Peer reviewers' conflicts of interest in biomedical research: scoping review of empirical studies

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Background

Peer review may improve the quality of submitted research manuscripts and assist in editorial decisions. However, peer reviewers are not always neutral and may have conflicts of interest that could influence their recommendations.

Objective

We aimed to systematically map the extent and nature of empirical research on peer reviewers' conflicts of interest in peer review of scientific manuscripts for biomedical journals, theses and dissertations, conference abstracts, funding applications, and clinical guidelines.

Methods

- **Scoping review** based on preregistered protocol.

Use QR code to access protocol registration.

- We searched MEDLINE, Embase, The Cochrane Methodology Register (up to January 2024) and other sources.
- Independent duplicate study inclusion and data extraction.
- Evidence mapping of peer reviewers' conflicts of interest.

Use QR code for larger and detailed version of evidence map with individual studies

Use QR code for World map of included studies

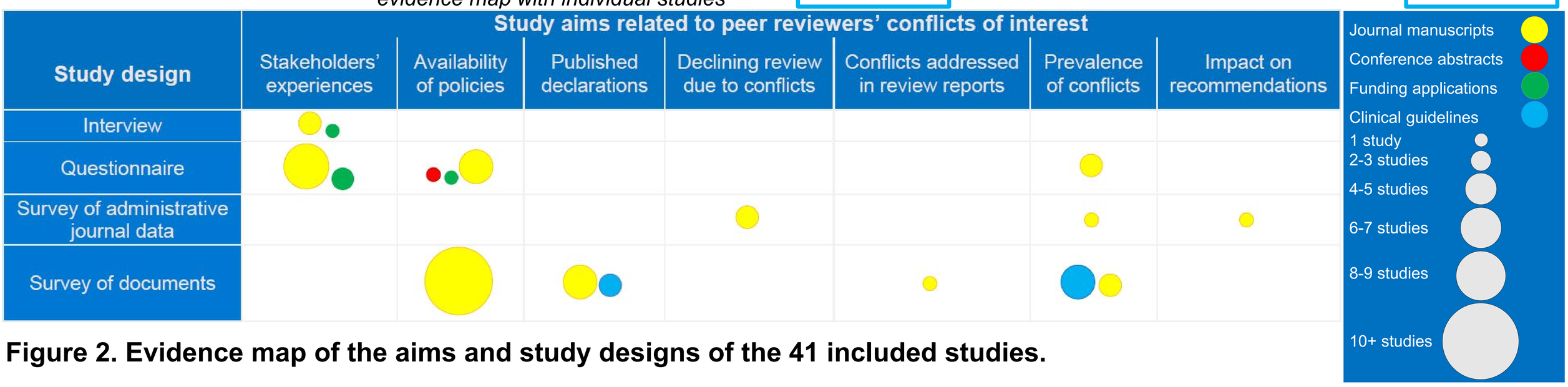
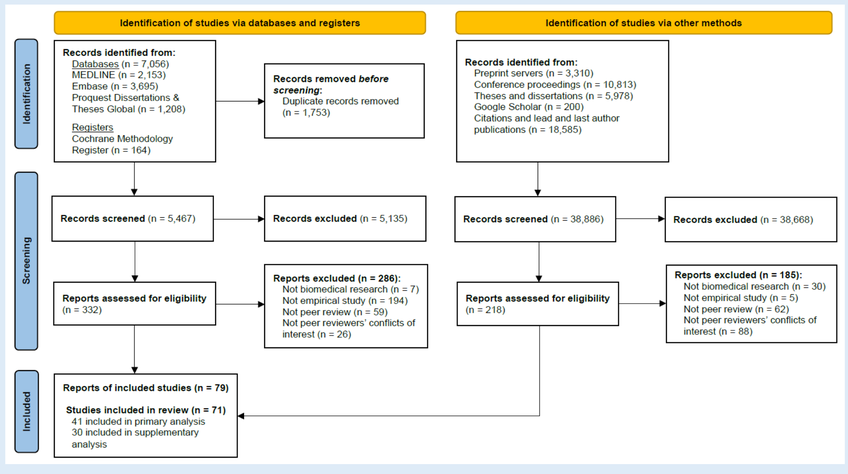


Figure 2. Evidence map of the aims and study designs of the 41 included studies.

Results

- We included 41 studies from 2005 to 2023 (**Figure 1**).
- **30 (73%) studies investigated journal manuscripts, one (2%) conference abstracts, four (10%) funding applications, and six (15%) clinical guidelines (Figure 2).**
- 30 other relevant studies without peer reviewers' conflicts of interest as explicit aims were also identified.

Figure 1. PRISMA flow diagram of study inclusion



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Conclusions

- **Most research on peer reviewers' conflicts of interest are surveys of journal policies and questionnaires of peer reviewers, authors and editors.**
- **Only one study investigated the impact of peer reviewers' conflicts of interest on manuscript recommendations.**
- **The extent and consequences of peer reviewers' conflicts of interest in biomedical research remain largely unexplored.**

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