert content search for public health content. No information on the basis or testing of the adaption is provided or on the development of the content component.

In essence this study attempts to validate the “search filter” by comparing it to the previous content search and to other systematic review search filters. However the latter comparison involves a search that combines 2 potential searches (i.e. systematic review search and a public health search) against search filters only searching for systematic reviews. This introduces an unknown set of biases into the comparative data. For example, were the characteristics of public health systematic reviews somehow atypical of systematic reviews across all clinical conditions or health circumstances. It may have been more useful to test the effectiveness of the systematic review component of the search by comparing the reported search against other filters that were combined with the content search for public health.

There is also no detail on how the searches uses in the first comparison were “modified' for use in the various databases.

The net effect of these concerns is that as a reader I was:
1. unable to discern if the proposed “search filter” had been developed experimentally and following an appropriate methodology
2. uncertain of how to interpret the relative returns of the public health versus the
systematic review search given the nature of the gold standard, that is already 
pre-selected as both a systematic review and public health, and 

3. unable to assess the value of comparing a systematic review and content 
search against systematic review only searches as a validation of the 
effectiveness of the proposed search

I would suggest that these areas need to be more carefully considered, more 
clearly explained and more effectively analysed to claim that an optimal search 
filter has been developed.

Minor revisions

It would be helpful to provide a definition of a systematic review as is included in 
health.ca. (e.g. according to PRISMA, quantitative only, qualitative,) as this may 
affect the effectiveness of the individual search filter.

P5 Sentence 5: It is a bold claim that decision makers have access to all 
systematic reviews published since 1985.

Use of significance/significant: Please do not use a significant reduction unless 
there has been a statistical test for significance applied.

P21 L6: I suspect the best filter is determined by the needs of its purpose not 
necessarily a “balance”. If, for example, I wish to use a search filter to identify 
articles reporting studies on a particular clinical outcome for a systematic review, 
the choice would be for sensitivity as the potential costs of non-identification are 
high.

P24 L3 Low precision is surely not a function of low prevalence as precision is a 
measure or relevant records retrieved by the search / all records retrieved by the 
search. The search may only retrieve all relevant articles from an extremely large 
database if the characteristic is distinct enough still providing high precision.

P24 L7: I think a greater disclaimer about the potential impact of the gold 
standard selection is required as there is a real possibility of bias. The reader for 
example does not know if the searches to generate the dataset for the 
2004-2005 validation set were based on the content search embedded in the 
systematic review.

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

**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 I have no competing interests