Reviewer's report

Title: Can electronic search engines optimize screening of search results in systematic reviews: an empirical study

Version: 1 Date: 17 October 2005

Reviewer: Ann Mckibbon

Reviewer's report:

General

This is a well-done paper by a strong group of researchers. The group that has been assembled is a good mix of methodologists, clinicians, and librarians/information scientists.

The question the team addressed is important and although they did not find an ideal and painless solution to reviewing records for possible inclusion into systematic reviews/meta-analyses/clinical practice guidelines, they set the stage (and standards) for further research. Thank you for being able to review the study.

-------------------------------------------------------------------------------

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Just one...

The Objective listed just before the Methods section is not at all clear or concise. The objective in the abstract is much clearer. Please modify the Objective in the body of the work.

-------------------------------------------------------------------------------

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

All commercial products and services need to have their trademark/copyright information included. Please add all especially ones associated with MEDLINE and Ovid. Here is the information relating to MEDLINE.


Please give a description of and the contact information on Ultraseek and maybe a web address. Also do the same for SRS. I am not sure all your readers will know these 2 products.

-------------------------------------------------------------------------------

Discretionary Revisions (which the author can choose to ignore)

I fully support publication of this study. I encourage you to make it even stronger with some editing to clarify points

I found the article confusing to read although it can easily be made more clear. The following places are ones on which I wanted clarity.
At the second stage, the full reports are generally 

Methods

First paragraph…..primary studies that were either aN rct or 

…the phrase (hsss or highly sensitive search).tw……Please clarify. I think I know what you are saying but I am not sure.

Data Collection

…data about the eligible cases…. First, and last time you use “cases”. I had trouble sorting out a “generic” review and one of the 9 “case-reviews”. Please consider using some sort of terminology to sort out in the readers mind when you talk about generic reviews and your case-reviews. Collection is a term you use that might be useful here too.

“indexing status”…what is this? Please clarify. Is it indexed yes/no or what terms were used?

Search engine configuration

I think that Ultraseek processed all citations up to 6000 and then displayed what it thought to be the 500 most highly relevant citations. Please clarify this process and include in this section.

In classic information retrieval studies, the greatest weight is often given to title words and not indexing terms. Could you please cite a reference that supports your choice of more weighting to the index terms?

Search terms

You have Cochrane/MEDLINE search terms and you have Ultraseek search terms. Could you somehow indicate which ones you are talking about in the text of the article?

…"reasonable separation"—can you use a different term here or more explanation?

“random*”—can you add that the star means truncation (if that is what is meant)

Analysis

….we also examined the recall of included studies into the top 10 ranks
….we also examined the recall of included studies by evaluating only those studies that Ultraseek identified as being the 10 most relevant studies (top 10 ranks) for each case-reivew… (or something like that?)

Results of the full search replication

For three case-reviews where the ranking performed poorly, we attempted another Ultraseek(?) search…

Similarly, no obvious pattern between the included and excluded studies could be discerned. This sentence is not clear to me nor is it clear how it related to the previous sentence.

Discussion
Systematic reviewers will need to become even more innovative if reviews are to maintain their current status. (Why? Not sure I follow the logic here.)

You used a term weighting approach to relevance ranking. Your discussion could include a sentence that states that other methods of ranking (e.g., vector space methods, probabilistic methods, machine learning algorithms, and natural language processing procedures) have been used in information retrieval studies and they each could be used as possible alternatives to identifying studies for systematic reviews. James Cimino (2000s) and Bill Hersh (early to mid 1999s) have used natural language processing methods in medical settings to rank outputs—still not perfect.

What next?: Accept after minor essential revisions
Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being published
Statistical review: No
Declaration of competing interests:
I have no competing financial or other interests related to this article or its publication.