

High risk of bias in many systematic reviews

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Background

The cost of producing a systematic review has been estimated to approximately \$ 140,000. Using systematic reviews already produced is a way to effectively use resources, but it is paramount that the results of the reviews are reliable. Systematic reviews that have a high risk of bias have very limited use and are a waste of resources. The foundation of a systematic review is the literature search. When it is flawed there is a risk that relevant studies have been missed, making results unreliable.

Methods

Risk of bias for all relevant systematic reviews identified in responses from the SBU Enquiry Service published on our website between 2021 and 2023, N=87, were extracted. It was also recorded whether the literature search strategy itself, or the reporting of it, was the reason for determining a systematic review as having a high risk of bias.

Risk of bias was assessed using the checklist Quickstar.

Results

In 42 responses between 1 and 72 relevant systematic reviews were identified, adding up to a total amount of 587 systematic reviews. The majority of these had a high risk of bias (Figure 1a) and problems in the design or reporting of literature searches (Figures 2a and 2b). For systematic reviews published between 2020 and 2023, in total 221, the results are somewhat better, but the overall impression is the same (Figures 1b, 2a and 2b).

Conclusion

In this study, an overwhelming majority of published systematic reviews have a high risk of bias, often due to flaws in the design or reporting of literature searches. This affects the reliability of the results, making resources dedicated to producing these reviews wasted.

Quickstar

A tool to synoptically assess the methodological quality (risk of bias) of systematic reviews. This appraisal tool can be used to obtain a quick overview of the methodological quality and usability of a systematic review. It is based on AMSTAR.

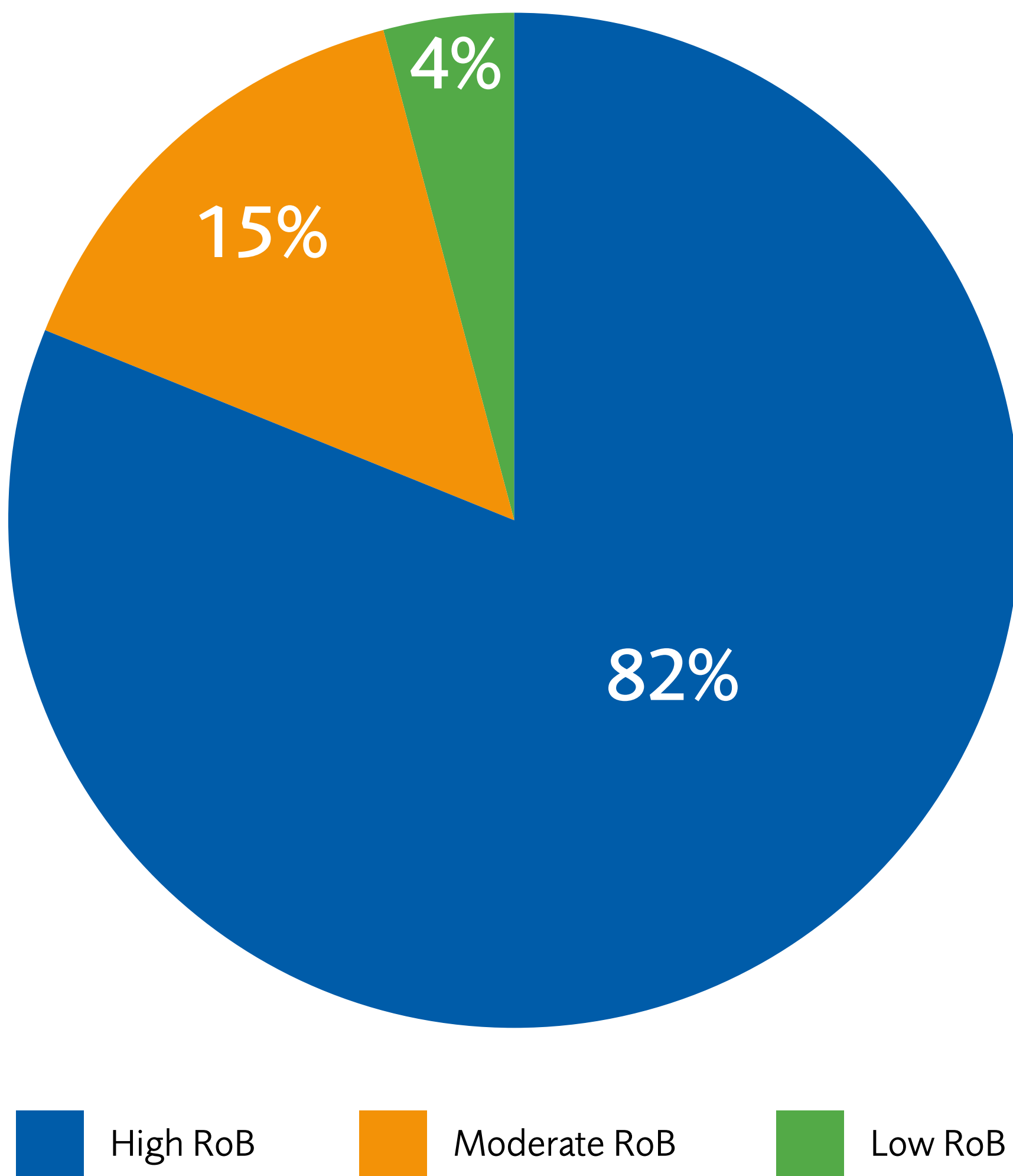


Figure 1a Proportion of all systematic reviews with high, moderate, or low risk of bias.

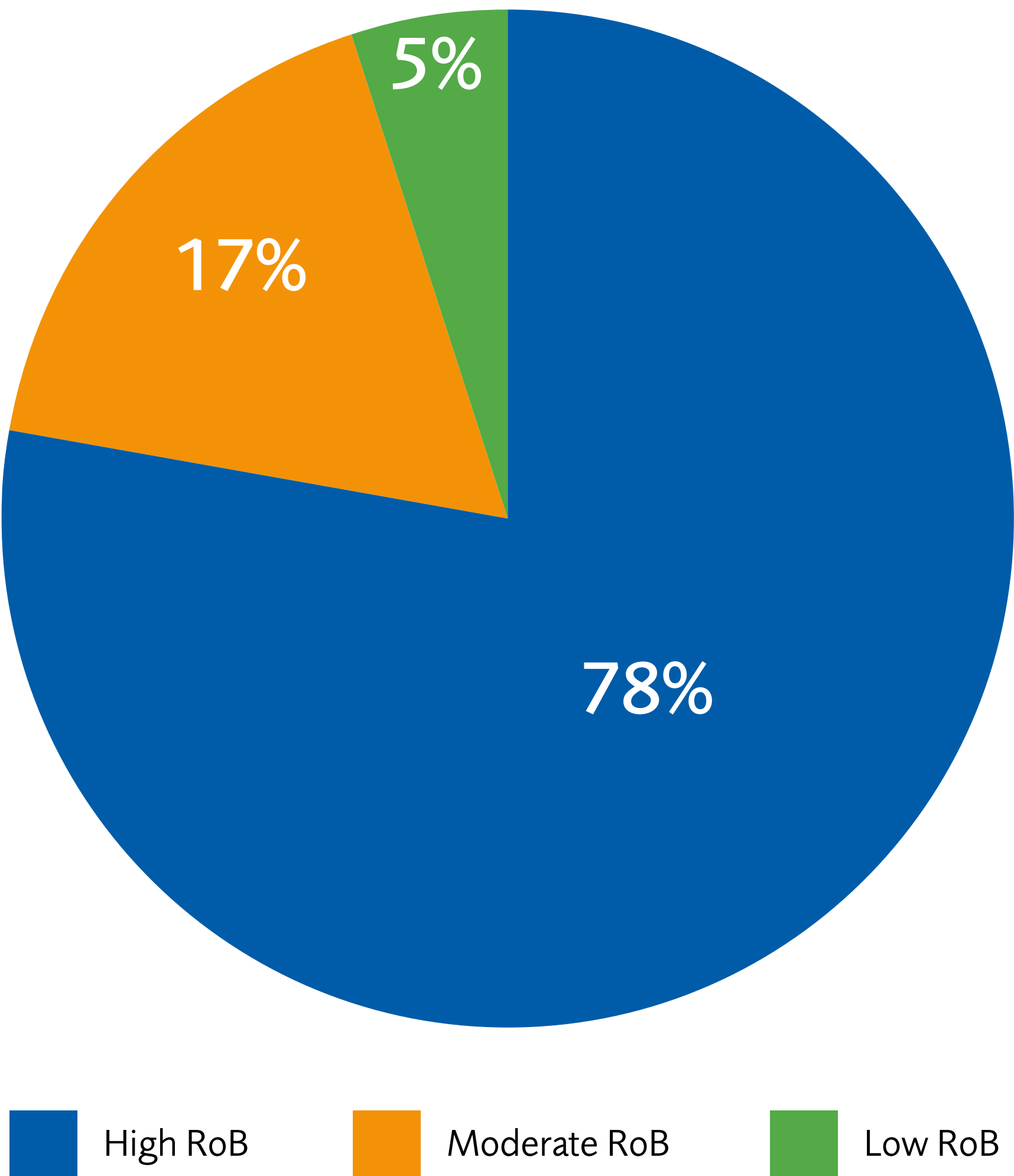


Figure 1b Proportion of systematic reviews published 2020-2024 with high, moderate, or low risk of bias.

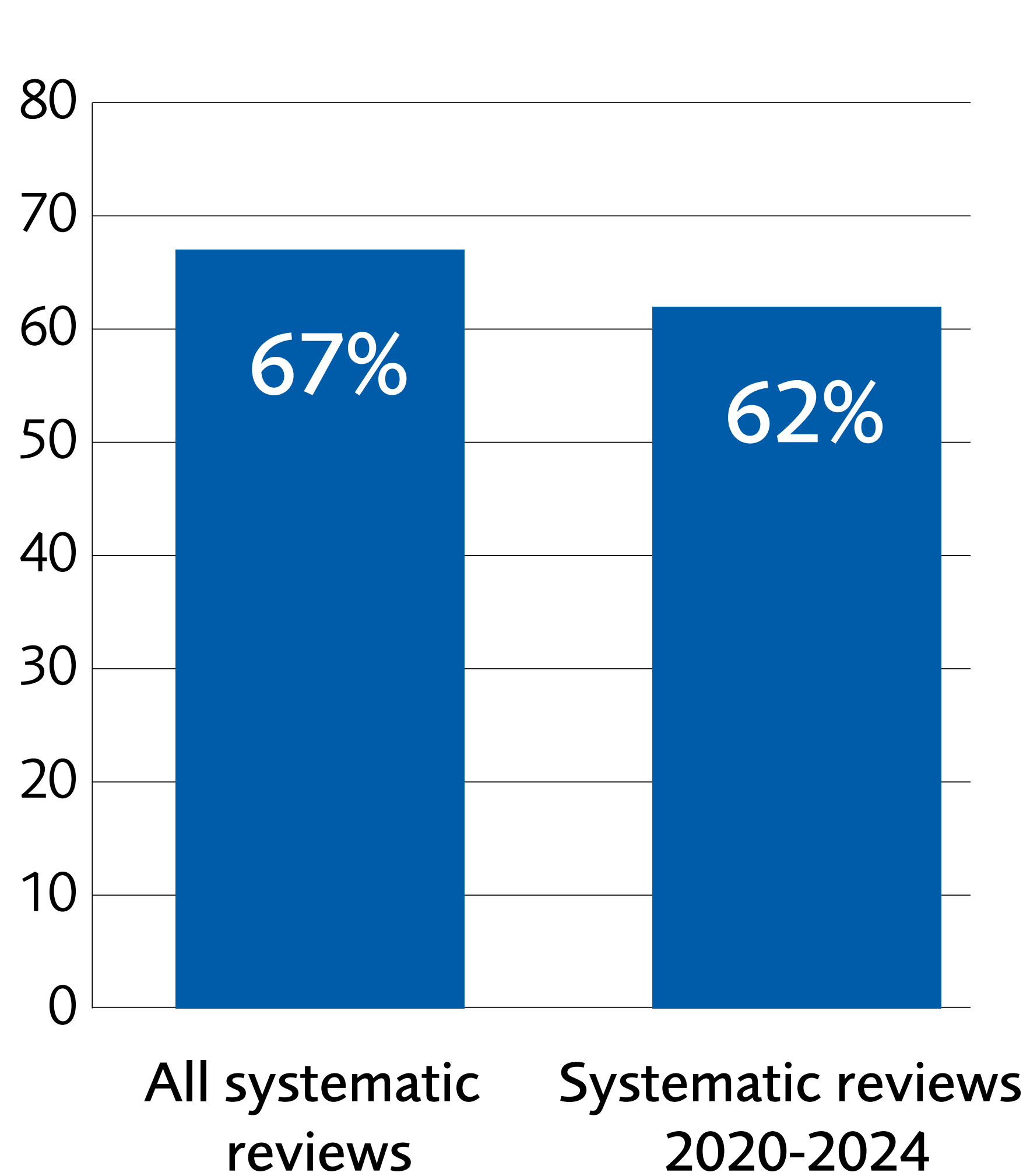


Figure 2a Proportion of systematic reviews with flaws in the design or reporting of the literature search strategy.

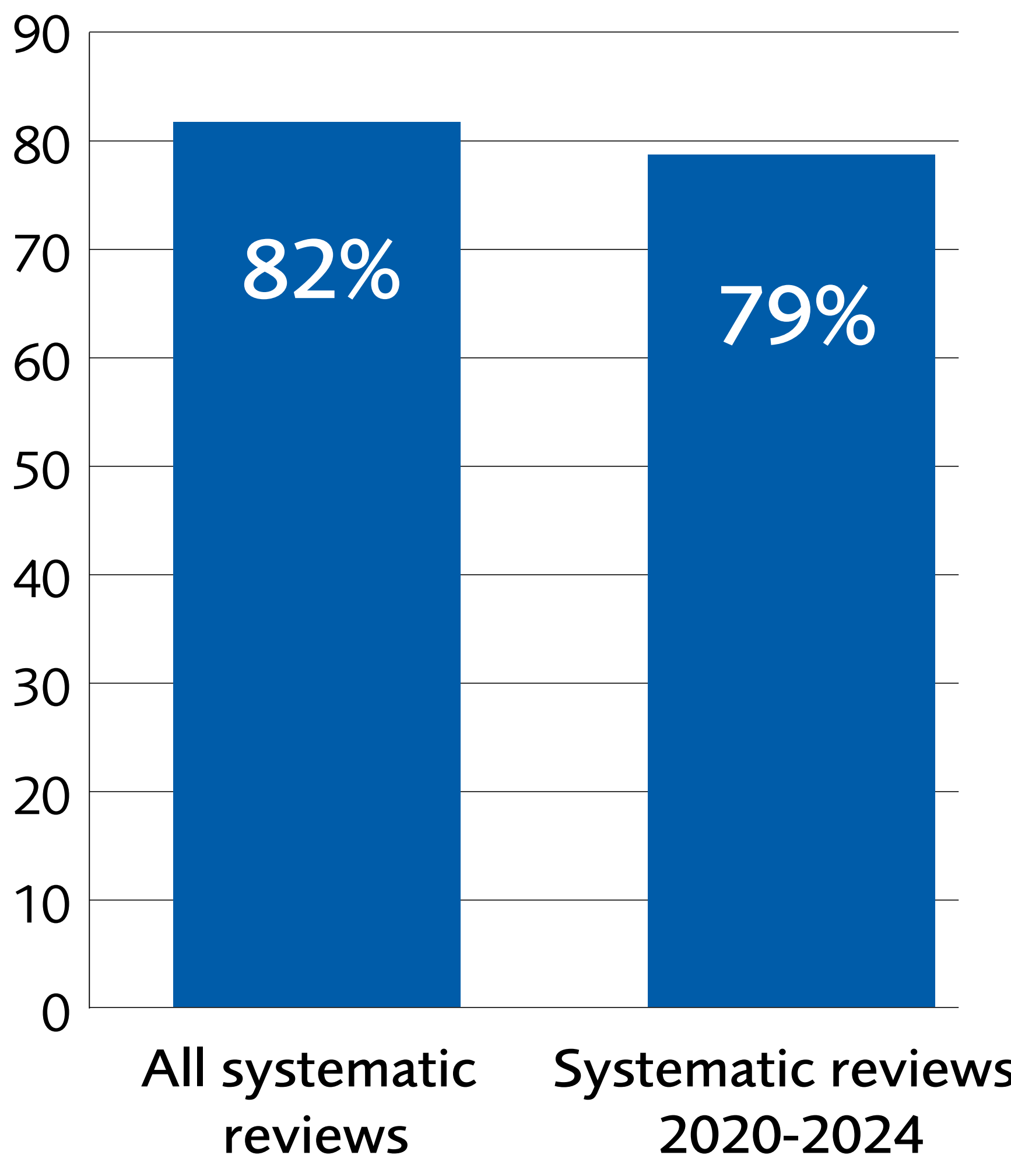


Figure 2b Proportion of systematic reviews with a high risk of bias that showed flaws in the design or reporting of the literature search strategy.

