# AQASR Checklist

## Assessing the Quality and Applicabiilty of Systematic Reviews

## Questions Applicable to all Systematic Reviews

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| 1. SYSTEMATIC REVIEW QUESTION / CLINICAL APPLICABILITY (RQ)
 |
| RQ1. Do the authors ask a concrete, concise, clearly stated question as the basis for their review? |
| RQ2. Is there a rationale for the review? (The clinical/scientific background for the review is discussed, and the guiding problem is defined.) |
| RQ3. Do the authors justify the need for the current review? |
| RQ4. Are the outcomes of interest described or defined? |
| RQ5. Are potential harms described or defined? |
| RQ6. Is the population of interest described or defined? |
| 1. PROTOCOL (PR)
 |
| PR1. Was an a priori protocol for the systematic review produced or available (e.g., standard, customized, or ad hoc protocol)? |
| PR2. IF YES: Was the protocol (in a report or protocol template) complete, specifying background, objectives, patients/interventions/tests/outcomes of interest, criteria for selecting studies, literature search strategies, review methods, coding instructions, methods/rules for translating evidence into recommendations, and conflicts of interest? |
| PR3. IF YES: Was the protocol reviewed by an independent group of experts and/or an outside organization? |
| PR4. IF YES: Did the authors describe any deviations from the protocol? |
| PR5. IF YES: Were protocol deviations justified by the authors? |
| 1. DATABASE SEARCHING (DB)
 |
| DB1. Were the methods for locating evidence described? |
| DB2. Were explicit inclusion and exclusion criteria provided for database searches for studies and articles? |
| DB3. Were multiple bibliographic databases used to identify primary studies? |
| DB4. Was the search strategy comprehensive enough that all relevant studies were likely to be located? |
| DB5. Were keywords used for conducted searches? |
| DB6. Did the authors avoid database bias and source selection bias? |
| DB7. Was a database of trials (e.g., Cochrane) consulted? |
| DB8. Were clinical trials registers consulted? |
| DB9. Was the grey literature searched for primary studies? |
| DB10. IF NO: Did the authors justify the omission of searching the grey literature? |

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| 1. OTHER SEARCHES (OS)
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| OS1. Were experts and prolific authors asked to identity published or unpublished studies? |
| OS2. Were the reference lists of identified publications reviewed for additional studies (e.g., ancestor search)? |
| 5. SEARCH LIMITATIONS (SL) |
| SL1. Was the literature collected limited by the language of the reports? |
| SL2. Was the literature collected limited by geographic/political area? |
| SL3. Was the literature collected limited by time period (start-stop years)? |
| SL4. Was the literature collected limited by characteristics of the subjects studied (e.g., age, gender, co-morbidities)?  |
| SL5. Was the literature collected limited by the research design?  |
| SL6. Was the literature collected limited by type of intervention(s)?  |
| SL7. Was the literature collected limited by type of outcome(s) or outcome measure(s)? |
| 6. ABSTRACT AND FULL PAPER SCANNING (SC) |
| SC1. Did the authors specify the inclusion and exclusion criteria used for selecting abstracts? |
| SC2. Is the experience or are the qualifications of abstract reviewers specified? |
| SC3. Were all abstracts of studies reviewed by two or more persons independently?  |
| SC4. IF YES: Are an agreement measure and a level of agreement reported, with a procedure for developing consensus in case of disagreements? |
| SC5. Is the experience or are the qualifications of full paper reviewers specified? |
| SC6. Were the inclusion and exclusion criteria specified for selecting primary studies based on full papers?  |
| SC7. Were studies reviewed by two or more persons independently? |
| SC8. IF YES: Are an agreement measure and a level of agreement reported, with a procedure for developing consensus in case of disagreements? |
| SC9. Is there a clear description or flow diagram describing the disposition of abstracts and papers through the various steps in the process of identifying the relevant evidence (abstracts read > full papers read > full papers extracted)? |
| SC10. Is a log or list of rejected primary studies available, with reasons for rejection? |
| 7. METHODOLOGICAL QUALITY ASSESSMENT AND USE (MQ) |
| MQ1. Were studies reviewed for methodological quality? |
| MQ2. If YES, was the instrument for assessing study quality identified? |
| MQ3. Was study quality scored by two or more persons independently? |
| MQ4. IF YES: Are an agreement measure and a level of agreement reported, with a procedure for developing consensus in case of disagreements? |
| MQ5. Is the experience or are the qualifications of study quality reviewers specified? |
| MQ6. Was bias or potential bias in reviewed studies addressed? |
| 8. DATA EXTRACTING (DA) |
| DA1. Are an extracting form and a syllabus described? |
| DA2. Were study data extracted by two or more persons independently? |
| DA3. IF YES: Is an agreement measure with a procedure for developing consensus in case of disagreements reported? |
| DA4. IF YES: Is the agreement level reported? |
| DA5. Is the experience or are the qualifications of the data extractors specified? |

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| 9. QUALITATIVE SYNTHESIS (QS) |
| QS1. Did the review include studies that are relevant to the question? |
| QS2. Is the method for data synthesis (aggregated evidence across studies) described? |
| QS3. Were the findings from original studies combined appropriately? |
| QS4. Were the data from original studies analyzed appropriately? |
| QS5. Were the studies similar enough to combine (e.g., same subjects; same or similar interventions; same or comparable outcomes)? |
| QS6. Were the results clearly reported? |
| QS7. Was any sensitivity testing reported (e.g., subgroup analyses)? |
| 10. DISCUSSION (DI) |
| DI1. Are study limitations discussed (e.g., search limitations, the effects of publication and other biases, strength of studies, decisions on synthesis)? |
| DI2. Was publication bias or other potential bias assessed? |
| DI3. Are the results interpreted considering the totality of available evidence? |
| DI4. Are alternative considerations/explanations for the results considered (e.g., publication bias)? |
| DI5. Is the generalization of the conclusions appropriate? |
| DI6. Are the results meaningful in terms of the focused question that was the basis for the review? |
| DI7. If there were earlier systematic reviews in this area, do the authors discuss similarities or differences in findings? |
| DI8. Were directions for future research proposed? |
| 11. VARIOUS (VA) |
| VA1. Were all relevant disciplines represented on the review team? |
| VA2. Were the people who performed specific components of the review qualified? |
| VA3. Was potential bias or conflict of interest addressed for the reviewers or organizations associated with the included studies? |
| VA4. Was the systematic review peer reviewed? |
| 12. QUESTIONS RELEVANT ONLY TO REVIEWS THAT INCORPORATE A META-ANALYSIS (MA) |
| MA1. Is the method for accounting for missing values included? |
| MA2. Was the heterogeneity of studies in terms of outcomes analyzed and reported? |
| MA3. Are results reported appropriately (e.g., odds ratio, relative risk)? |
| MA4. Are confidence intervals and effect sizes reported for all observed outcomes? |
| MA5. Are appropriate tables and graphs provided? |
| MA6. Were any subgroup analyses specified a priori? |
| MA7. Is lack of statistical power considered (i.e., was a prospective power analysis done to assess whether the combined studies have enough cases, given a minimally acceptable effect size)? |

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| 13. QUESTIONS RELEVANT ONLY TO SYSTEMATIC REVIEWS OF STUDIES OF INTERVENTIONS (IN) |
| IN1. Are the intervention(s) and the comparator(s) of interest described? |
| IN2. Are the provider(s) of interest described? |
| IN3. Is treatment integrity (fidelity) of the primary studies evaluated? |
| IN4. FOR REVIEWS THAT INCLUDE RCTs: Was the integrity of randomization considered?  |
| IN5. Was the primary studies’ method of analysis (intent-to-treat vs. per-protocol) considered?  |
| IN6. Was the possibility of confounding in the studies included in the systematic review assessed (e.g., comparability of cases and controls in studies)? |
| IN7. Was blinding of patients, clinicians, outcome assessors, and analysts assessed? |
| IN8. Was loss to follow-up assessed? |
| IN9. Were sources of heterogeneity (clinical or study design) addressed? |
| IN10. Were the major clinical outcomes (benefits AND harms) considered? |
| IN11. Was the generalizability of the data addressed? |
| IN12. Were the included studies cited sufficiently strong in quality and quantity? |
| IN13. Were the costs of treatment options considered? |
| 14. QUESTIONS RELEVANT ONLY TO SYSTEMATIC REVIEWS OF PROGNOSTIC STUDIES (PS) |
| PS1. Do the authors define the population of interest?  |
| PS2. Do the authors assess loss to follow-up (from first assessment of study subjects to last evaluation of the outcome of interest) in the primary studies?  |
| PS3. Do the authors specify criteria for the measurement of the prognostic factor(s) by the primary studies?  |
| PS4. If the outcome is a subjective one: Do the authors report on the issue of blinding of the outcome assessors to all prognostic factors? |
| PS5. Do the authors discuss whether the primary studies addressed potential confounders?  |
| PS6. Do the authors assess the data analysis of the primary studies? |
| 15. QUESTIONS RELEVANT ONLY TO SYSTEMATIC REVIEWS OF STUDIES OF DIAGNOSTIC ACCURACY (DS) |
| DS1. Did the systematic review authors select studies that were similar with respect to factors that may impact test sensitivity and specificity? |
| DS2. Did the systematic review authors select studies that were similar with respect to clinician factors that may impact test sensitivity and specificity?  |
| DS3. Does the systematic review include discussion, specification, or tabulation of other factors that may impact diagnostic accuracy parameters? |
| DS4. Was the methodological quality of the studies evaluated using an appropriate instrument such as the QUADAS (Quality of Diagnostic Accuracy Studies)?  |
| DS5. Did the systematic review identify how the primary studies recruited subjects (e.g., presenting symptoms, results from previous tests, positive index test or positive reference test)? |
| DS6. Does the systematic review provide a description of the nature of the index test?  |
| DS7. Does the systematic review provide a description of the reference standard and the reproducibility (test-retest reliability) of the index test? |
| DS8. Did the systematic review avoid estimating a pooled value separately for sensitivity and specificity?  |
| DS9. Are the findings with respect to the index test discussed in the context of its use in clinical practice (e.g., costs, treatment strategies for the disease, harms, alternative tests, use in a sequence of tests such as screening, add-on, treatment decisions)? |

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| 16. QUESTIONS RELEVANT ONLY TO SYSTEMATIC REVIEWS OF MEASUREMENT INSTRUMENTS (MI) |
| MI1. Do the authors describe the measure(s) reviewed, including content, dimensionality, number and nature of items, mode of administration, and equipment needed (if any)? |
| MI2. Does the review discuss alternative measures?  |
| MI3. Do the authors address the nature of the population sample(s) included in the primary studies? |
| MI4. Do the authors describe the circumstances (e.g., testing conditions) in which psychometric information was collected? |
| MI5. Do the authors assess the quality of the primary studies (e.g., discuss size of study, completeness of data, and handling of missing data)? |
| MI6. Does the review address the reliability and reproducibility of the measure(s) included? |
| MI7. If YES, do the authors specify standards for what they consider minimally adequate reliability and reproducibility?  |
| MI8. Does the review address the validity of the measure(s) included? |
| MI9. Does the review address sensitivity of the measure(s) included? |
| MI10. Does the review address the burden of data collection (e.g., cost, time, required skill levels, training) imposed on the research subjects or on the researchers/clinicians using the instrument? |
| MI11. Do the reviewers offer a total score expressing their judgment of the overall quality of the instrument(s) included in their review? |
| MI12. Do the review’s authors address special issues relating to the use of the measure(s) by or with people with disabilities?  |
| 17. QUESTIONS RELEVANT ONLY TO SYSTEMATIC REVIEWS OF ECONOMIC EVALUATIONS (EC) |
| EC1. Does the systematic review identify which specific economic questions are addressed (e.g., cost, cost-effectiveness, cost-benefit, cost-utility)? |
| EC2. Does the systematic review identify the group(s) impacted by the economic outcomes (e.g., participants, teachers, investors, school districts, government agencies)?  |
| EC3. IF YES: Is the applicable time horizon(s) of interest sustained throughout the included studies? |
| EC4. Were the included studies evaluated for their methodological quality by means of a checklist or rating scale specific to economic evaluations? |
| EC5. Have relevant costs been identified for alternative interventions?  |
| EC6. Have the entries in the evidence table been adjusted properly, to the degree possible, for those factors that make the results of various primary studies incomparable? |
| EC7. Does the systematic review acknowledge differences among primary studies that cannot be adjusted due to lack of information? |
| EC8. For studies that compare cost-effectiveness of interventions for disparate health problems, have all the outcomes been expressed in a suitable common metric? |

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