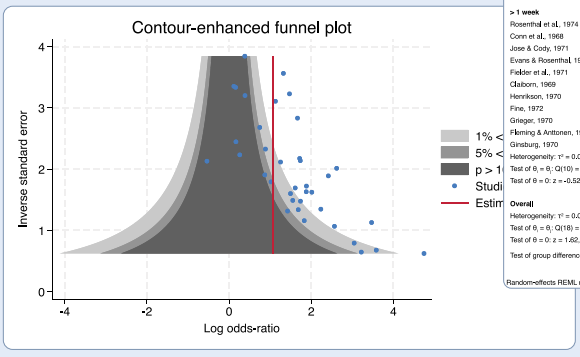
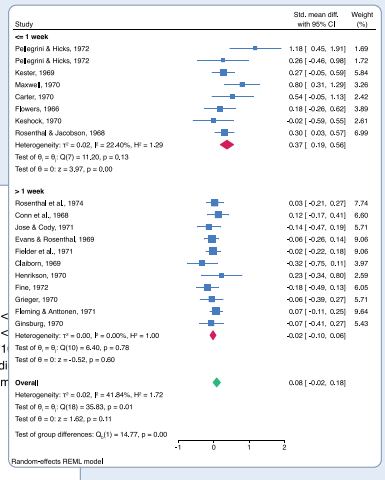
Meta-analysis

Stata's suite of commands for meta-analysis is broad yet easy to use.

- Effect sizes: Hedges's *g*, Cohen's *d*, odds ratios, risk ratios, proportions, correlations New, and more
- Common-effect, fixed-effects, and random-effects models
- Forest, funnel, Galbraith, and more plots
- Subgroup analysis
- Meta-regression
- Tests of small-study effects
- Trim-and-fill analysis of publication bias
- Cumulative meta-analysis
- Leave-one-out meta-analysis
- Multivariate meta-analysis
- Multilevel meta-analysis
- More





Prepare your data

Continuous summary data

Compute Hedges's *g* effect sizes (default)

```
. meta esize n1 m1 sd1 n2 m2 sd2
```

Compute Cohen's *d* effect sizes

```
. meta esize n1 m1 sd1 n2 m2 sd2, esize(cohend)
```

Binary summary data

Compute log odds-ratios (default)

```
. meta esize n11 n12 n21 n22
```

Compute log risk-ratios

```
. meta esize n11 n12 n21 n22, esize(lnrratio)
```

Generic effect sizes

Specify precomputed effect sizes and their standard errors (and label effect sizes)

```
. meta set es se, eslabel(Log hazard-ratio)
```

Or specify effect sizes and their confidence intervals (and label studies)

```
. meta set cil ciu, studylabel(studylbl)
```

Summarize meta-analysis data

Compute basic summaries and display in a table

```
. meta summarize
```

Or produce a forest plot

```
. meta forestplot
```

Explore heterogeneity

Perform subgroup analysis for levels of **group**

```
. meta forestplot, subgroup(group)
```

Produce a Galbraith plot

```
. meta galbraithplot
```

Perform meta-regression and also account for continuous **x**

```
. meta regress i.group x
```

Cumulative and leave-one-out meta-analysis

Perform cumulative meta-analysis in the order of **year**

```
. meta forestplot, cumulative(year)
```

Perform leave-one-out meta-analysis

```
. meta forestplot, leaveoneout
```

Explore small-study effects

Produce a funnel plot

```
. meta funnelplot
```

Produce a funnel plot by **group**

```
. meta funnelplot, by(group)
```

Perform Egger test for funnel-plot asymmetry

```
. meta bias, egger
```

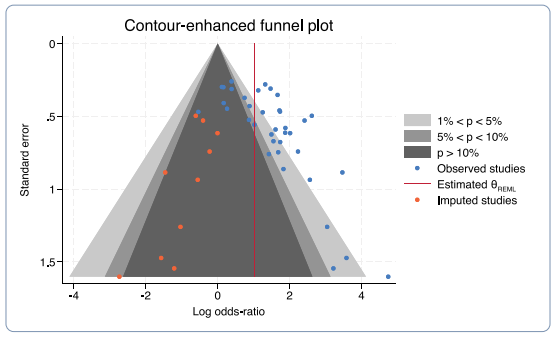
Adjust for heterogeneity due to **group** during testing

```
. meta bias i.group, egger
```

Assess publication bias

Assess publication bias using the trim-and-fill method; produce contour-enhanced funnel plot including omitted studies

```
. meta trimfill, funnel(contours(1 5 10))
```



Perform multivariate and multilevel meta-analysis

Multivariate meta-regression

```
. meta mvregress y1 y2 = x1 i.x2,
  wcovvariables(v11 v12 v22)
```

Assess multivariate heterogeneity or multilevel heterogeneity

```
. estat heterogeneity
```

Multilevel meta-regression

```
. meta meregress y x1 i.x2 || level3var: x1 ||
  level2var:, essevariable(se)
```

Use commands or GUI