#### Item 13: SUMMARY MEASURES.

State the principal summary measures (e.g., risk ratio, difference in means).

**Examples.** “Relative risk of mortality reduction was the primary measure of treatment effect.”

“The meta-analyses were performed by computing relative risks (RRs) using random-effects model. Quantitative analyses were performed on an intention-to-treat basis and were confined to data derived from the period of follow-up. RR and 95% confidence intervals for each side effect (and all side effects) were calculated.”

“The primary outcome measure was the mean difference in log10 HIV-1 viral load comparing zinc supplementation to placebo…”

#### Explanation.

When planning a systematic review, it is generally desirable that authors pre-specify the outcomes of primary interest (see Item 5) as well as the intended summary effect measure for each outcome. The chosen summary effect measure may differ from that used in some of the included studies. If possible the choice of effect measures should be explained, though it is not always easy to judge in advance which measure is the most appropriate.

For binary outcomes, the most common summary measures are the risk ratio, odds ratio, and risk difference . Relative effects are more consistent across studies than absolute effects, although absolute differences are important when interpreting findings (see Item 24).

For continuous outcomes, the natural effect measure is the difference in means. Its use is appropriate when outcome measurements in all studies are made on the same scale. The standardized difference in means is used when the studies do not yield directly comparable data. Usually this occurs when all studies assess the same outcome but measure it in a variety of ways (e.g., different scales to measure depression).

For time-to-event outcomes, the hazard ratio is the most common summary measure. Reviewers need the log hazard ratio and its standard error for a study to be included in a meta-analysis . This information may not be given for all studies, but methods are available for estimating the desired quantities from other reported information. Risk ratio and odds ratio (in relation to events occurring by a fixed time) are not equivalent to the hazard ratio, and median survival times are not a reliable basis for meta-analysis. If authors have used these measures they should describe their methods in the report.