Reviewer's report

Title: Glomerular Disease Search Filters for PubMed, Ovid Medline, and Embase

Version: 1 Date: 15 November 2011

Reviewer: Julie Glanville

Reviewer's report:

This paper describes the development and testing of a filter to find specific studies of glomerular disease. The paper would benefit from a clearer description of the project methods and results. The paper is aimed at clinicians and requires more explanation and illustration of how filters would be used especially given the authors’ concern that physicians may not have time to spare to get to grips with database searching. The addition of diagrams and flow charts might make the methods and the uses of filters clearer to the intended audience. The poor precision of the filters in the proof of concept searches should be acknowledged.

Detailed comments are provided below.

Major essential revisions

1. The authors should define ‘glomerular disease’ in the text as well as the appendix – is it just kidney disease as the examples presented seem to suggest?
2. Proof of concept searches section. This part of the methods is sketchy and it is unclear what happened at this point in the study – the authors should explain step by step what happened. Especially who was devising the subject searches and whether the subject searches were fit for purpose. The table helps to make this information clearer but I don’t think readers should be asked to piece this all together or have to make assumptions about what happened.
3. The following additional comments also relate to the proof of concept searches:
   a. What is ‘utility’?
   b. How were nephrologists identified? What list/directory was used?
   c. Is this using a relative recall approach – if it is, then the authors would need to make sure limitations of this approach are discussed in detail in the Discussion
   d. “…searches with and without the best performing filters...” – who developed the subject searches or were?
4. For the proof of concept searches remain in the paper, the authors should present the detailed results with figures in the Results section. In particular the low precision scores should be presented, so that clinicians can appreciate the tradeoffs between sensitivity and precision.
5. For the proof of concept searches, the authors should discuss the strengths and weaknesses of the approach used.
Minor essential revisions

1. Abstract; background
“Tools ...will improve” _ could make this more conditional – direct results are unlikely to be traceable.

2. Abstract; background
Standardise on ‘physicians’ or ‘clinicians’?

3. Abstract; background
“In proof of concept searches..” – clarify what this means

4. Text of the paper: BACKGROUND
The “physicians” cited in refs 1 and 2 are primary care/family practitioners – so perhaps the word ‘physicians’ should be qualified.

5. Text of the paper: BACKGROUND
“indexing of articles is often inconsistent....” – would be helpful to illustrate this and to cite some evidence.

6. Text of the paper: BACKGROUND
“Many filters exist...” – all the filters cited are by the authors’ team – other teams also publish in this field and many filters are listed in the ISSG search filters resource.

7. “None of these filters...reliably capture...” – it would be helpful to define what is meant by reliability.

8. P5 “comprehensive search, with a greater chance of retrieving relevant articles...” – any filter is likely to reduce sensitivity (and hence comprehensiveness) but may enhance precision. Is ‘comprehensiveness’ being used to convey something specific here?

9. P5 study overview
“...then designated it...” – how as this achieved? Was it randomised?

10. “best performing filters...” – how are the authors defining ‘best performing’?

11. P6 Sample of articles
This presentation of the methods is not in a particularly logical order. The steps are presented and then the detail about each step is further down. It would help to have all the detail presented with the step. It might also help to include a diagram. Clinicians, unfamiliar with search strategy design, will probably find this helpful.

12. “a list of journals that had published at least one article...” – how was the list obtained?

13. “ranked these journals...number of articles with relevant information...” – how was relevance determined and how was the number of articles identified?
Suggest you move the descriptions of these processes (which appear later) to this point to make the process clearer.
14. “randomly divided these 39 journals...” – were the journals divided (1 into validation set and 1 into test set) or was the division at the article level – ie were some articles from all 39 journals featured in both test and validation sets?

15. Filters p.7 “...using OR, AND and NOT...” – these could clearly be used in many combinations – more detail on which were used and how they were used would be helpful.

16. P8. Statistical analysis. What is the rationale for calculating these performance measures – why do the clinicians need to know specificity and accuracy?

17. What were the cut off levels for high sensitivity/specificity etc used to select the filters? What level of precision was being (ideally) sought?

18. p.9 sample of articles: how many of the records were relevant?

19. Multiple term filters: what is the threshold for high sensitivity and high specificity?

20. The Performance in the validation set should be reported in numbers

21. Discussion: It’s not clear why the topic is ‘glomerular disease’ and the search terms discussed are about kidney disease.

22. The readers need a more detailed exploration of what filters achieve in the Introduction, to better understand the results . Some of the Discussion could be moved to the introduction to better contextualise the research.

23. P11. This discussion might become clearer with the addition of a diagram – as it is I don’t think a clinician will struggle to understand the point being made. Also there are issues of the use of the filter plus subject search terms to convey.

24. Some of the information about the clinician searches could be more helpfully put in the Results section.

25. p.12 first line – this is speculation without supporting evidence.

26. P12. ‘high impact clinical nephrology journals’ - How was high impact determined? If ISI was used to select high impact journals, which journal category was used? Or do the authors mean high volume?

27. P12 In one sentence it reads ‘...to optimise results by sensitivity or specificity...” and then later in the paragraph the authors mention precision. Are all three measures being discussed or is it really only sensitivity and precision. If three measures then this section needs to be made clearer.

28. P13. The authors suggest linking two filters together – I assume this means an RCT filter and the glomerular disease filter. The effect of this has not been demonstrated in this paper – the authors should discuss the pros and cons of this suggestion.

29. ‘when used in combination...” – in combination with what?

30. Were there any differences between performance in particular journal subsets e.g. records from journals of high volume vs the randomly selected ones? Also difference in performance between records from generalist journals
and those from specialist journals?

31. Table 1. The definition of precision reads the same as the definition of sensitivity.

32. Table 2. Why does precision decline sharply in the validation set testing? This should form part of the discussion.

33. Table 3. The data are here to calculate all the performance measures – they should be provided so we don’t have to calculate this ourselves. The exercise shows high sensitivity (which is great) but very poor precision, which clinicians will find disappointing but they do need to know. This should be featured in the Results and the Discussion.

**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 am an author of methodological search filters and a co-editor of the ISSG Search Filter Resource.