

## **TOPIC SEARCH FILTER DEVELOPMENT METHODOLOGY: CAN WE ACHIEVE CONSENSUS?**

**Raechell Damarell**

**PhD candidate, Flinders University**

[raechell.damarell@flinders.edu.au](mailto:raechell.damarell@flinders.edu.au)

**Suzanne Lewis**

**Library Services Manager, Central Coast Local Health District, NSW Health**

Earlier this year, we were delighted to be awarded the Anne Harrison Award by Health Libraries Australia for our project titled: *Improving the development and reporting of search filters: An e-Delphi study of international experts in the field*. The idea for this project grew out of our work in developing search filters to help retrieve the PubMed research literature in challenging topic areas. This usually means subjects with an imprecise MeSH term (for example, 'Oceanic Ancestry Group' for Australian Aboriginal Peoples) or multifaceted topics that require constellations of search terms to fully describe them (e.g. Integrated Care).

PubMed search filter development differs from regular search development in that it produces a search with an estimated level of performance. Ideally this level should reflect the needs of a targeted and explicitly named end user group. For example, a search filter designed for clinicians is usually expected to retrieve a small set of highly relevant citations, whilst one designed for researchers might be more typical of a systematic review search. The crux of good search filter development, however, is working with a representative set of relevant citations (the 'gold standard') which allows you to identify search terms and iteratively test search performance. How you source the citations for this gold standard set is perhaps the most challenging part of the process and where the quality and reliability of a search filter should be judged. A range of different approaches have been used for this purpose, each with its pros and cons, and it is usually up to the user to determine the potential for biased performance from reading a report of the filter's development.

In 2018, Damarell et al. conducted a systematic scoping review of search filters that retrieve on topic, rather than methodology, to get a better understanding of development approaches. This review revealed a high level of inconsistency in terminology in the field, poor reporting standards making it hard to follow or replicate processes, and considerable variability in methods. This is not surprising given there is no published guidance on how to create filters and even retrieving papers on filter development is challenging. (You only need to try searching on 'search strategy' - a common name for search filters - in PubMed.) We concluded

from these findings that the field needs greater clarity around definitions and firmer understanding of the implications associated with specific methodological decisions.

As we do not assume to have all the answers, and possibly have our own idiosyncratic way of approaching this work, we thought it appropriate to try to bring together an international group of search filter experts for the first time to communicate, debate, and hopefully find common ground. The eDelphi method has shown itself to be a flexible approach for doing this. It is defined as an 'iterative multistage group facilitation technique designed to transform opinion into group consensus' (Hasson, Keeney, McKenna, 2000). It involves inviting a group of experts (via email – hence the 'e' in eDelphi) to comprise a 'panel' and getting them to provide answers to open- or multiple-choice questions and/or rating options. In other words, providing both qualitative and quantitative feedback on a range of propositions. Their tabulated and summarised responses are then fed back to them and discussed until a predetermined level of consensus is reached.

The benefits of the eDelphi approach include the fact that it is non-confrontational, those involved can be located anywhere, participants can remain anonymous, and it avoids any one person from dominating proceedings. Furthermore, the consensus obtained carries far more authority than any one expert's opinion. From an administrative point of view, there are also few costs to consider other than the time put in by the facilitators.

We have several hopes for this project. Firstly, we aim to develop clear guidelines for understanding, developing, and reporting search filter development projects. From this, we hope that greater numbers of health librarians may find this activity appealing and may feel more confident to collaborate with clients to solve known information retrieval challenges. In our experience, we have found filter development to be a highly visible way for health librarians to demonstrate to library funders how their considerable search expertise adds value to knowledge and information enterprises. The development of more filters in challenging subject areas may also help move research into practice in a timelier way. Finally, we hope that new quality standards will provide a firmer foundation for systematically extending the methodology of filter development, perhaps to the extent of encompassing new and interesting areas of development such as machine learning and artificial intelligence.

## References

Damarell RA, May N, Hammond S, Sladek RM, Tieman JJ. Topic search filters: a systematic scoping review. *Health Information & Libraries Journal*. 2019;36(1):4-40.

Hasson F, Keeney S, McKenna H. Research guidelines for the Delphi survey technique. *J Adv Nurs*. 2000;32(4):1008-15.