



ORIGINAL ARTICLE

PRESS Peer Review of Electronic Search Strategies: 2015 Guideline Statement

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Abstract

Objective: To develop an evidence-based guideline for Peer Review of Electronic Search Strategies (PRESS) for systematic reviews (SRs), health technology assessments, and other evidence syntheses.

Study Design and Setting: An SR, Web-based survey of experts, and consensus development forum were undertaken to identify checklists that evaluated or validated electronic literature search strategies and to determine which of their elements related to search quality or errors.

Results: Systematic review: No new search elements were identified for addition to the existing (2008–2010) PRESS 2015 Evidence-Based Checklist, and there was no evidence refuting any of its elements. Results suggested that structured PRESS could identify search errors and improve the selection of search terms. Web-based survey of experts: Most respondents felt that peer review should be undertaken after the MEDLINE search had been prepared but before it had been translated to other databases. Consensus development forum: Of the seven original PRESS elements, six were retained: translation of the research question; Boolean and proximity operators; subject headings; text word search; spelling, syntax and line numbers; and limits and filters. The seventh (skilled translation of the search strategy to additional databases) was removed, as there was consensus that this should be left to the discretion of searchers. An updated PRESS 2015 Guideline Statement was developed, which includes the following four documents: PRESS 2015 Evidence-Based Checklist, PRESS 2015 Recommendations for Librarian Practice, PRESS 2015 Implementation Strategies, and PRESS 2015 Guideline Assessment Form.

Conclusion: The PRESS 2015 Guideline Statement should help to guide and improve the peer review of electronic literature search strategies. © 2016 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Key Words: Peer review; Literature search; Information retrieval; Systematic review; Evidence synthesis; Guideline

1. Introduction

Systematic review (SR) and health technology assessment (HTA) reports are pillars of evidence-based medicine due to their methodological rigor in the conduct of unbiased knowledge syntheses. The literature search component of

these reviews provides the important evidence base and therefore is a fundamental element that can affect overall quality. The aim is to achieve comprehensiveness of coverage while maintaining a moderate degree of precision of the records retrieved.

Before our original (2008–2010) publications on Peer Review of Electronic Search Strategies (PRESS) [1–3], several tools existed to validate some aspects of the SR search-reporting methods, but none evaluated the overall process [4]. Furthermore, a study we conducted of over 100 MEDLINE searches revealed that most search

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What is new?**Key findings**

- Structured peer reviews of electronic literature search strategies are able to find search errors and offer enhancements to the selection of subject headings and text words, leading to the retrieval of additional studies.
- No new relevant searching elements have emerged beyond those in the original Peer Review of Electronic Search Strategies (PRESS) Evidence-Based Checklist for peer review.
- Of the seven original PRESS elements, six were retained while the seventh (skilled translation of the search strategy to additional databases) was removed, as there was consensus that this should be left to the discretion of searchers.

What this adds to what was known?

- The evidence suggests that peer review of electronic literature search strategies using a structured tool enhances the quality and comprehensiveness of the search compared with searches that are not peer reviewed.
- The PRESS 2015 Guideline Statement should be helpful to guide and improve the peer review of electronic literature search strategies.

What is the implication and what should change now?

- The “primary” search strategy for systematic reviews, health technology assessments, and other evidence syntheses should be peer reviewed using a structured tool such as the PRESS 2015 Evidence-Based Checklist, which is part of the PRESS 2015 Guideline Statement.
- The name and credentials of the person who undertook the peer review should be reported.

strategies contained errors [5]. The quality of the database search may be enhanced by PRESS.

2. Objective

The objective was to develop, using an evidence-based process, a practice guideline for the peer review of electronic literature search strategies for librarians and other information specialists who perform literature searches for SR and HTA reports.

3. Intent of the PRESS 2015 updated Guideline Statement

The PRESS 2015 Guideline Statement updates and expands on the previous PRESS publications [1–3]. A companion document was produced called the PRESS 2015 Guideline Explanation and Elaboration (PRESS 2015 E&E) and is more detailed than this article and is intended to enhance the use, understanding, and dissemination of the PRESS 2015 Guideline Statement [6]. The PRESS 2015 Guideline Statement is this article and includes four components: (1) an updated PRESS 2015 Evidence-Based Checklist (Table 1); (2) six PRESS 2015 Recommendations for librarian practice (Table 2); (3) four PRESS 2015 Implementation Strategies (Table 3); and (4) an updated PRESS 2015 Guideline Assessment Form (Appendix/Appendix A at www.jclinepi.com). The PRESS 2015 Evidence-Based Checklist (Table 1) is to be used when completing the PRESS 2015 Guideline Assessment Form. PRESS 2015 Guideline Statement and the PRESS 2015 E&E [6] should be helpful resources to improve and provide guidance for peer reviewing electronic literature search strategies.

PRESS focuses on the quality of the database search that is the core element in the SR or HTA search plan. The search plan should include searching a range of bibliographic databases as well as additional sources, for example, study registers, gray literature sources, citation databases, and related article searching; as well as contacting experts and/or manufacturers [7]. However, those aspects of the search plan are outside the scope of PRESS. Other important aspects of a search include search validation and search reporting. Peer review of the search strategy provides a subjective validation. Accurate search reporting is necessary to ensure critical appraisal, replication, and updating [8–11].

4. PRESS process

A PRESS peer review involves the person requesting the peer review (requestor) and the person completing the peer review (reviewer). Both are assumed to be skilled in the art of searching, typically librarians or information specialists. First the requestor fills out the pertinent information in the updated PRESS 2015 Guideline Assessment Form (Appendix/Appendix A at www.jclinepi.com) for the “primary” search strategy, which will be MEDLINE for most health-related SRs. The completed form is either sent to a reviewer (typically a colleague), or it is submitted to the PRESS-forum (pressforum.pbworks.com). The reviewer reviews the search strategy using the PRESS 2015 Evidence-Based Checklist (Table 1) and additional guidance presented here. If major revisions are advised as a result of the peer review, a second PRESS peer review of the

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