

A non-systematic review evaluating search strategies leveraged in HTA submissions to NICE

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Background

- Systematic literature reviews (SLRs) are a key component of health technology assessment (HTA) submissions providing a comprehensive synthesis of published and unpublished literature.
- Search strategies are an integral part of a SLR, without robust searches, it is likely that relevant articles may not be identified leading to inaccurate conclusions.¹ This could have a knock-on effect on the decision-making process.
- Search filters are tested search strategies developed for use in a wide range of major databases which are designed to identify evidence with higher sensitivity and specificity.²
- Validated search filters have been rigorously tested against sets of bibliographic records. A mixture of free-text and indexed terms are used to identify all relevant articles and exclude non-relevant articles.³
- Search filters are combined with a search strategy to refine the search to find articles within the topic(s) of interest such as age, publication type, study design, or geography etc.³

Objective

This review aimed to understand the use of validated search filters and search strategy considerations highlighted by the Evidence Review Group (ERG) and/or Committee in submissions to the National Institute for Health and Care Excellence (NICE).

Methods

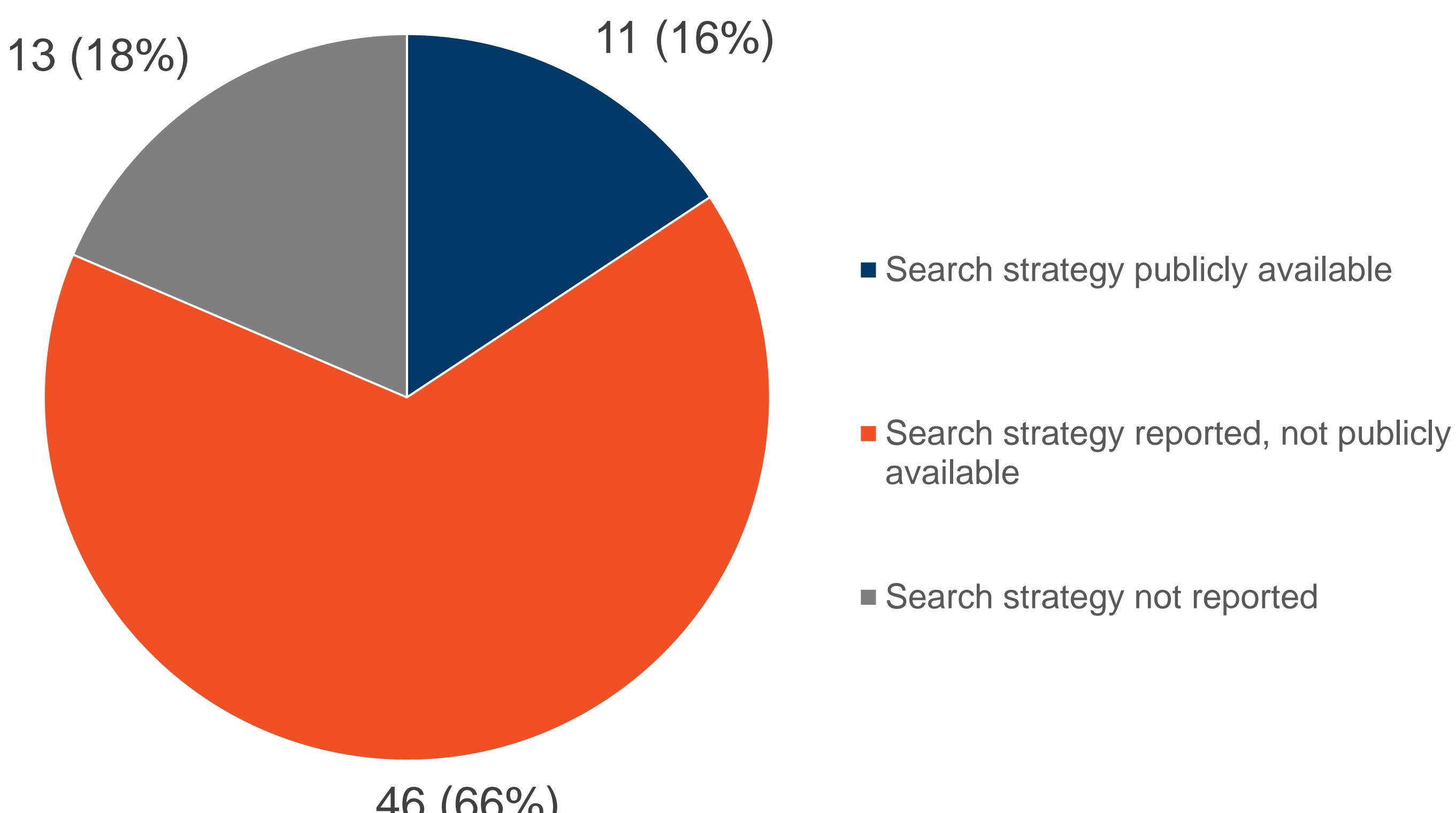
- A review of the technology appraisal evidence published on the NICE website between March 1st 2022 and March 1st 2024 was performed to identify recommended submissions.
- Technology appraisals which were terminated, replaced by newer guidance, or in development were excluded from the analysis.
- HTA submissions which focused on cancer indications were included, whereas other indications were excluded from this analysis.
- Documents (i.e. company submissions, final appraisal documents, and committee papers) from oncology HTAs submitted to NICE were reviewed to understand whether a validated search filter was used in underlying SLRs and to collate commentary from the ERG and/or Committee on the SLR searches.
- Relevant data was extracted by a single researcher, with 20% validated by a second, independent researcher.

Results

Reporting of search filters in committee papers

In total, 70 submissions were identified across 16 cancer types. Overall, search strategies were most frequently reported in the company submission documents (n=46, 66%), however, whole strategies were not available for review. The public availability of search strategies was not common, only occurring in 16% of submissions reviewed in this study. In 18% of submissions, no information on the SLR searches was provided (Figure 1).

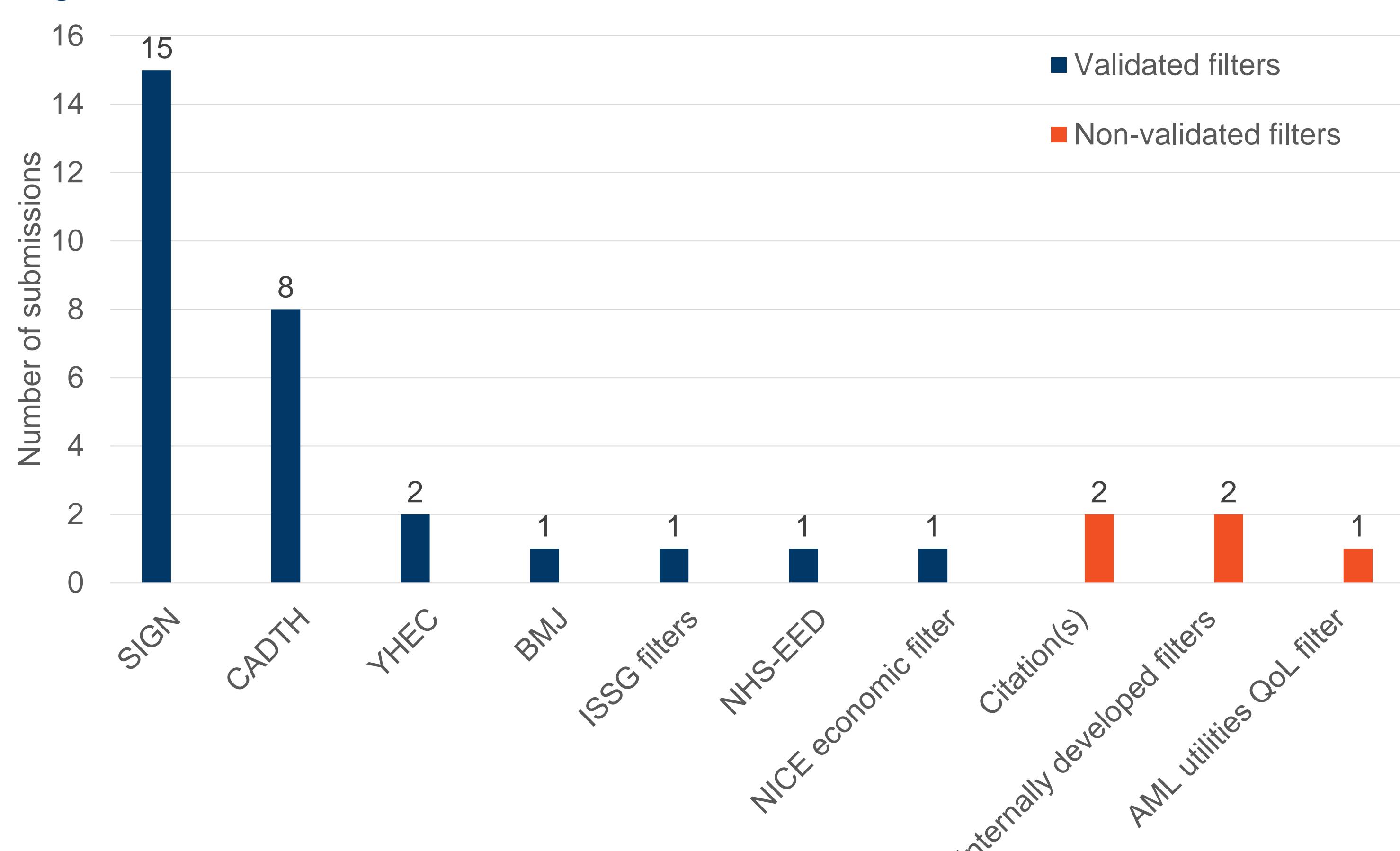
Figure 1. Search strategy availability, number of submissions (%).



Results continued

Of the 32 submissions which reported the use of a search filter, the most commonly reported validated search filter was from the Scottish Intercollegiate Guidelines Network (SIGN; n=15), followed by Canadian Agency for Drugs and Technologies in Health (CADTH; n=8), and York Health Economics Consortium (YHEC; n=2).

Figure 2. Search filters use across submissions.



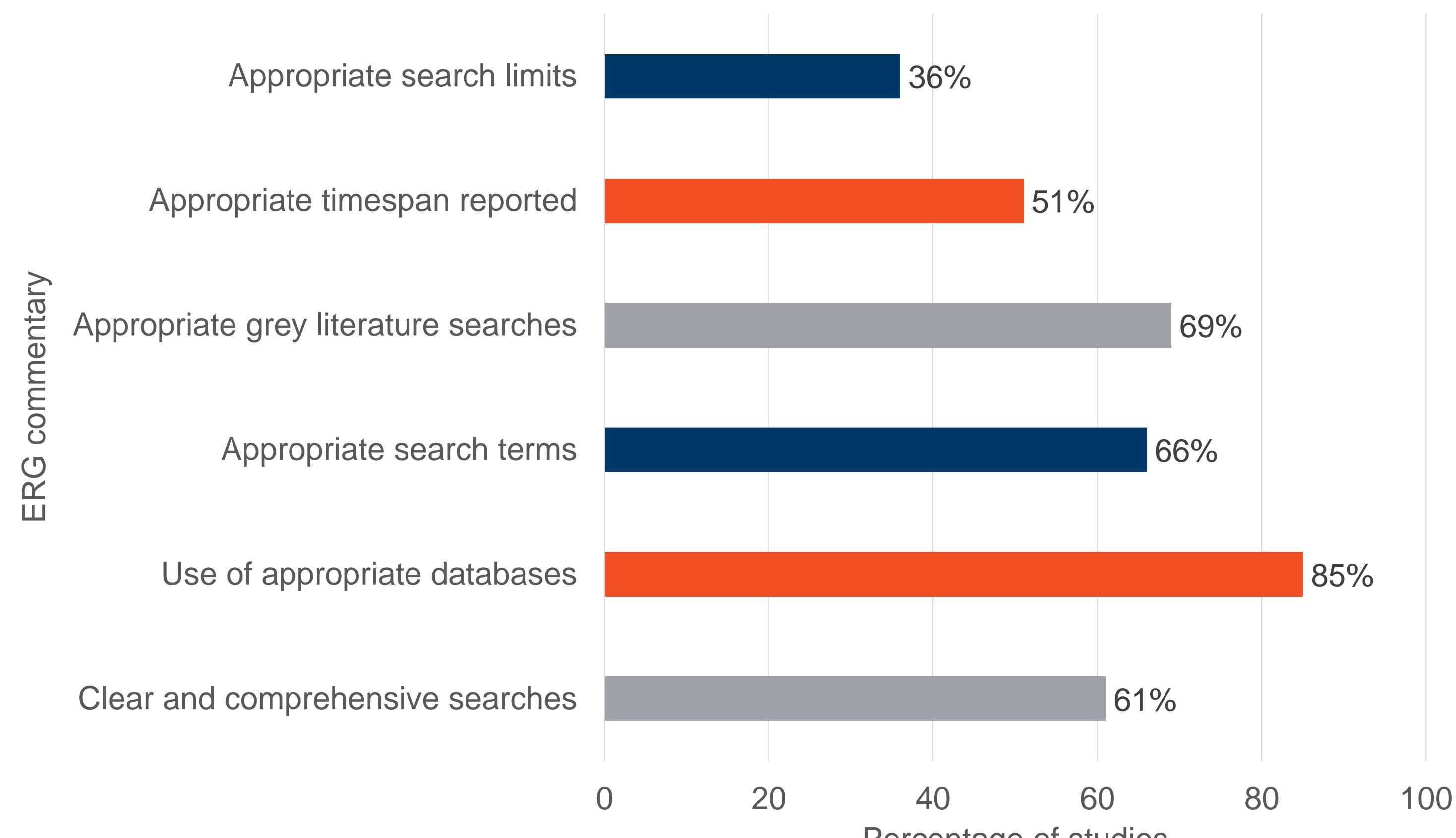
Abbreviations: AML, acute myeloid leukaemia; BMJ, British Medical Journal; CADTH, Canadian Agency for Drugs and Technologies in Health; ISSG, InterTASC Information Specialists' Sub-Group; NHS-EED, National Health Service-Economic Evaluation Database; NICE, National Institute for Health and Care Excellence; QoL, quality of life; SIGN, Scottish Intercollegiate Guidelines Network; YHEC, York Health Economics Consortium.

ERG and NICE committee commentary

While search strategies were generally not publicly available, ERG commentary on search strategies was available for 59/70 (84%) submissions. In 36/59 (61%) submissions, the ERG noted the use of clear and comprehensive searches, 50/59 (85%) submissions used appropriate databases, 39/59 (66%) used appropriate search terms, 41/59 (69%) appropriately leveraged grey literature searches, and 30/59 (51%) used an appropriate search time span. Appropriate search limits were used in around 36% (21/59) of submissions (Figure 3).

Across the 70 submissions analysed by this study, the NICE committee rarely critiqued searches. However, in one submission they commented on the use of appropriate search terms.

Figure 3. ERG comments on search strategies of 59 submissions.



CONCLUSIONS

- The use of validated search filters was rarely reported; however, search strategies were not commonly made publicly available and most submissions reported searches in an appendix that was not provided.
- As a result, to understand the use of validated search filters, our study relied primarily on ERG commentary of search filters which does not provide a comprehensive representation of the use of search terms or search filters.
- Overall, ERG commentary on search strategies indicated that the searches used in submissions were generally acceptable.
- ERG critiques were primarily focused on the use of appropriate timespans and search limits.

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Disclosures

This study was conducted by Genesis Research Group and all authors are employees of Genesis Research Group.

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