PRISMA 2020 Checklist - Completed for Scientific Reports Submission

Item	Topic	PRISMA 2020 requirement	Location in final manuscript/package	Status / note
1	Title	Identify the report as a systematic review.	Title page, p.1	Reported; title explicitly identifies the report as a systematic review.
2	Abstract	See PRISMA 2020 for Abstracts checklist.	Abstract, p.1	Reported; abstract contains the applicable PRISMA 2020 for Abstracts elements within the journal word limit.
3	Rationale	Describe the rationale for the review in context of existing knowledge.	Introduction, pp.1-2	Reported.
4	Objectives	Provide an explicit statement of the objective(s) or question(s).	Introduction, p.2	Reported.
5	Eligibility criteria	Specify inclusion and exclusion criteria and how studies were grouped for synthesis.	Methods: Eligibility criteria, pp.6-7; Supplementary Data 1, PICOS sheet	Reported.
6	Information sources	Specify all databases, registers, websites, organisations, reference lists and other sources searched/consulted, and date last searched.	Methods: Search strategy, p.6; Supplementary Information: Full Database Search Strategies	Reported for PubMed, Europe PMC and Scopus; no other sources claimed.
7	Search strategy	Present full search strategies for all databases, including filters/limits.	Supplementary Information: Full Database Search Strategies	Reported.
8	Selection process	Specify methods used to decide whether a study met inclusion criteria, including number of reviewers and independence.	Methods: Study selection, p.7	Reported. Screening was conducted independently by A.A. and M.M.; disagreements were resolved by discussion with R.B.H. as adjudicator when required.
9	Data collection process	Specify methods used to collect data, reviewers involved, independence, author contact/automation where applicable.	Methods: Data extraction, p.7	Reported; A.A. and M.M. contributed to extraction using a standardized form. Fully independent duplicate extraction is not claimed.
10a	Data items - outcomes	List and define outcomes sought and whether all compatible results were sought.	Methods: Eligibility criteria/Data extraction, pp.6-7; Results, pp.2-4	Reported at review level.
10b	Data items - other variables	List and define other variables sought and assumptions for missing/unclear information.	Methods: Data extraction, p.7; Supplementary Data 1, Included-studies sheet	Reported; unreported information recorded as NR rather than inferred.
11	Study risk of bias assessment	Specify methods and tool(s), reviewers, independence and automation.	Methods: Risk of bias assessment, p.7; Supplementary Data 1, risk-of-bias sheet	Partially reported. Framework-informed structured appraisal is reported; full item-level signaling-question records and duplication status are not documented.
12	Effect measures	Specify effect measure(s) for each outcome where applicable.	Methods: Data synthesis, pp.7-8	Not applicable as a quantitative meta-analysis was not performed; heterogeneous performance/effect measures were narratively synthesized.
13a	Synthesis - eligibility	Describe processes used to decide which studies were eligible for each synthesis.	Methods: Eligibility criteria and Data synthesis, pp.6-8	Reported.
13b	Synthesis - data preparation	Describe data preparation methods such as handling missing statistics or conversions.	Methods: Data extraction/Data synthesis, pp.7-8	No pooled transformations or imputation were performed; NR was retained where information was not reported.
13c	Synthesis - tabulation/visual display	Describe methods used to tabulate or visually display results.	Methods: Data synthesis, pp.7-8; Tables 1-2, pp.13-21; Figure 2	Reported.
13d	Synthesis - methods	Describe synthesis methods and rationale; if meta-analysis, model and heterogeneity methods.	Methods: Data synthesis, pp.7-8	Reported; narrative synthesis used because populations, targets, outcomes, validation strategies and performance metrics were not sufficiently comparable.
13e	Synthesis - heterogeneity exploration	Describe methods used to explore possible causes of heterogeneity.	Results/Discussion, pp.2-6	Narrative comparison by clinical domain, model purpose, validation and performance; no formal meta-regression/subgroup meta-analysis.
13f	Synthesis - sensitivity analyses	Describe sensitivity analyses used to assess robustness.	Methods: Data synthesis, pp.7-8	Not performed; no sensitivity analyses are claimed.
14	Reporting bias assessment	Describe methods used to assess risk of bias due to missing results.	Methods: Data synthesis, p.8; Discussion limitations, pp.5-6	No formal reporting-bias test performed; this is acknowledged as a limitation.
15	Certainty assessment	Describe methods used to assess certainty/confidence in evidence.	Methods: Data synthesis, p.8; Discussion limitations, pp.5-6	No formal certainty-of-evidence grading performed; explicitly reported and considered in interpretation.

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16a	Study selection - results	Describe search/selection results from records identified to studies included, ideally with flow diagram.	Results: Study selection, p.2; Figure 1	Reported.
16b	Excluded studies	Cite studies that might appear eligible but were excluded and explain why.	Supplementary Data 1, screening/eligibility sheet	Seventeen full-text exclusions are listed with one primary reason each; Figure 1 reports the corresponding category totals.
17	Study characteristics	Cite each included study and present characteristics.	Tables 1-2, pp.13-21; Supplementary Data 1, Included-studies sheet	Reported for 54 studies.
18	Risk of bias in studies	Present assessments for each included study.	Results: Methodological quality, p.4; Figure 2; Supplementary Data 1, risk-of-bias sheet	Reported as structured methodological appraisal; not represented as full signaling-question tool output.
19	Results of individual studies	For each study, present summary statistics/effect estimates and precision where applicable.	Results, pp.2-4; Tables 1-2, pp.13-21; Supplementary Data 1, Included-studies sheet	Reported using study-specific performance/effect metrics; metrics are not treated as interchangeable.
20a	Results of syntheses - characteristics/RoB	Briefly summarise contributing study characteristics and risk of bias for each synthesis.	Results, pp.2-4; Figure 2	Reported.
20b	Results of statistical syntheses	Present results of statistical syntheses, heterogeneity and direction where applicable.	Methods/Results, pp.2-8	Not applicable: no meta-analysis was performed.
20c	Results of heterogeneity investigations	Present results of investigations of possible causes of heterogeneity.	Results/Discussion, pp.2-6	Narrative exploration reported; no formal meta-regression.
20d	Results of sensitivity analyses	Present sensitivity analysis results.	Methods: Data synthesis, pp.7-8	Not applicable: none performed.
21	Reporting biases	Present assessments of risk of bias due to missing results.	Discussion limitations, pp.5-6	No formal assessment performed; publication/selective-reporting bias cannot be excluded.
22	Certainty of evidence	Present certainty/confidence assessments.	Discussion limitations, pp.5-6	Not applicable: no formal certainty assessment conducted.
23a	Discussion - interpretation	Provide general interpretation in context of other evidence.	Discussion, pp.4-6	Reported.
23b	Discussion - evidence limitations	Discuss limitations of evidence included.	Discussion, pp.4-6	Reported.
23c	Discussion - review-process limitations	Discuss limitations of review processes.	Discussion limitations, pp.5-6	Reported.
23d	Discussion - implications	Discuss implications for practice, policy and future research.	Discussion/Conclusion, pp.4-6	Reported.
24a	Registration	Provide register name and registration number or state not registered.	Methods: Study design registration and reporting, p.6	PROSPERO CRD420261502629 reported.
24b	Protocol	Indicate where review protocol can be accessed or state none prepared.	Methods: Study design registration and reporting, p.6	The review protocol was registered in PROSPERO; the registration record is available through PROSPERO (CRD420261502629).
24c	Amendments	Describe and explain amendments to registration/protocol.	Not separately reported	No amendments are reported in the manuscript or supplied review materials.
25	Support	Describe financial/non-financial support and role of funders/sponsors.	Funding, p.8	Reported: this research did not receive funding.
26	Competing interests	Declare competing interests.	Competing interests, p.8	Reported: no financial or non-financial competing interests declared.
27	Availability of data/code/materials	Report which materials are publicly available and where.	Data availability and Code availability, p.8; Supplementary files	Reported for supplied review data; no custom computer code was used as a central analytic component.

Notes: Page locations were re-checked against the final 21-page manuscript uploaded for submission. The review protocol was registered in PROSPERO (CRD420261502629). Where a formal meta-analysis, sensitivity analysis, reporting-bias test, or certainty assessment was not performed, this is stated explicitly rather than inferred.