**R session 4**

**Data analysis and regression logistic**

**Thursday 28/03**

**9:00 – 11:00 CET**

Material: Rproject folder with RMD script and data

[S4\_stats](https://msfintl.sharepoint.com/:f:/r/sites/grp-oca-dept-phd/EPH/11_Training/MSF/R%20support%20program/2023_cohort_2/session_4/S4_stats?csf=1&web=1&e=VRcXFB)

Recording:

[R sessions 4 - data analysis & logistic regression-20240328.mp4](https://msfintl-my.sharepoint.com/:v:/r/personal/gregoire_falq_london_msf_org/Documents/Recordings/R%20sessions%204%20-%20data%20analysis%20%26%20logistic%20regression-20240328.mp4?csf=1&web=1&nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWxBcHAiOiJPbmVEcml2ZUZvckJ1c2luZXNzIiwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXciLCJyZWZlcnJhbFZpZXciOiJNeUZpbGVzTGlua0NvcHkifX0&e=6SruMB)

**Email sent**

In this session, Amy will present some aspects of statistical analysis in R (including logistic regression), using a case study.

Preliminary agenda (UK time):

* 08:00 - 08:10: Brief introduction to stats in R (presentation)
* 08:10 - 08:20: Introduction to data set and demonstration for exercise 1 (descriptive statistics)
* 08:20 - 08:40: Exercise 1a: tables of counts and percentages with {janitor::tabyl()}
* 08:40 - 09:00: Exercise 1b: tables of summary statistics (conditional counts, min, median, mean and max) with {dplyr::summarise()}
* 09:00 - 09:20 Review of exercise 1 and demonstration for exercise 2
* 09:20 - 09:50 Exercise 2: logistic regression (univariable with {gtsummary::tbl\_regression()} and multivariable with {base::glm()})
* 09:50 - 10:00 Final questions and wrap-up

Recommended reading before the session:

* Descriptive tables (epirhandbook): <https://epirhandbook.com/en/descriptive-tables.html>
* Univariate and multivariable regression  (epirhandbook): <https://epirhandbook.com/en/univariate-and-multivariable-regression.html>
* Tutorial of the function tbl\_regression (package gtsummary): <https://www.danieldsjoberg.com/gtsummary/articles/tbl_regression.html>
* R data analysis examples of logistic regression in R (UCLA): <https://stats.oarc.ucla.edu/r/dae/logit-regression/>