Overview of R Modelling Packages by Daniel Lüdecke (https://github.com/strengejacke/mixed-models-snippets/)

Variable	Example	Type of Regression	R function / R function for mixed models
Continuous	Quality of Life, linear scales	linear	`lm()` `lmer(), glmmTMB()`
Binary	Success yes/no	binary logistic	`glm(family=binomial)` `glmer(*), glmmTMB(*)`
Trials (or proportion of *counts*)	20 successes out of 30 trials	logistic[1]	`glm(cbind(trial,success), family=binomial)` `glmer(*), glmmTMB(*)`
Count data	Number of usages, counts of events	Poisson	`glm(family=poisson)` `glmer(*), glmmTMB(*)`
Count data, with excess zeros or overdispersion	Number of usages, counts of events (with higher variance than mean of response)	negative binomial	`glm.nb()` `glmer.nb(), glmmTMB(family=nbinom)`
Count data with very many zeros (inflation)	see count data, but response is modelled as mixture of Bernoulli & Poisson (two sources of zeros)	zero-inflated	`zeroinfl()` `glmmTMB(ziformula, family=poisson)`
Count data, with very many zeros (inflation) and overdispersion	Number of usages, counts of events (with higher variance than mean of response)	zero-inflated negative binomial	`zeroinfl(dist="negbin")` `glmmTMB(ziformula, family=nbinom)`
Count data, zero-truncated	see count data, but only for positive counts (hurdle component models zero-counts)	hurdle (Poisson)	`hurdle()` `glmmTMB(family=truncated_poisson)`
Count data, zero-truncated and overdispersion	see “Count data, zero-truncated”, but with higher variance than mean of response	hurdle (neg. binomial)	`vglm(family=posnegbinomial)` `glmmTMB(family=truncated_nbinom)`
Proportion / Ratio (without zero and one)	Percentages, proportions of *continuous* data	Beta[1]	`betareg()` `glmmTMB(family=beta)`
Proportion / Ratio (including zero and one)	Percentages, proportions of *continuous* data	Beta-Binomial, zero-inflated Beta	`BBreg(), betabin(), vglm(family=betabinomial)` `glmmTMB(ziformula, family=beta_family/ betabinomial)`
Ordinal	Likert scale, worse/ok/better	ordinal, pro-portional odds	`polr(), clm()` `clmm(), mixor(), MCMCglmm()`

Variable	Example	Type of Regression	R function / R function for mixed models
Cumulative, multinomial	No natural order of categories, like red/green/blue	cumulative link, multinomial	`multinom(), clm(),bracl(), brmultinom()` `clmm(), mixor(), MCMCglmm()`
Continuous, right-skewed	Financial data, reaction times	Gamma	`glm(family=Gamma)` `glmer(*), glmmTMB(*)`
(Semi-)Continuous, (right) skewed, probably spike at zero (zero-inflation)	Financial data, probably exponential dispersion of variance	Tweedie	`glm(family=tweedie), cpglm()` `cpglmm(),glmmTMB(family=tweedie)`
(Semi-)Continuous, skewed, zero-inflation	Normal distribution, negative values censored and stacked on zero	Tobit	`censReg(), tobit()` `semLme()`
Continuous, but truncated or outliers		truncated	`censReg(), tobit(), vglm(family=tobit)`
Continuous, but exponential growth	wildlife populations, financial investments	log-transformed, non-linear	`glm(family=Gaussian("log"), nls()` `glmmTMB(family=Gaussian("log"), nlmer()`
Proportion / Ratio with > 2 categories	Biomass partitioning in plants (ratio of leaf, stem and root mass)	Dirichlet	`DirichReg()`
Time-to-Event	Survival-analysis, time until event/death occurs	Cox (proportional hazards)	`coxph()` `coxme()`

* Indicates same family-option for mixed models as for their non-multilevel counterparts.

[1] Note that ratios or proportions from *count data*, like `cbind(successes, failures)`, are modelled as logistic regression with `glm(cbind(successes, failures), family=binomial())`, while ratios from *continuous data* (where the response ranges from 0 to 1) are modelled using beta-regression.