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Database choice can be informed by both large-scale and in-depth analyses



Database choice is closely tied to coverage, which can be investigated using a number of different approaches: a specific topic or medical specialty as an example, coverage of a selection of journals (width and depth), coverage of different document types, and finally, a gold standard can form the basis for an examination of database coverage. The latter approach is used in a large scale of the included studies in all Cochrane reviews published from 2012 to 2016 [1]. By including all Cochrane reviews, we focus on intervention studies. We examine if the 86,533 publications from 55,181 studies can be identified in PubMed.

The results of our paper show that PubMed has a coverage of 71% of all the included publications and 83% of all included studies in Cochrane reviews from 2012 to 2016. However, there are huge differences among the groups as well as within the groups over time. We conclude that coverage can be very difficult to predict for some review groups, and thus, databases within these areas should be chosen with care. We also recommend that future studies of database coverage should take the considerable variation across review groups and time into account as well as the effect of investigating on publication level instead of study level.

Metzendorf and Featherstone suggest further analyses according to the type of intervention, review type, and study design [2]. For our study the information on included studies were extracted from the Cochrane group overview page. Consequently, in the study we are not able to perform in-depth analyses according to intervention, review type, or study design. Our study can confirm the existence of considerable variances in coverage, but not explain the factors behind these differences.

We welcome more in-depth analyses that can help inform the choice of database. Focusing on a smaller population (e.g., qualitative reviews), an in-depth analysis is feasible and can offer further insights [3]. We would thus also encourage the conduction of further in-depth analyses. The evidence base that can inform the database choices for systematic reviews could indeed be strengthened, and both large-scale as well as in-depth analyses are needed to provide this foundation. In addition to the three relevant categories suggested by Metzendorf and Featherstone, future studies could consider including retrievability (as opposed to being indexed), versions of MEDLINE/PubMed as well as specific platforms, to inform the choice of database.

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Frandsen et al. provide insights to PubMed coverage across all Cochrane Review Groups, but more in-depth analyses would further help inform database choices



We congratulate Frandsen et al. [1] on their contribution to the evidence base on PubMed coverage across systematic review topics, especially with regard to their comprehensive sample. Their study provides further evidence that PubMed coverage is generally high, but variable across topics, defined by the scope of Cochrane Review Groups (CRGs).

Frandsen's analyses of included studies and associated publications present a useful estimate of a CRG's average PubMed coverage as well as its variability across reviews. CRGs with an average PubMed coverage of 90%, whose variability across reviews is small (hypertension, heart, breast cancer, neonatal, HIV/AIDS, EPOC, epilepsy, oral health, tobacco addiction, metabolic and endocrine disorders, childhood cancer, and multiple sclerosis), are shown to be retrieving a high proportion of their studies in PubMed. Thus, for these CRGs, searching more bibliographic databases than those mandated by Methodological Expectations of Cochrane Intervention Reviews standards [2] would appear to have limited impact on the results of their systematic reviews.

Unfortunately, Frandsen et al.'s dataset is not provided as supplementary material. It would be valuable to have descriptive information about the dataset, including the total number of reviews analyzed, as well as information on the average number of reviews per CRG and studies per review. These data would facilitate conclusions on the applicability to reviews with a low or high number of included studies.

For information specialists and systematic reviewers to make appropriate database choices, further analyses are required according to the following categories:

1. Type of intervention

One CRG explored differences according to the type of intervention and found that complementary and alternative

medicine as well as dietary supplements were not covered as well in PubMed as other interventions [3]. In another analysis across all CRGs, environmental and health policy interventions showed to be covered less in PubMed compared with clinical and pharmaceutical interventions [4]. Therefore, analyses according to the type of intervention are warranted.

2. Review type

According to our own search of the Cochrane Library, the dataset used by Frandsen et al. potentially comprises 3,699 reviews, of which 3,600 are intervention reviews. Hence, their results primarily apply to reviews of interventions rather than other review types, such as prognosis, diagnosis, qualitative, or methodology reviews. Specifying analyzed review types, as done by Hallday et al. [5], is recommended.

3. Study design

PubMed coverage across CRGs has been investigated in relation to nonrandomized studies [4]. Before and after studies and interrupted time series were found to have lower PubMed coverage compared with cohort and case-control studies. Given this known variability in coverage for some nonrandomized studies, we also recommend that future analyses account for study designs, as done by Hartling et al., who focused on RCTs [6].

In summary, we are pleased to see the evidence base on PubMed coverage per CRG enhanced by Frandsen et al. Nonetheless, we encourage the authors and other information specialists to conduct further in-depth analyses according to the intervention and review type, as well as study design, to support evidence-based and appropriate database selection.

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