Author's response to reviews

Title: Optimizing Search Strategies to Identify Randomized Controlled Trials in Medline

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Author's response to reviews: see over
Major Compulsory Revisions

The second component of my comment was about setting this study within a context of existing research. Why did the authors choose the terms that they did - for instance, 'latin square' was also mentioned in the Lefebvre and Clarke chapter. I was also puzzled as to why the authors chose to go back and test the addition of terms to the original Cochrane strategy rather than modify/test the revised strategy. I was not suggesting that a comparison of results is necessary but rather asking for some further explanation as to the rationale for the design of this study and some interpretation of how this study and its results fit with the other studies. As an example, the revised Cochrane strategy (in OVID) tested the modification or addition of three terms to the two phases of the original Cochrane strategy. An additional term was tested and deemed too imprecise for the top two phases - CROSS-OVER STUDIES - and this term was tested again by the authors. There may be a very good reason to test this term again, and to not test the other terms, but I don’t see or understand that reason from the text. (Please also see comment 4ii under Discretionary Revisions.)

In our study, we simply tested the terms proposed in the Lefebvre and Clarke chapter, and we cannot know at exactly why Lefebvre and Clarke proposed those terms, or go beyond the rational they presented. For instance, we don’t know why they re-proposed CROSS-OVER STUDIES if it was previously tested to be ineffective. The reason why we tested these four terms not others is because these four terms were put forward without proof by leading thinkers in this field.

I appreciate in this version of the paper some metric for the cost-benefit tradeoff in the use of the different terms. I had previously suggested Number Needed to Read and had not thought of adding the time needed for review. This is a nice addition. However, I am still concerned about the bottom line message for reviewers. I believe that the authors’ would like to say that in those situations where reviewers decide to use the two phases of the original HSSS, rather than including the more resource intensive phase 3, they should consider adding the term ‘versus’. I am not convinced that the results allows any stronger statement and I think that the statement in the conclusions that the addition of ‘versus’ balances sensitivity and precision is an overstatement.

Accepted. We changed the wording in the Conclusion:
adding the free text word *versus* to the first two phases of the HSSS provides a modest balance of the precision and sensitivity in the reviews studied here.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. There remain some issues with the text. Some examples:
   -- the last line of background in Abstract is an awkward sentence
   Accepted. The new statement is:
Lefebvre and Clarke suggest that reviewers might consider using four revisions of the HSSS. The objective of this study is to validate these four revisions: combining the free text terms *volunteer, crossover, versus,* and the Medical Subject Heading *CROSS-OVER STUDIES* with the top two phases of the HSSS, respectively.

-- page 3, last line of conclusions in Abstract, I think they mean "weigh"
   Accepted.

-- awkward sentence, first line last paragraph, page 8
   Accepted. We changed the wording:
   We were able to calculate the precision for the 61 reviews presented a
detailed subject search

-- different spellings of author Moeher in text versus in reference list
   Accepted. We corrected it.

-- page 14, last sentence in Conclusions, drop 's' on evidence
   Accepted.

Discretionary Revisions (which the author can choose to ignore)

Page 4 (also in abstract) there is a sentence that the UKCC pilot study determined that the
terms in the third phase was too broad to “warrant their inclusion”. The UKCC concluded
that we should not include phase 3 in the MEDLINE Retagging Project. In other words,
phase 3 is too broad when searching the entire MEDLINE database (see page 80 in L&C
Chapter). I think it is misleading to say that this work suggested phase 3 generally not be
included as phase 3 may be useful, and even essential (see Brand) for subject specific
searches.

   Accepted. We added a few words to avoid misleading:
   While agreeing that the top two phases of the HSSS should always be used
to identify RCTs in MEDLINE, a pilot study by the U.K. Cochrane Centre
in 1994 concluded that the terms of the third phase were too broad to
warrant their inclusion in the MEDLINE Retagging Project.

Related to above, there seems to be a discrepancy between the statements made on page 4
and those on page 11. On page 4, the authors suggest that phase 3 is not worthwhile and
on page 11 recommend use of phase 3.

   On page 4, we paraphrased Lefebvre and Clarke’s points: phase 3 is not
worthwhile. On page 11, we mean that our results suggest that reviewers should
still use all three phases of the HSSS if they do not have access to CENTRAL.
Therefore there is no discrepancy.

In response to a previous comment, the authors clarified how they identified and
evaluated the subject specific search strategies. There is also a nice discussion of this
issue on page 12 (though I would suggest adding "subject specific" to sentences, as appropriate). I am wondering, however, if it would be useful to provide further details on how they identified and confirmed those reviews that used the original HSSS.

Thanks. We added “subject specific” to the appropriate sentences.

How did the authors check whether the reviewers used the original HSSS? Several reviews, as noted on page 12, refer readers to the CRG strategy. A quick look suggests that some CRGs use the revised Cochrane strategy (see point 1 under Major Revisions), such as the Musculoskeletal CRG (see ref 21 of reviews in paper). Other reviews provide details of the strategy - were these checked to confirm that it was the original HSSS? For instance, Cody (ref 5) seems to also use the revised Cochrane strategy (ie, latin square and CROSS-OVER STUDIES are included). Would the use of revised versus original Cochrane search impact the results of this study?

One of our inclusion criteria is that the systematic review had to use at least one phase of the HSSS. A revised HSSS still contains at least one phase of the HSSS, so we included the reviews that used any revised HSSS.

We don’t think the use of revised versus original HSSS would impact the results of this study. In our study, the original data we used from each included review was the subject specific search strategy, not their search filter. Therefore, the use of search filter in the included reviews would not change our results.

Page 8, second paragraph - I think the authors mean "detailed subject specific search strategies" in the line comparing 61 and 33 reviews.

Thanks! We added the words in the text.

Page 13 - I am not clear how the authors' study provides a basis for them to make statements about an improvement in the conduct and reporting of searching. Likewise the last sentence about use of information specialists. Depending on the definition of information specialists this statement may be true but the previous paragraph is about the reporting of search strategies.

The CAM study found that half of the CAM reviews reported the search terms, and 8.5% actually listed the search strategies. In our study, we found that 65% reviews provided detailed search strategies. From this perspective, the quality of the reporting of systematic reviews is improving. We deleted the word ‘conducting’.

Accepted: discussion of the use of information specialist. You are right, we can not judge from this study whether the involvement of information specialist would improve the quality of the reporting of systematic reviews. We deleted the sentence about the involvement of information specialist (last sentence of the first paragraph of Page 13 in previous revision)
While we revised all Phases of the Cochrane strategy (first in OVID, then translated into PubMed), we did not make any recommendations as to what phase(s) reviewers should use. The inclusion of the specific versions of the strategies in the paper reflect space considerations, an issue pointed out by the authors.

Thanks. We changed the wording to be consistent with your study:
  Robinson and Dickersin [14] tested a revised search strategy of all three phases of the HSSS for OVID MEDLINE and PubMed. This strategy has a better performance than the original HSSS.