

Post-publication peer review of systematic review search strategies

Kung J, Michas M, Campbell S, Chan L, Dennett L, Eke V, Hamonic L,
Slater L, Tan M, Tjosvold L, & Wright E.



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We respectfully acknowledge that we are on Treaty 6 Territory, traditional lands of First Nations & Métis people.

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What are systematic reviews?

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- Research methodology
 - Combines all research studies to answer the same clinical question
 - Comprehensive search of multiple databases
 - Requirements:
 - Explicitly document literature search
 - Inclusion criteria
 - Data extraction
 - Quality assessment
 - Remove bias, increase transparency, ensure replicability
- 







Purpose & Rationale

- Understand the quality & reproducibility of systematic review (SR) searches as reported in high impact medical journals
 - Determine the extent, nature, and documentation of librarian activity in SRs published in these journals
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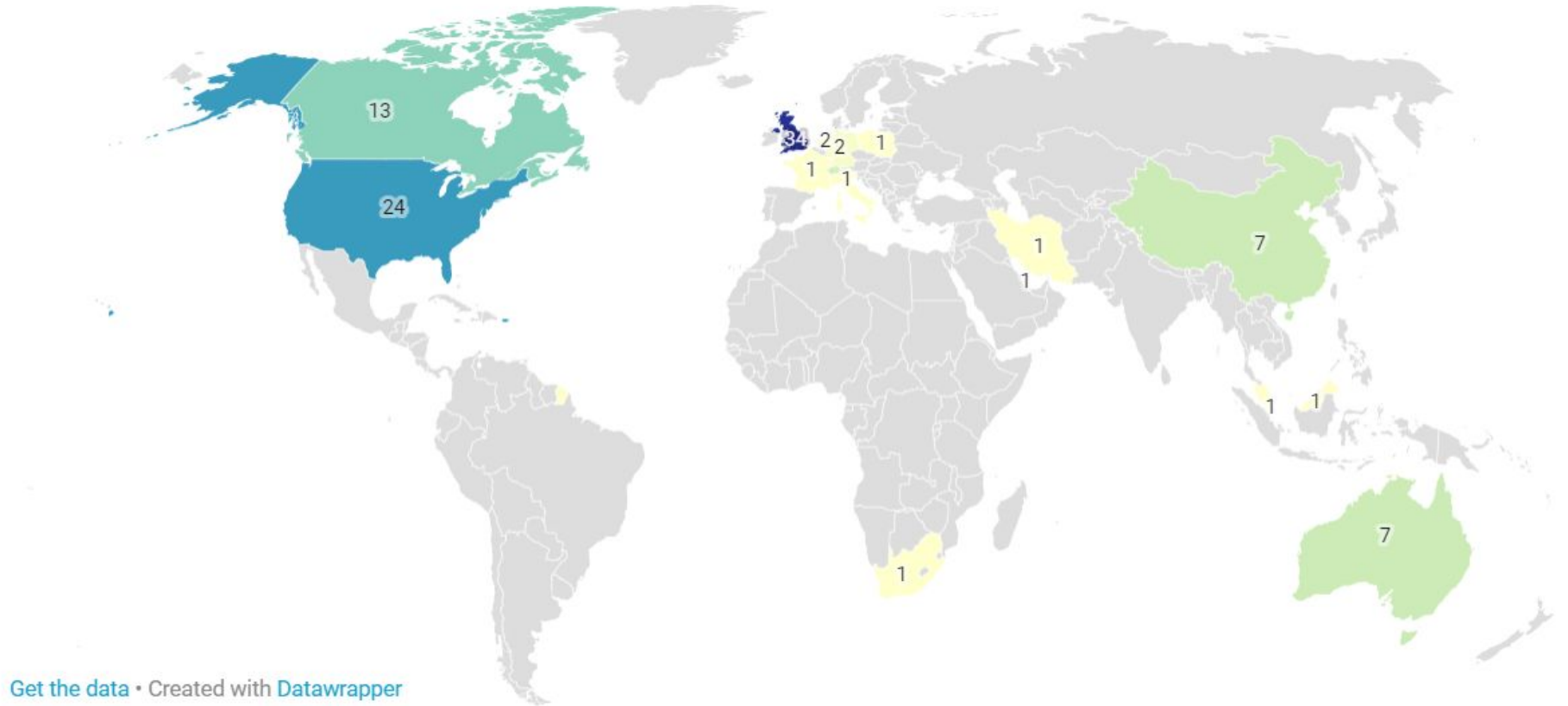
Methods.

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- Developed data extraction form & code book – Based on Peer Review of Electronic Search Strategies (PRESS)
 - Randomly selected 100 SRs in 2017-2019 from:
 - BMC Medicine
 - BMJ
 - Lancet
 - JAMA
 - PLOS Medicine
 - 2 librarians randomly assigned to each SR
 - Data extraction, PRESS review, and overall rating
 - Differences resolved by consensus
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Results.

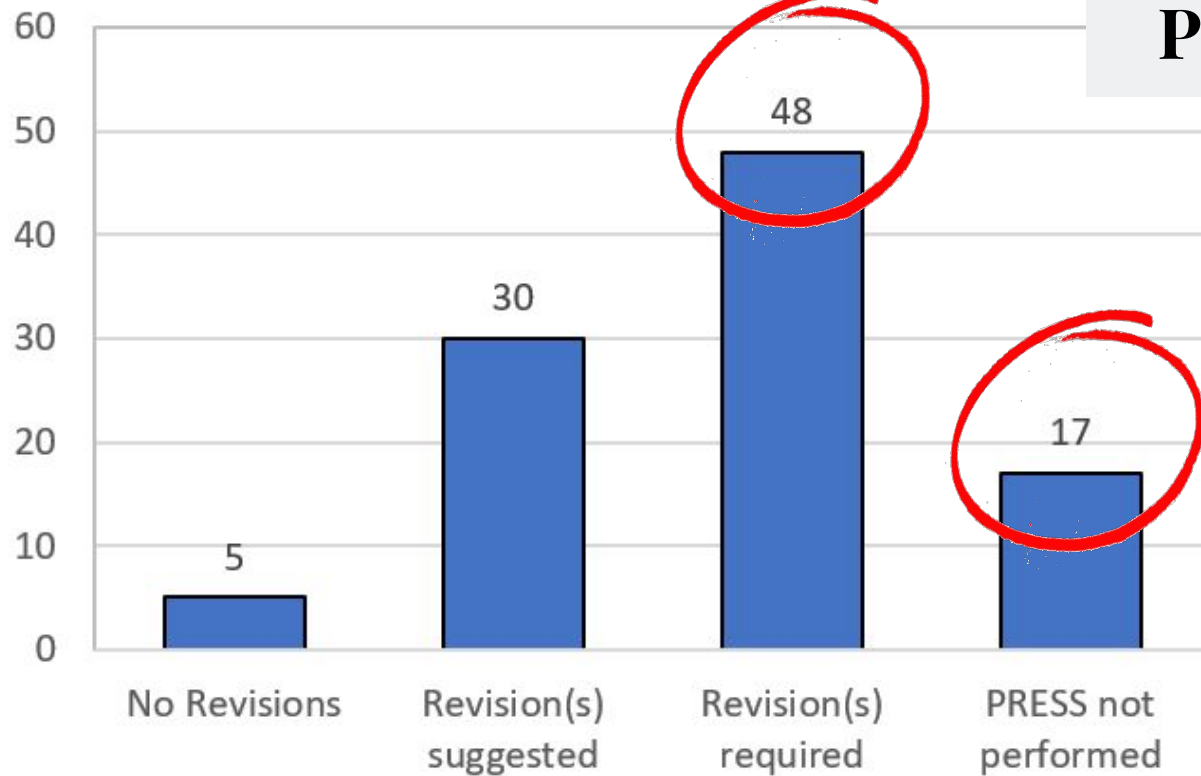
Publication Country of Origin



Overview

Of the 100 articles reviewed:

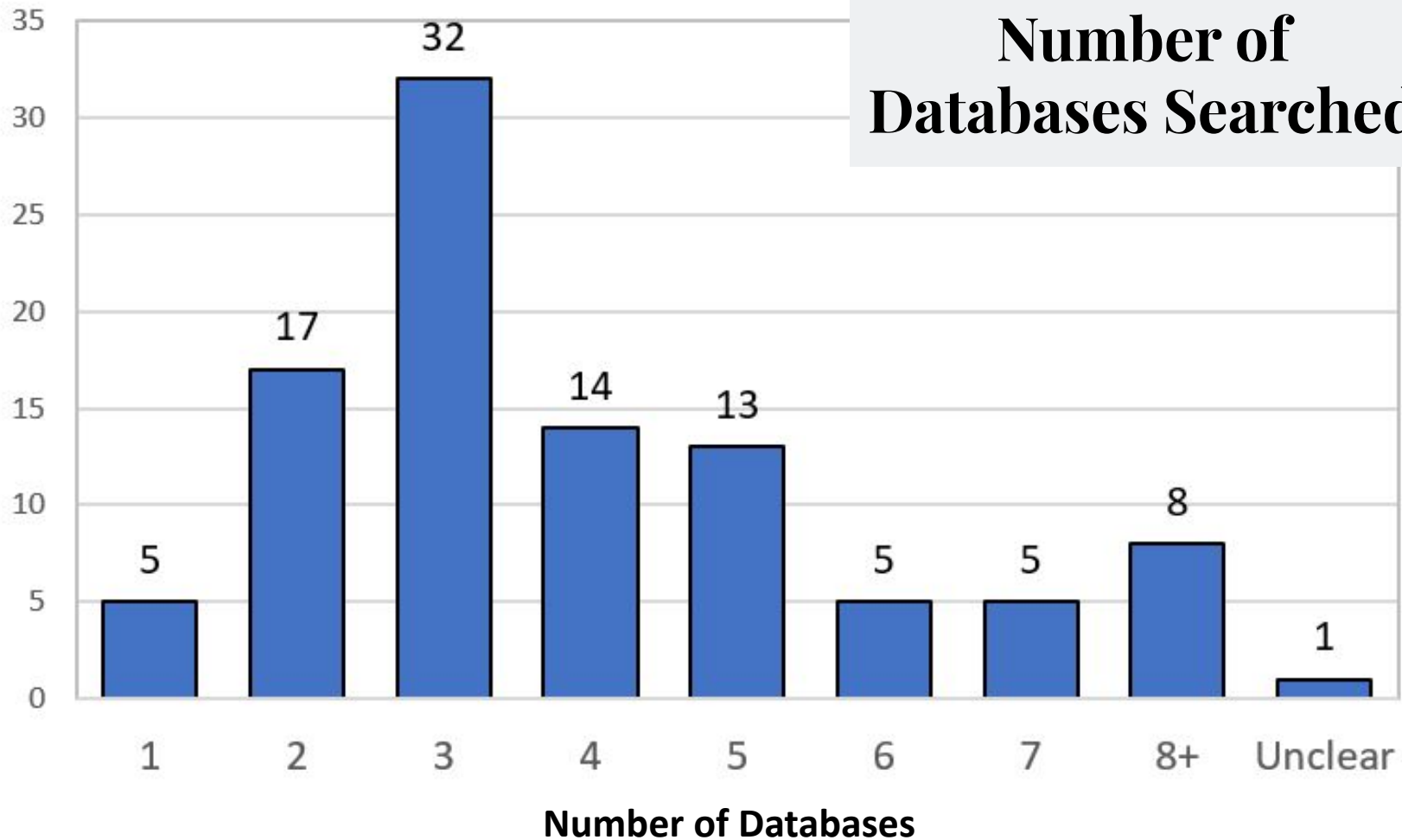
- 83 included a replicable search strategy
- 28 had some form of librarian involvement
- 9 studies with searches that couldn't be run
- 8 did not publish a search strategy at all



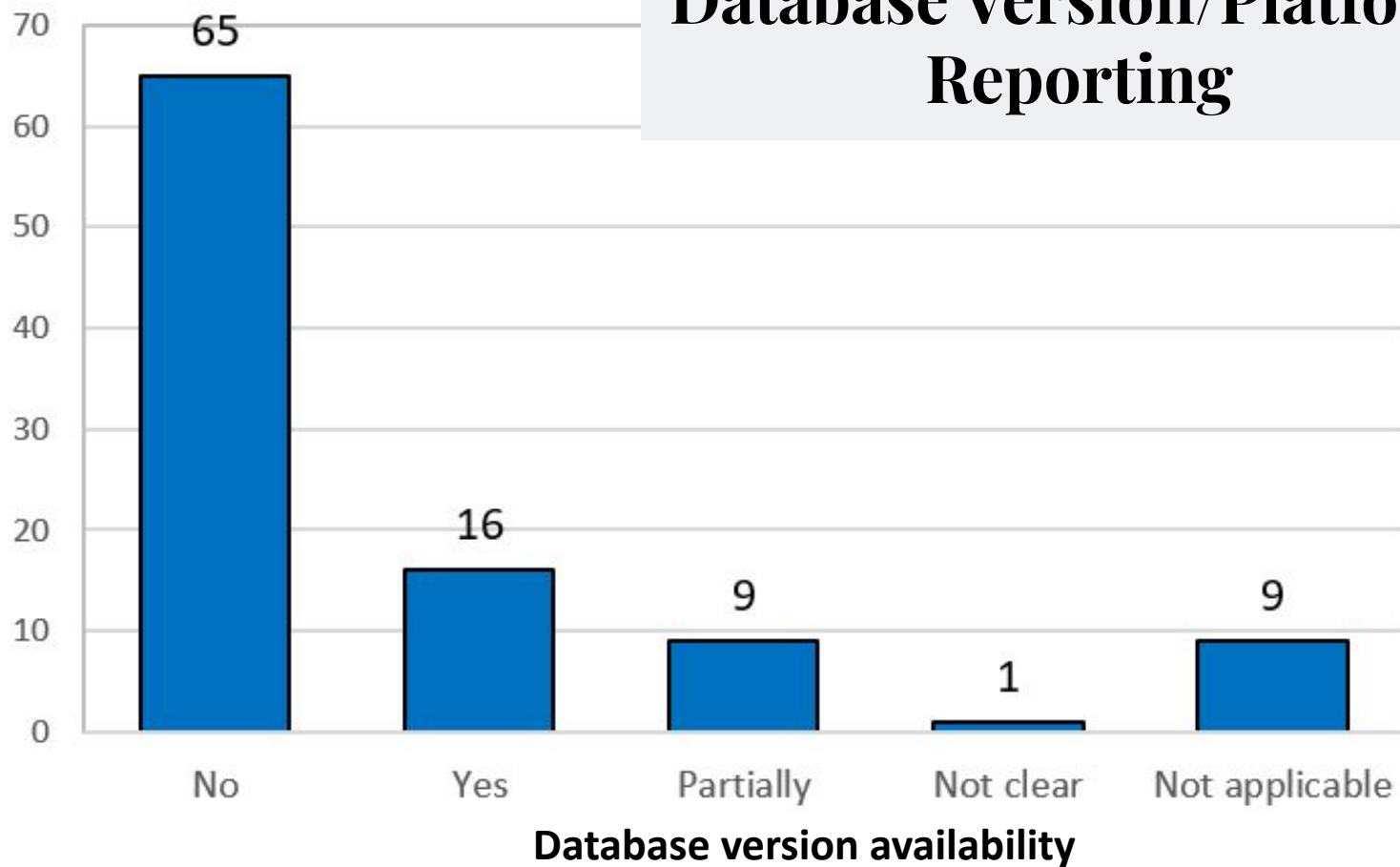
PRESS Overview



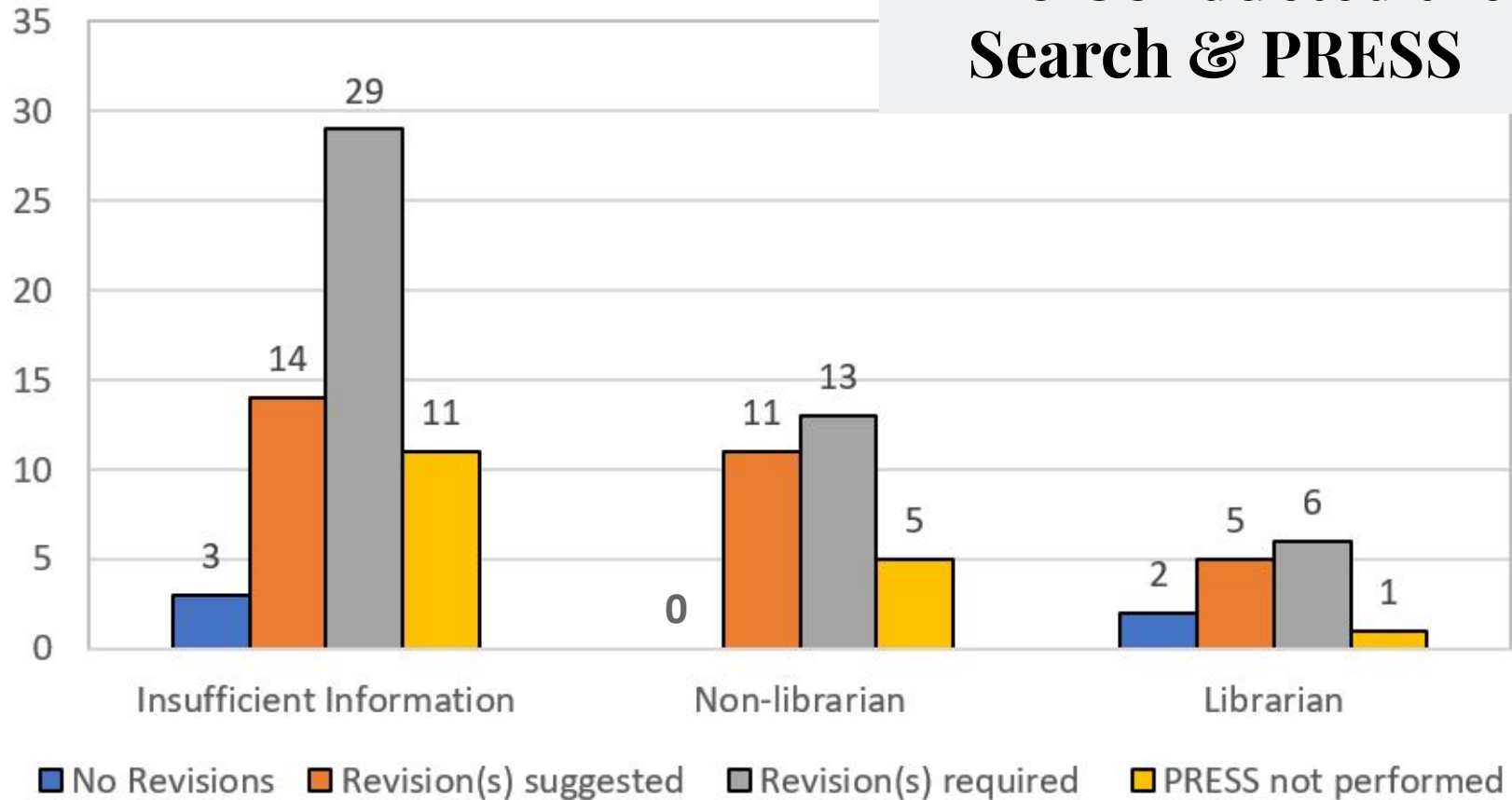
Number of Databases Searched



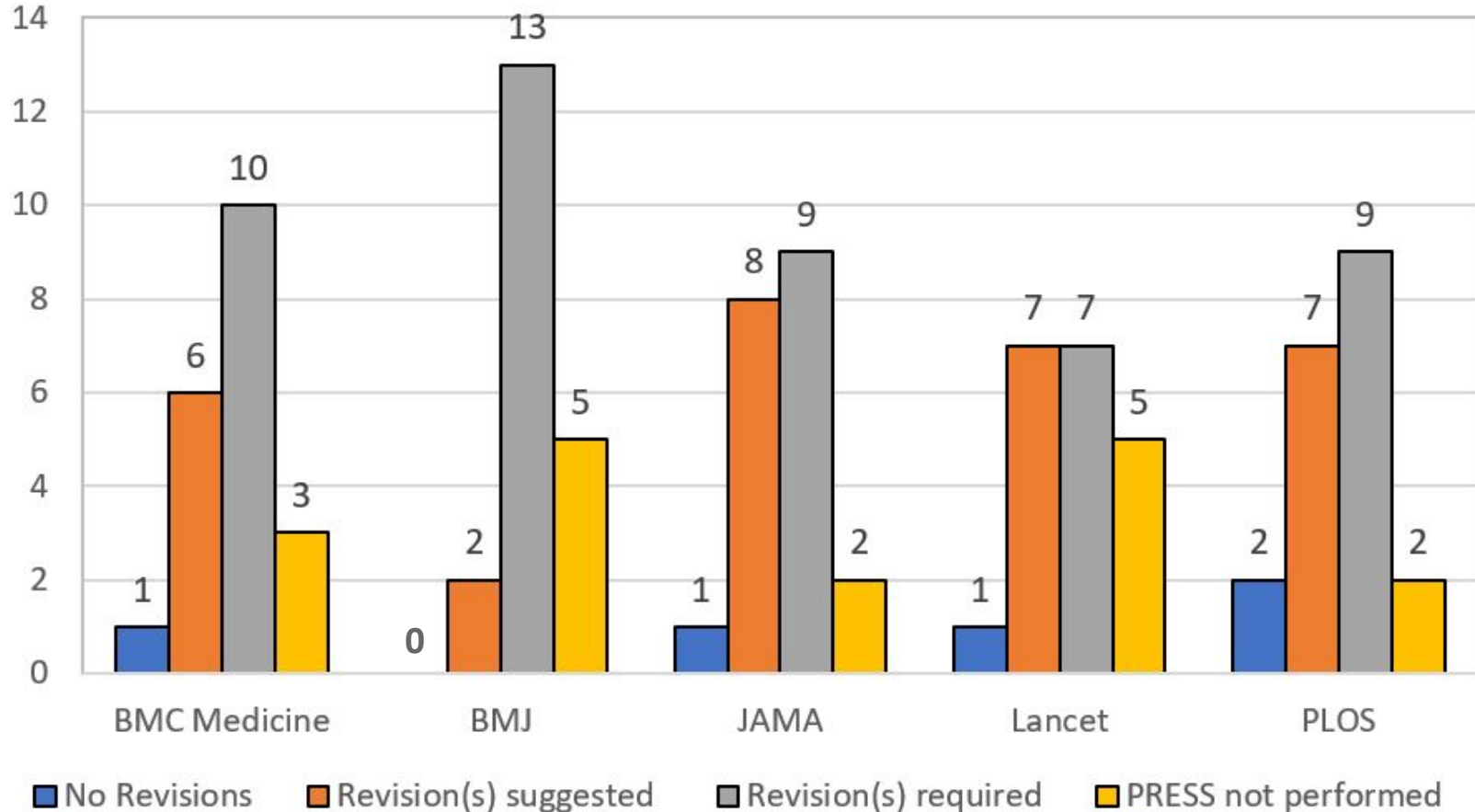
Database Version/Platform Reporting



Who Conducted the Search & PRESS



Which Journals Have the Best Searches?



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Discussion.



Reporting

Inconsistent despite reporting guidelines.



Search Errors

Even in top journals, many searches have errors that could bias results.



PRISMA-S

16-item checklist published in Jan 2021 to improve search documentation.



Lessons Learned

- We have become more diligent at reporting all aspects of the search.
- **Advocacy:** Recommend editors to require clear documentation:
 - Replicable search strategy (PRISMA-S)
 - Who conducted the search (credit for intellectual work)
 - More librarians in peer review

References

What is a systematic review?

<http://www.bandolier.org.uk/painres/download/whatis/Syst-review.pdf>

Rethlefsen ML, Kirtley S, Waffenschmidt S. *et al*. PRISMA-S: an extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews. *Syst Rev* 10, 39 (2021). <https://doi.org/10.1186/s13643-020-01542-z>

Sampson M, McGowan J, Lefebvre C, Moher D, Grimshaw J. PRESS: Peer Review of Electronic Search Strategies. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2008.
https://www.cadth.ca/media/pdf/477_PRESS-Peer-Review-Electronic-Search-Strategies_tr_e.pdf





THANKS!

janice.kung@ualberta.ca
University of Alberta



@janicekung

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