Reviewer's report

**Title:** Lost in translation?: a methodology for optimising search filter retrieval when translating from OvidSP Medline to PubMed

**Version:** 1  **Date:** 24 February 2013

**Reviewer:** Julie Glanville

**Reviewer's report:**

This is a helpful paper in that it highlights the technical issues in searching MEDLINE and PubMed effectively and the need to adapt search strategies appropriately for these resources, which, although seemingly similar, do require slightly different approaches. The paper provides a useful explanation of the differences between the two databases, and between Ovid MEDLINE and MEDLINE as implemented within PubMed.

However, the authors’ methods do not go far enough to warrant their claim for having provided a validated search strategy and some further explanations are required to illustrate the performance of their strategy so that potential users are well informed about the strategy before they use it.

**Major compulsory revisions**

1. The authors claim to have created a validated search filter but the only validation of their filter is on the gold standard set of records with which they created the filter. According to search filter critical appraisal guidelines, search filters need to be tested on an additional (separate) gold standard to be considered validated (So many filters, so little time: the development of a search filter appraisal checklist. Glanville J, Bayliss S, Booth A, Dundar Y, Fernandes H, Fleeman ND, Foster L, Fraser C, Fry-Smith A, Golder S, Lefebvre C, Miller C, Paisley S, Payne L, Price A, Welch K. J Med Libr Assoc. 2008 Oct;96(4):356-61. doi: 10.3163/1536-5050.96.4.011.) If not tested on a separate gold standard to the one used to develop it, the filter may over-perform in terms of sensitivity. The authors could have divided their initial gold standard set of relevant records into two and used one set for development and testing the filter, and the other set for validation. This would have provided a more robust approach to filter design, testing and validation. It would also have supported the claim for validation and would also have shown whether the filter performance was maintained in the validation set. This is the approach used by authors of some of the filter papers cited in the reference list to this paper.

In the absence of true validation the authors should replace the use of the adjective ‘validated’ in their paper, unless they are able to test the performance of their filter on another set of relevant records or can show that their filter was really validated.
2. The authors should provide the precision of their filter. There are several points during the paper where the authors mention precision, but they do not present the precision (alongside the sensitivity) of their filter. They have the precision data as part of the testing and should present it. This is particularly important because the sensitivity is low – and to accept sensitivity this low (80% of relevant records are not retrieved by the strategy) there must be really high precision to compensate for this.

3. The authors should include a clear notice (a ‘health warning’) to users considering using the filter that 80% of relevant records are not retrieved by the filter and that by using other terms (which the authors can probably suggest based on their frequency analysis) the sensitivity is likely to be much improved (with an inevitable loss in precision).

Minor essential revisions

1. The authors should consider their use of adjectives throughout the paper and whether they are justified by the results of the filter, for example:

In the abstract conclusions the authors state their PubMed search filter provides ‘comprehensive access to emerging heart failure evidence’. I do not think sensitivity of less than 20% merits the use of the word ‘comprehensive’. The conclusions section of the abstract also uses the term ‘optimal’, which seems unsupported with the sensitivity provided and without any data on precision being provided.

2. The authors should define key terms early in the paper, e.g.
   - sensitivity, precision.
   - ‘high level evidence’ (background)
   - significantly

3. The authors should be less categorical in their statements and use more cautious phrasing, for example using ‘might’, ‘may’, ‘can’. For example, on page 7 the authors suggest there are many outdated terms in MeSH and provide one example. In the absence of clear citable evidence, it might be more accurate to note that there can or well may be outdated terms rather than implying (without much more evidence) that there are many.

4. The authors cite their own paper – it would be more helpful to busy readers to provide a few sentences summarising the key messages of the paper rather than expecting the reader to obtain a further paper.

5. On p8 (second paragraph) although there may not be many papers reporting on PubMed search filters, the development of filters using words from the titles and abstracts of records (and using frequency analysis) is core to much search filter development in the past 20 years (and is reported in the filter papers cited by the authors).
6. The authors should show all of the strategies described on page 9, stage by stage, so that the reader can follow the development.

7. On p.10 Concordance is a ‘program’ rather than a ‘programme’.

8. On p15 (para 1) the authors discuss some publication types they regard as not yielding ‘high level research evidence’ (undefined). I acknowledge that, for busy searchers, these types of information may not be considered very useful, but I note that for other searchers such as systematic reviewers, letters and comments can have value because they sometimes are the source of results and can also provide clues to studies which have been conducted. It would be helpful to allude to this complexity in improving the precision of searching for some searchers.

**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 that I have no competing financial interests. I am a search filter researcher and author of search filters.