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PROOF

## **Library support for systematic reviews at the London School of Hygiene & Tropical Medicine**

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### **Introduction**

Systematic reviews are well established in evidence-based medicine, where experimental results are used to support decision making. The methodology is gradually spreading to other subject areas, including the social sciences, with the support of organisations such as the Campbell Collaboration<sup>1</sup> and the EPPI Centre<sup>2</sup>. This paper describes the support provided to systematic reviewers at the London School of Hygiene & Tropical Medicine by Library & Archives Service staff.

A systematic review is a specific type of literature review. A clear question is set before comprehensive and transparent methods are used to identify, select and evaluate all of the relevant research. Data is then collected and analysed from each included study to provide unbiased summaries of the results. In this way, reliable evidence-based reviews can be produced and readers can have confidence in the conclusions drawn.

The PRISMA Statement (Moher et al., 2009) has been developed to make sure that all relevant methodological information is included in the published review, and can also be used to guide reviewers through the systematic review process. It is useful when helping reviewers as it provides minimum standards for each stage of the review process, including the literature searching and study selection process.

### **Training and support provided by the Library**

Support is provided for systematic reviewers at the London School of Hygiene & Tropical Medicine by the Information Services Team in the Library & Archives Service, which I lead. We are responsible for information literacy teaching and support to both staff and students, and for the inter-library loans service.

Most of our PhD and Doctor of Public Health students begin their research with a systematic review of their topic. Six hour classes on literature searching, scheduled over two half days are arranged via the Research Degree Transferrable Skills Programme. Most research degree students also make an appointment to meet a member of the team to discuss their individual research topic.

For academic staff, classes on literature searching for systematic reviews are run three times per year via our staff Talent and Educational Development programme. Staff can also arrange an individual appointment with a member of the team.

We also offer support in sourcing the full text of items. We offer all staff and students unlimited inter-library loan requests, although we also encourage reviewers to take advantage of the resources available from other local libraries.

If a research team does not contain the expertise required, I can also be sub-contracted

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<sup>1</sup> <http://www.campbellcollaboration.org>.

<sup>2</sup> <http://eppi.ioe.ac.uk>.

by research groups to do the search, sourcing full-text and study selection for them. This service has only been offered since the start of 2014 and so far I have worked on five systematic reviews or similar studies.

### **Common problems encountered by systematic reviewers**

We find that reviewers often underestimate how long the literature search and study selection takes. Often when they come to us for help, they are trying to find short-cuts in the process. Obviously a level of pragmatism has to be employed as nobody has unlimited time to complete their review, but the minimum standards as set out in the PRISMA Statement (Moher et al., 2009) usually require several days to complete.

Academic staff often think they have the literature search skills required, however a recent study has shown that librarian co-authors have a large positive impact on the quality of the search strategy used in systematic reviews (Rethlefsen et al., 2015). My own experience of evaluating systematic reviews shows that the reporting of the literature search, even in reviews published in good quality journals, is often below the expected standard. The PRISMA Statement has helped to raise standards as well as provide us with evidence to use when providing feedback on search strategies.

New reviewers may need help in running a comprehensive search, we often provide support in choosing keywords, running subject heading searches and transferring searches from one database to another. Many systematic review literature searches can be over 100 lines long and include hundreds of terms. Many reviewers find this a daunting task, particularly when the search has to be run in several sources. Once the searching is completed, many reviewers require help with, de-duplicating results, sourcing the full text and keeping track of the study selection process. It is not unusual for reviewers to have to screen several thousand studies and the reasons for inclusion and exclusion of each one must be recorded.

### **Challenges and opportunities**

Supporting systematic reviewers requires expert skills in literature searching. Running a comprehensive search usually requires using all of the advanced search options available in each database and having an in-depth understanding of how each database is constructed and the information it contains. We often receive queries from reviewers asking us why their search did not retrieve the items they were expecting and this has often resulted in a close analysis of several hundred search terms across several lines of search.

Working with research groups on their systematic reviews has provided the library with many advantages. It has raised the professional profile of the library staff and most of our appointments now come through recommendations. It has also reconnected many academic staff with the Library. Few of our academic staff come into the library itself as they can access the information they require from their desktop, and so we were in danger of losing that personal link. Providing systematic review support has built personal relationships with staff at all stages of their academic career and helped to ensure the service as a whole continues to meet their needs.

I have found that working as part of a research team on a review has improved the

teaching and support we provide to others. We can use my experiences to understand theirs and view the process from a practical as well as a theoretical standpoint. We also provide far more practical support on managing the search process and keeping track of individual studies, previously our support was centred on creating and running the literature search.

## Conclusion

Systematic reviews are an important study methodology within global and public health and the Library at the London School of Hygiene & Tropical Medicine has evolved its services to support them. More than many other methodologies, there are clear areas where professional librarian support can and should be offered to researchers. Often researchers do not have the literature search and information management skills required to conduct a high quality review which meets the minimum PRISMA Statement standards.

Providing support for systematic reviewers has improved library staff skills in using our databases, allowing them to provide practical advice to all our library users. It has also raised the profile of the Library within the institution and improved our relationships with otherwise hard to reach academic staff. However, library staff with an excellent knowledge of each database, the search options available and the effectiveness of these is required. Therefore training and mentoring should be offered to any librarian interested in supporting systematic reviewers.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G. & The PRISMA Group 2009. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Medicine*, 6, e1000097.

Rethlefsen, M. L., Farell, A. M., Osterhaus Trzasko, L. C. & Brigham, T. J. 2015. Librarian co-authors correlated with higher quality reported search strategies in general internal medicine systematic reviews. *Journal of Clinical Epidemiology*.