**Quick start guide for EQUAL-STATS (Detailed guide available at:** [**https://youtu.be/P\_6DrG0tuCs**](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fyoutu.be%2FP_6DrG0tuCs&data=05%7C02%7Ck.gurusamy%40ucl.ac.uk%7C59de7c5000114f681c3a08dcde55f723%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C638629707995009567%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C0%7C%7C%7C&sdata=pCUKJJ6dBnSdUsnP2Nslj0Ssy9sD5%2F3C3fDkNUNgBt4%3D&reserved=0)**).**

1. Install R (<https://cran.r-project.org/>).
2. Install R Studio (optional) (<https://posit.co/download/rstudio-desktop/>).
3. Download EQUAL-STATS (<https://zenodo.org/doi/10.5281/zenodo.13354162>). Minimum file required is EQUAL-STATS.R.
4. Analyse data. The algorithm below shows how to analyse the data. There are two options one after uploading primary data and another without uploading primary data. The functions that you can perform without uploading primary data are fewer.

Analysis of data without uploading primary data

Analysis of primary data

Descriptive functions

Generate hypothesis

Sample size and power calculations

Make correct conclusions

Diagnostic accuracy (2 x 2 table)

Upload primary data

Upload metadata1

Compare groups

Regression analysis

Miscellaneous functions

Summary measures

Plots

Independent groups  
(Fisher’s test, Chi-square test, T-test, ANOVA, Mann-Whitney test etc.)

Paired samples  
(Mc Nemar, Cochran Q, ANOVA, ANCOVA etc.)

Multivariable regression

Mixed-effects regression

Multivariate regression

Check distributions

Compare with population mean

Correlation

Measurement error

Diagnostic accuracy  
(primary data)

Sample size and power calculations  
(primary data)

Time series analysis

Survival analysis

1 Uploading metadata is required only if ordinal data is present or if you want to specify the reference category for categorical variables.