Reviewer’s report

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

Version: 2 Date: 19 September 2005

Reviewer: R Brian Haynes

Reviewer’s report:

The article is much improved, and I can now understand how the authors did their study. I think it is a valuable contribution, for testing the proposed terms for improving the precision of Cochrane searches.

That said, I believe that the authors’ interpretation is incorrect: they have shown what you gain and lose, but they haven’t shown that what you lose is acceptable, in terms of the conclusions of the reviews. I think that this is because they are making too much of the minuscule number of articles retrieved by the SSversus strategy (which is not statistically distinguishable from the other search strategies they tested), and they are likely undervaluing the 56 articles it misses. They should redress this in their comments.

Specific comments:

From Responses to Reviewers

“Although a few studies [13,14] have explored different search strategies to identify RCTs in MEDLINE, they are all focused on improving the comprehensiveness of the search strategies. As an increasing number of systematic reviews have to be completed within tight budgets and timelines, it is necessary to strike a balance between the comprehensiveness and the precision.”


“We added this study to the second paragraph of Discussion sections: Haynes and colleagues {63} recently developed a search strategy to identify RCTs in the Medline that has a sensitivity of 95.8%.”

Thanks; 95.8% should be 99.3% (page 10 in the revised Ms)

From the revised paper:

P. 8.
“A closer examination of the data found that, across the 94 reviews, SSversus was able to find 3
more relevant articles than SSCrossover, SSCROSS-OVER STUDIES, SSvolunteer, or SS12, but SS123 found 56 more relevant articles than SSversus.”

This is a key point and must be included in the abstract – the abstract makes it sound as if SSversus is better than the alternatives, but the difference likely isn’t statistically significant and systematic reviewers will need to know that using SSversus will cause them to miss 56 articles.

“Across the 61 reviews, SS123 retrieved 508,625 articles in total, while SSversus retrieved 171,032 articles”

This is not a helpful way to report the data, as no reviewer is simultaneously trying to do 61 reviews. It would be helpful to have a number needed to read based on, say, the median no. of retrieved articles, divided by the median no. of included studies retrieved, comparing this for SS123 and SSversus.

P 10

“When searching this database, reviewers can retrieve relevant studies by using relatively simple subject search, thus avoiding the problem of selecting search filters.”

This is an untested statement! Subject searchers are not inherently simple – eg, for mental health studies, we’ve been able to get up to only about 90% sensitivity in MEDLINE (unpublished). Further, the Cochrane indexing and search engines are not likely to be as good as NLMs (indeed, they are widely thought to be bad).

Discussion

A key limitation of the study not mentioned is that there is no assessment of the effect of the missing 56 relevant trials on the conclusions of their reviews. Until this is done, we won’t know whether we can “afford” the increased efficiency of skipping Phase 3 of the HHHS Cochrane strategy.