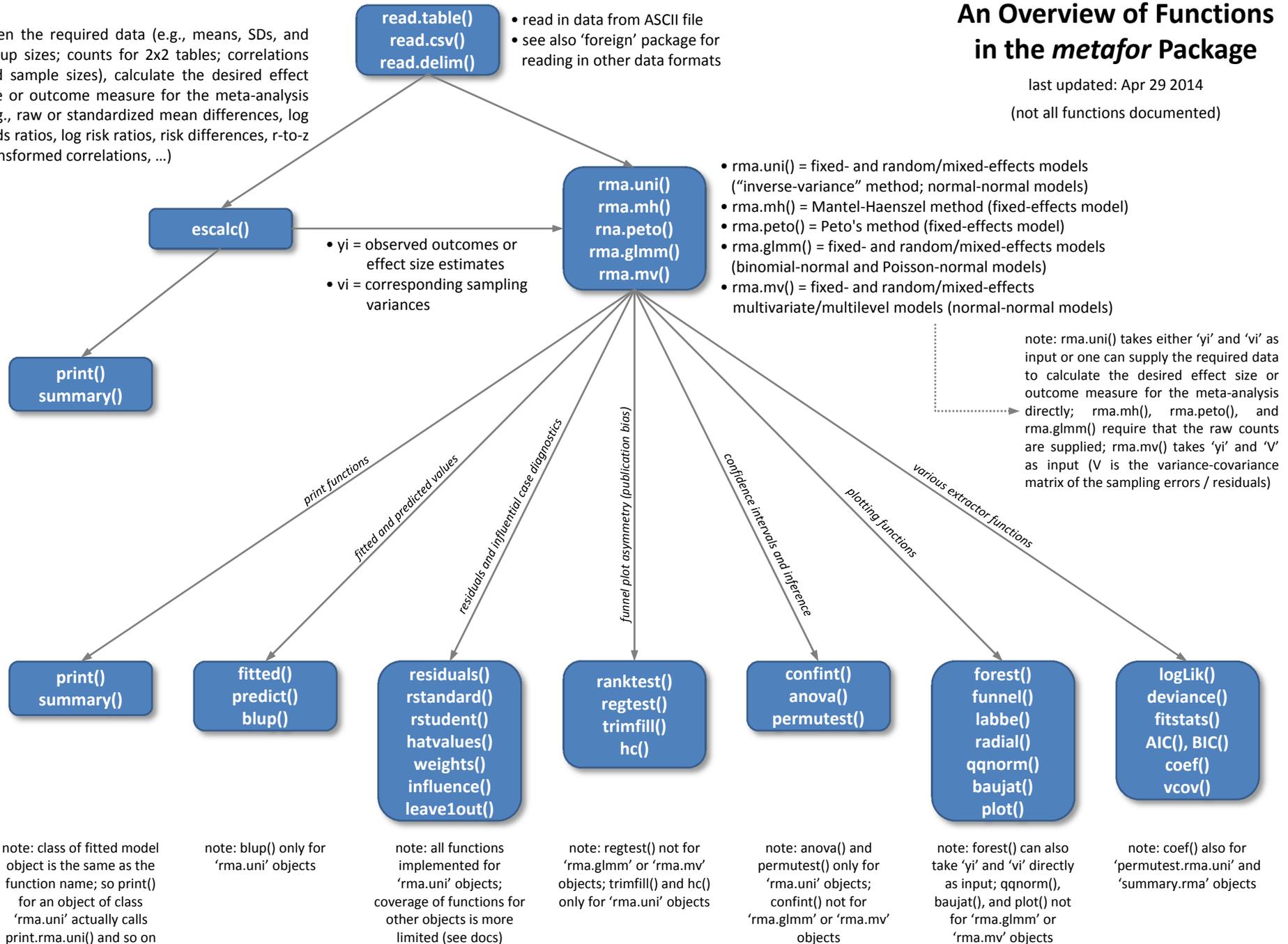# An Overview of Functions in the *metafor* Package

last updated: Apr 29 2014

(not all functions documented)

given the required data (e.g., means, SDs, and group sizes; counts for 2x2 tables; correlations and sample sizes), calculate the desired effect size or outcome measure for the meta-analysis (e.g., raw or standardized mean differences, log odds ratios, log risk ratios, risk differences, r-to-z transformed correlations, …)

read.table()
read.csv()
read.delim()

- read in data from ASCII file
- see also 'foreign' package for reading in other data formats

escalc()

- yi = observed outcomes or effect size estimates
- vi = corresponding sampling variances

print()
summary()

rma.uni()
rma.mh()
rna.peto()
rma.glmm()
rma.mv()

- rma.uni() = fixed- and random/mixed-effects models ("inverse-variance" method; normal-normal models)
- rma.mh() = Mantel-Haenszel method (fixed-effects model)
- rma.peto() = Peto's method (fixed-effects model)
- rma.glmm() = fixed- and random/mixed-effects models (binomial-normal and Poisson-normal models)
- rma.mv() = fixed- and random/mixed-effects multivariate/multilevel models (normal-normal models)

note: rma.uni() takes either 'yi' and 'vi' as input or one can supply the required data to calculate the desired effect size or outcome measure for the meta-analysis directly; rma.mh(), rma.peto(), and rma.glmm() require that the raw counts are supplied; rma.mv() takes 'yi' and 'V' as input (V is the variance-covariance matrix of the sampling errors / residuals)

print functions

fitted and predicted values

residuals and influential case diagnostics

funnel plot asymmetry (publication bias)

confidence intervals and inference

plotting functions

various extractor functions

print()
summary()

fitted()
predict()
blup()

residuals()
rstandard()
rstudent()
hatvalues()
weights()
influence()
leave1out()

ranktest()
regtest()
trimfill()
hc()

confint()
anova()
permutest()

forest()
funnel()
labbe()
radial()
qqnorm()
baujat()
plot()

logLik()
deviance()
fitstats()
AIC(), BIC()
coef()
vcov()

note: class of fitted model object is the same as the function name; so print() for an object of class 'rma.uni' actually calls print.rma.uni() and so on

note: blup() only for 'rma.uni' objects

note: all functions implemented for 'rma.uni' objects; coverage of functions for other objects is more limited (see docs)

note: regtest() not for 'rma.glmm' or 'rma.mv' objects; trimfill() and hc() only for 'rma.uni' objects

note: anova() and permutest() only for 'rma.uni' objects; confint() not for 'rma.glmm' or 'rma.mv' objects

note: forest() can also take 'yi' and 'vi' directly as input; qqnorm(), baujat(), and plot() not for 'rma.glmm' or 'rma.mv' objects

note: coef() also for 'permutest.rma.uni' and 'summary.rma' objects

note: restrictions may change with future updates