

Package: r4clinstats (via r-universe)

September 22, 2026

Title Learn R for Clinical Statistics, Interactively

Version 0.3.3

Description A swirl-style, learn-by-doing course that teaches clinicians and clinical researchers to wrangle, tidy, visualise and analyse clinical data in R. Lessons are interactive 'learnr' tutorials graded by 'gradethis', built on the tidyverse and real-feeling synthetic clinical datasets.

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Encoding UTF-8

LazyData true

Depends R (>= 4.2)

Imports learnr, utils

Suggests gradethis, dplyr, tidyr, ggplot2, readr, readxl, here, finalfit, survival, broom, tibble, usethis, remotes, rmarkdown, knitr, testthat (>= 3.0.0)

Additional_repositories <https://rstudio.r-universe.dev>

Config/testthat/edition 3

VignetteBuilder knitr

Roxygen list(markdown = TRUE)

URL <https://github.com/apsmunro/r4clinstats>,
<https://apsmunro.github.io/r4clinstats/>

BugReports <https://github.com/apsmunro/r4clinstats/issues>

Config/roxygen2/version 8.0.0

Config/pak/sysreqs cmake make libuv1-dev zlib1g-dev

Repository <https://apsmunro.r-universe.dev>

Date/Publication 2026-09-22 17:25:37 UTC

RemoteUrl <https://github.com/apsmunro/r4clinstats>

RemoteRef master

RemoteSha 067c632f52b0f8a451883fabb654468e42c5b3b1

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check_setup	<i>Check your R setup for r4clinstats</i>
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Description

Diagnoses the things that commonly stop a learner getting started on a managed Windows machine, and optionally fixes them: an out-of-date R, a package library living inside a synced OneDrive folder, no route to the package repositories, and missing packages. It prints a short report.

Usage

```
check_setup(install = interactive())
```

Arguments

install	Logical. Offer to install any missing packages. Defaults to <code>interactive()</code> ; set FALSE to report only.
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Value

Invisibly TRUE if everything needed is present, otherwise FALSE.

Examples

```
## Not run:
check_setup()
check_setup(install = TRUE)

## End(Not run)
```

labs	<i>Synthetic longitudinal labs</i>
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Description

Repeated measurements for the [patients](#) cohort: systolic blood pressure and weight at three visits. Long format, one row per patient * visit * measure. Built reproducibly (`set.seed(2025)`) from [patients](#); the generator is in `data-raw/labs.R`. SBP falls faster on the active arm, so a trend is there to be found once the data is pivoted.

Usage

```
labs
```

Format

A data frame with 600 rows and 5 variables:

id Patient identifier, matching [patients](#).

visit Visit number: 0, 1 or 2.

weeks Weeks since baseline: 0, 12 or 24.

measure "sbp" or "weight".

value Measured value.

Source

Synthetic.

learn	<i>Browse and launch the r4clinstats lessons</i>
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Description

Lists the course modules and opens one as an interactive tutorial in your browser. With no argument it lists the modules and returns you to the prompt; pass a module id (for example "m3" or 3) to open that one.

Usage

```
learn(module = NULL)
```

Arguments

module Optional module id, such as "m3". If NULL, the modules are listed.

Details

There is deliberately no numbered pick-list. `utils::menu()` numbers from 1, so its numbers could never match module ids that start at m0, and a learner typing 10 for "m10" would open m9. One way in, `learn("m10")`, avoids both that and the separate `Selection: mode`, which rejects R code.

Value

Invisibly NULL. Called for the side effect of launching a tutorial.

Examples

```
## Not run:
learn()      # list the modules
learn("m3")  # open Wrangling I

## End(Not run)
```

linelist	<i>Synthetic messy line list</i>
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Description

A small, deliberately untidy dataset for the cleaning lesson (M6): the same problems you meet in real intake data. Synthetic and built reproducibly (`set.seed(2027)`); the generator is in `data-raw/linelist.R`. Everything except weight is stored as text, and the mess is intentional.

Usage

```
linelist
```

Format

A data frame with 50 rows and 6 variables:

id Patient identifier, e.g. "L01".

sex The same variable typed inconsistently ("Female", "female", "MALE", ...).

age Age as text, including a few non-numeric entries that become NA.

smoker Smoking status in lower case: "never", "former" or "current".

arm Treatment arm: "Active" or "Placebo".

weight Weight in kg, with some values missing (NA).

Source

Synthetic.

outcomes	<i>Synthetic trial outcomes</i>
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Description

One year of follow-up for the [patients](#) cohort, for the analysis lessons (M10-M13): treatment response, adverse events, and a time-to-event pair censored at one year. Built reproducibly (`set.seed(2026)`) from [patients](#); the generator is in `data-raw/outcomes.R`. The signal is planted: response is likelier on the active arm, and the active arm's event hazard is lower. Like [labs](#), the table carries no arm or age column on purpose, so the lessons join back to [patients](#).

Usage

`outcomes`

Format

- A data frame with 100 rows and 5 variables:
- id** Patient identifier, matching [patients](#).
 - response** Treatment response: "Y" or "N".
 - adverse_event** Any adverse event: "Y" or "N".
 - time** Days of event-free follow-up (1-365).
 - status** 1 if the event occurred at time, 0 if censored at one year.

Source

Synthetic.

patients	<i>Synthetic clinical-trial patients</i>
----------	--

Description

A made-up cohort of 100 trial patients, one row each. Built reproducibly (`set.seed(2024)`) and containing no real patient data. The generator is in `data-raw/patients.R`. Columns are stored as character (not factor) on purpose, so the early lessons read naturally and M2 can teach factors.

Usage

`patients`

Format

A data frame with 100 rows and 7 variables:

id Patient identifier, e.g. "P001".

age Age in years (40-88).

sex "Female" or "Male".

arm Treatment arm: "Placebo" or "Active".

smoker Smoking status: "Never", "Former" or "Current".

bmi Body-mass index.

sbp Systolic blood pressure (mmHg).

Source

Synthetic.

start_report	<i>Start your capstone trial report</i>
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Description

Copies the course's Quarto report template into your working directory and opens it, ready to complete and render. This is the final exercise of the course (Lesson 14): a real, reproducible analysis report built outside the tutorial sandbox. The template renders as-is; you fill in one analysis chunk at a time.

Usage

```
start_report(path = "trial-report.qmd", completed = FALSE, overwrite = FALSE)
```

Arguments

path	Where to put the report. Defaults to <code>trial-report.qmd</code> in the current working directory.
completed	Logical. FALSE (the default) copies the template with TODO chunks for you to complete; TRUE copies the finished report, for comparing against when stuck.
overwrite	Logical. Overwrite path if it already exists. Defaults to FALSE so you cannot lose work by accident.

Value

Invisibly, the path to the new file.

Examples

```
## Not run:
start_report()           # the template, ready to complete
start_report(completed = TRUE) # the finished version, to compare

## End(Not run)
```

use_local_library	<i>Move your R package library out of a synced folder</i>
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Description

Creates a local package library and points R at it by writing `R_LIBS_USER` to your `~/.Renvi`. Use this when `check_setup()` reports that your library sits inside OneDrive. Restart R afterwards for it to take effect.

Usage

```
use_local_library(
  path = file.path(Sys.getenv("LOCALAPPDATA", unset = path.expand("~")), "R", "library")
)
```

Arguments

path	Directory for the local library. Defaults to a folder under <code>%LOCALAPPDATA%</code> (or your home directory if that is unset).
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Value

Invisibly, the library path.

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