Useful R packages for the analysis of randomized controlled trials

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A full list of useful R packages for the design, monitoring, and analysis of randomized controlled trials can be consulted in this website (CITATION). All these packages can be installed through the ctv package by running ctv::install.views("ClinicalTrials", coreOnly = TRUE).

Citation: Ed Zhang, W. G. Zhang, R. G. Zhang (2021). CRAN Task View: Clinical Trial Design, Monitoring, and Analysis. Version 2021-12-29. URL https://CRAN.R-project.org/view=ClinicalTrials.

We would like to make special mention of the following R packages:

if (!require("pacman", quietly = TRUE)) {  
 install.packages("pacman")  
}  
  
pacman::p\_load(  
 table1, # Create table of baseline characteristics  
 nlme, # Mixed effects models   
 rms, # Regression modelling strategies.  
 Hmisc, # Miscelaneous functions on top of rms  
 mice, # Data imputation  
 geeCRT # bias-corrected generalized estimating equations (GGE) for   
 # cluster randomized controlled trials  
)

# Package references

* Harrell Jr F (2024). *Hmisc: Harrell Miscellaneous*. R package version 5.1-2, <https://CRAN.R-project.org/package=Hmisc>.
* Harrell Jr FE (2024). *rms: Regression Modeling Strategies*. R package version 6.8-0, <https://CRAN.R-project.org/package=rms>.
* Pinheiro J, Bates D, R Core Team (2023). *nlme: Linear and Nonlinear Mixed Effects Models*. R package version 3.1-164, <https://CRAN.R-project.org/package=nlme>. Pinheiro JC, Bates DM (2000). *Mixed-Effects Models in S and S-PLUS*. Springer, New York. doi:10.1007/b98882 <https://doi.org/10.1007/b98882>.
* R Core Team (2024). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>.
* Rich B (2023). *table1: Tables of Descriptive Statistics in HTML*. R package version 1.4.3, <https://CRAN.R-project.org/package=table1>.
* Rinker TW, Kurkiewicz D (2018). *pacman: Package Management for R*. version 0.5.0, <http://github.com/trinker/pacman>.
* van Buuren S, Groothuis-Oudshoorn K (2011). “mice: Multivariate Imputation by Chained Equations in R.” *Journal of Statistical Software*, *45*(3), 1-67. doi:10.18637/jss.v045.i03 <https://doi.org/10.18637/jss.v045.i03>.
* Yu H, Li F, Rathouz P, Turner E, Preisser J (2024). *geeCRT: Bias-Corrected GEE for Cluster Randomized Trials*. R package version 1.1.3, <https://CRAN.R-project.org/package=geeCRT>.