| Design | USPSTF quality rating criteria272 | NICE methodology checklists273 | The QUADAS tool274 |
| --- | --- | --- | --- |
| Systematic reviews and meta-analyses | * Comprehensiveness of sources considered/search strategy used
* Standard appraisal of included studies
* Validity of conclusions
* Recency and relevance are especially important for systematic reviews
 | * The study addresses an appropriate and clearly focused question
* A description of the methodology used is included
* The literature search is sufficiently rigorous to identify all the relevant studies
* Study quality is assessed and taken into account
* There are enough similarities between the studies selected to make combining them reasonable
 | Not applicable |
| Case-control studies | * Accurate ascertainment of cases
* Nonbiased selection of cases/controls with exclusion criteria applied equally to both
* Response rate
* Diagnostic testing procedures applied equally to each group
* Measurement of exposure accurate and applied equally to each group
* Appropriate attention to potential confounding variables
 | * The study addresses an appropriate and clearly focused question
* The cases and controls are taken from comparable populations
* The same exclusion criteria are used for both cases and controls
* What percentage of each group (cases and controls) participated in the study?
* Comparison is made between participants and non-participants to establish their similarities or differences
* Cases are clearly defined and differentiated from controls
* Is it clearly established that controls are non-cases?
* Measures have been taken to prevent knowledge of primary exposure influencing case ascertainment
* Exposure status is measured in a standard, valid and reliable way
* The main potential confounders are identified and taken into account in the design and analysis
* Have confidence intervals been provided?
 | Not applicable |
| Randomized controlled trials (RCTs)  | * Initial assembly of comparable groups employs adequate randomization, including first concealment and whether potential confounders were distributed equally among groups
* Maintenance of comparable groups (includes attrition, crossovers, adherence, contamination)
* Important differential loss to follow-up or overall high loss to follow-up
* Measurements: equal, reliable, and valid (includes masking of outcome assessment)
* Clear definition of the interventions
* All important outcomes considered
 | * The study addresses an appropriate and clearly focused question
* The assignment of subjects to treatment groups is randomized
* An adequate concealment method is used
* Subjects and investigators are kept ‘blind’ about treatment allocation
* The treatment and control groups are similar at the start of the trial
* The only difference between groups is the treatment under investigation
* All relevant outcomes are measured in a standard, valid and reliable way
* What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed?
* All the subjects are analyzed in the groups to which they were randomly allocated (often referred to as intention-to-treat analysis)
* Where the study is carried out at more than one site, results are comparable for all sites
 | Not applicable |
| Cohort studies | * Initial assembly of comparable groups employs consideration of potential confounders with either restriction or measurement for adjustment in the analysis; consideration of inception cohorts
* Maintenance of comparable groups (includes attrition, crossovers, adherence, contamination)
* Important differential loss to follow-up or overall high loss to follow-up
* Measurements: equal, reliable, and valid (includes masking of outcome assessment)
* Clear definition of the interventions
* All important outcomes considered
 | * The study addresses an appropriate and clearly focused question
* The two groups being studied are selected from source populations that are comparable in all respects other than the factor under investigation
* The study indicates how many of the people asked to take part did so, in each of the groups being studied
* The likelihood that some eligible subjects might have the outcome at the time of enrollment is assessed and taken into account in the analysis
* What percentage of individuals or clusters recruited into each arm of the study dropped out before the study was completed?
* Comparison is made between full participants and those lost to follow-up, by exposure status
* The outcomes are clearly defined
* The assessment of outcome is made blind to exposure status
* Where blinding was not possible, there is some recognition that knowledge of exposure status could have influenced the assessment of outcome
* The measure of assessment of exposure is reliable
* Evidence from other sources is used to demonstrate that the method of outcome assessment is valid and reliable
* Exposure level or prognostic factor is assessed more than once
* The main potential confounders are identified and taken into account in the design and analysis
* Have confidence intervals been provided?
 | Not applicable |
| Diagnostic accuracy studies | * Screening test relevant, available for primary care, adequately described
* Study uses a credible reference standard, performed regardless of test results
* Reference standard interpreted independently of screening test
* Handles indeterminate result in a reasonable manner
* Spectrum of patients included in study
* Sample size
* Administration of reliable screening test
 | * The nature of the test being studied is clearly specified
* The test is compared with an appropriate gold standard
* Where no gold standard exists, a validated reference standard is used as a comparator
* Patients for testing are selected either as a consecutive series or randomly, from a clearly defined study population
* The test and gold standard are measured independently (blind) of each other
* The test and gold standard are applied as close together in time as possible
* Results are reported for all patients that are entered into the study
* A pre-diagnosis is made and reported
 | * The spectrum of patients are representative of the patients who will receive the test in practice
* Selection criteria are clearly described
* The reference standard is likely to correctly classify the target condition
* The time period between the reference standard and the index test is short enough to be reasonably sure that the target condition did not change between the two tests
* The whole sample or a random selection of the sample receives verification using a reference standard of diagnosis
* Patients receive the same reference standard regardless of the index test result
* The reference standard is independent of the index test
* The execution of the index test is described in sufficient detail to permit replication of the test
* The execution of the reference standard is described in sufficient detail to permit its replication
* The index test results are interpreted without knowledge of the results of the reference standard
* The reference standard results are interpreted without knowledge of the results of the index test
* The same clinical data is available when test results are interpreted as would be available when the test is used in practice
* Uninterpretable/ intermediate test results are reported
* Withdrawals from the study are explained
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