#### Item 14: PLANNED METHODS OF ANALYSIS.

Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I2) for each meta-analysis.

**Examples.** “We tested for heterogeneity with the Breslow-Day test, and used the method proposed by Higgins et al. to measure inconsistency (the percentage of total variation across studies due to heterogeneity) of effects across lipid-lowering interventions. The advantages of this measure of inconsistency (termed I2) are that it does not inherently depend on the number of studies and is accompanied by an uncertainty interval.”

“In very few instances, estimates of baseline mean or mean QOL [Quality of life] responses were obtained without corresponding estimates of variance (standard deviation [SD] or standard error). In these instances, an SD was imputed from the mean of the known SDs. In a number of cases, the response data available were the mean and variance in a pre study condition and after therapy. The within-patient variance in these cases could not be calculated directly and was approximated by assuming independence.”

#### Explanation.

The data extracted from the studies in the review may need some transformation (processing) before they are suitable for analysis or for presentation in an evidence table. Although such data handling may facilitate meta-analyses, it is sometimes needed even when meta-analyses are not done. For example, in trials with more than two intervention groups it may be necessary to combine results for two or more groups (e.g., receiving similar but non-identical interventions), or it may be desirable to include only a subset of the data to match the review's inclusion criteria. When several different scales (e.g., for depression) are used across studies, the sign of some scores may need to be reversed to ensure that all scales are aligned (e.g., so low values represent good health on all scales). Standard deviations may have to be reconstructed from other statistics such as p-values and t statistics, or occasionally they may be imputed from the standard deviations observed in other studies . Time-to-event data also usually need careful conversions to a consistent format . Authors should report details of any such data processing.

Statistical combination of data from two or more separate studies in a meta-analysis may be neither necessary nor desirable (see [Box 5](http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000100#pmed-1000100-box005) and Item 21). Regardless of the decision to combine individual study results, authors should report how they planned to evaluate between-study variability (heterogeneity or inconsistency) ([Box 6](http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000100#pmed-1000100-box006)). The consistency of results across trials may influence the decision of whether to combine trial results in a meta-analysis. When meta-analysis is done, authors should specify the effect measure (e.g., relative risk or mean difference) (see Item 13), the statistical method (e.g., inverse variance), and whether a fixed- or random-effects approach, or some other method (e.g., Bayesian) was used (see [Box 6](http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000100#pmed-1000100-box006)). If possible, authors should explain the reasons for those choices.