# Meta-analysis: combining information from independent studies

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## Abstract

Meta-analysis enables researchers to synthesize the results of independent studies so that the combined weight of evidence can be considered and applied. Increasingly meta-analysis is being used in medicine and other health sciences to augment traditionals methods of narrative research by systematically aggregating and quantifying research literature.

Meta-analysis requires several steps prior to statistical analysis: formulation of the problem, literature search, coding and evaluation of the literature, After these steps one can address the statistical issues.

In this workshop we will review some of the history of meta-analysis and discuss some of the problematic issues such as various forms of bias that may exist. A summary of statistical techniques will be reviewed, in particular, nonparametric methods, combining proportions and combining effect sizes from continuous data. The discussion of proportions will include comments about alternative metrics, such as odds ratios, risk ratios, risk difference.

## References:

Hedges, L. V. and I. Olkin (1985). *Statistical Methods for Meta-analysis*. New York: Academic Press.