Package 'tern.rbmi'

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Title Create Interface for 'RBMI' and 'tern'

Version 0.1.5

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Description 'RBMI' implements standard and reference based multiple imputation methods for continuous longitudinal endpoints (Gower-Page et al. (2022) <doi:10.21105/joss.04251>). This package provides an interface for 'RBMI' uses the 'tern' <https://cran.r-project.org/package=tern> framework by Zhu et al. (2023) and tabulate results easily using 'rtables' <https://cran.r-project.org/package=rtables> by Becker et al. (2023).

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URL https://github.com/insightsengineering/tern.rbmi, https://insightsengineering.github.io/tern.rbmi/

BugReports https://github.com/insightsengineering/tern.rbmi/issues

Depends R (>= 3.6), rbmi (>= 1.2.5), tern (>= 0.9.7)

Imports broom (>= 0.5.4), checkmate (>= 2.1.0), formatters (>= 0.5.10), lifecycle (>= 0.2.0), magrittr (>= 1.5), rtables (>= 0.6.11)

Suggests BH, dplyr (>= 1.0.3), knitr (>= 1.42), Matrix, RcppEigen, rmarkdown (>= 2.23), rstan, testthat (>= 3.0.4), tidyr (>= 0.8.3), V8

VignetteBuilder knitr, rmarkdown

Config/Needs/verdepcheck insightsengineering/rbmi, insightsengineering/tern, tidymodels/broom, mllg/checkmate, insightsengineering/formatters, r-lib/lifecycle, tidyverse/magrittr, insightsengineering/rtables, tidyverse/dplyr, yihui/knitr, rstudio/rmarkdown, r-lib/testthat, tidyverse/tidyr

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Encoding UTF-8

Language en-US

LazyData true

RoxygenNote 7.3.2

Collate 'tabulate_rbmi.R' 'tern.rbmi-package.R'

NeedsCompilation no

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Contents

`a_rbmi_lsmeans` *Formatted Analysis function which can be further customized by calling* `rtables::make_afun()` *on it. It is used as* `afun` *in* `rtables::analyze()`.

Description

[Experimental]

Usage

```
a_rbmi_lsmeans(df, .in_ref_col, show_relative = c("reduction", "increase"))
```

Arguments

`df`	input dataframe
`.in_ref_col`	boolean variable, if reference column is specified
`show_relative`	"reduction" if (`control - treatment`, default) or "increase" (`treatment - control`) of relative change from baseline?

Value

Formatted Analysis function

h_tidy_pool *Helper function to produce data frame with results of pool for a single visit*

Description

[Experimental]

Usage

```
h_tidy_pool(x)
```

Arguments

x	(pool) is a list of pooled object from rbmi analysis results. This list includes analysis results, confidence level, hypothesis testing type.

Value

Data frame with results of pool for a single visit.

Examples

```
data("rbmi_test_data")
pool_obj <- rbmi_test_data

h_tidy_pool(pool_obj$pars[1:3])
```

rbmi_test_data *Example dataset for* tern.rbmi *package. This is an pool object from the rbmi analysis, see* browseVignettes(package = "tern.rbmi")

Description

[Experimental]

Usage

```
rbmi_test_data
```

Format

An object of class pool of length 5.

summarize_rbmi *Analyze function for tabulating LS means estimates from tidied* rbmi pool *results.*

Description

[Experimental]

Usage

```
summarize_rbmi(
  lyt,
  ...,
  table_names = "rbmi_summary",
  .stats = NULL,
  .formats = NULL,
  .indent_mods = NULL,
  .labels = NULL
)
```

Arguments

lyt	(layout) input layout where analyses will be added to.
...	additional argument.
table_names	(character) this can be customized in case that the same vars are analyzed multiple times, to avoid warnings from rtables.
.stats	(character) statistics to select for the table.
.formats	(named character or list) formats for the statistics.
.indent_mods	(named integer) indent modifiers for the labels.
.labels	(named character) labels for the statistics (without indent).

Value

rtables layout for tabulating LS means estimates from tidied rbmi pool results.

Examples

```
library(rtables)
library(dplyr)
library(broom)

data("rbmi_test_data")
pool_obj <- rbmi_test_data

df <- tidy(pool_obj)

basic_table() %>%
  split_cols_by("group", ref_group = levels(df$group)[1]) %>%
  split_rows_by("visit", split_label = "Visit", label_pos = "topleft") %>%
  summarize_rbmi() %>%
  build_table(df)
```

`s_rbmi_lsmeans` *Statistics function which is extracting estimates from a tidied LS means data frame.*

Description

[Experimental]

Usage

```
s_rbmi_lsmeans(df, .in_ref_col, show_relative = c("reduction", "increase"))
```

Arguments

`df`	input dataframe
`.in_ref_col`	boolean variable, if reference column is specified
`show_relative`	"reduction" if (`control - treatment`, default) or "increase" (`treatment - control`) of relative change from baseline?

Value

A list of statistics extracted from a tidied LS means data frame.

Examples

```
library(rtables)
library(dplyr)
library(broom)

data("rbmi_test_data")
pool_obj <- rbmi_test_data
```

```
df <- tidy(pool_obj)

s_rbmi_lsmeans(df[1, ], .in_ref_col = TRUE)

s_rbmi_lsmeans(df[2, ], .in_ref_col = FALSE)
```

`tidy.pool` *Helper method (for* `broom::tidy()`*) to prepare a data frame from an* `pool` `rbmi` *object containing the LS means and contrasts and multiple visits*

Description

[Experimental]

Usage

```
## S3 method for class 'pool'
tidy(x, ...)
```

Arguments

`x`	(`pool`) is a list of pooled object from `rbmi` analysis results. This list includes analysis results, confidence level, hypothesis testing type.
`...`	Additional arguments. Not used. Needed to match generic signature only.

Value

A dataframe

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