Package 'safetyCharts'

September 14, 2021

Title Charts for Monitoring Clinical Trial Safety

Version 0.2.0

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Description Contains chart code for monitoring clinical trial safety. Charts can be used as standalone output, but are also designed for use with the 'safetyGraphics' package, which makes it easy to load data and customize the charts using an interactive web-based interface created with Shiny.

URL https://github.com/SafetyGraphics/safetyCharts

BugReports https://github.com/SafetyGraphics/safetyCharts/issues

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Encoding UTF-8

RoxygenNote 7.1.1

Imports dplyr, DT, Tplyr, ggplot2, rlang, shiny, knitr, RColorBrewer, stringr, forcats, Tendril, kableExtra, huxtable, pharmaRTF

Suggests testthat, shinytest, safetyData, safetyGraphics, yaml

Depends R (>= 4.0)

NeedsCompilation no

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Repository CRAN

Date/Publication 2021-09-14 07:10:06 UTC

R topics documented:

`demogRTF_server` *Demographics Table RTF - UI*

Description

Demographics Table RTF - UI

Usage

```
demogRTF_server(input, output, session, params)
```

Arguments

`input`	module input
`output`	module output
`session`	module session
`params`	parameters object with `data` and `settings` options.

Value

returns shiny module Server function

`demogRTF_table` *create demographics RTF table*

Description

create demographics RTF table

Usage

```
demogRTF_table(data, settings)
```

Arguments

`data`	demographics data frame with columns specified in settings object
`settings`	list with parameters specifying the column names for: • sex (settings$sex_col), • race (settings$race_col) • age (settings$age_Col)

Value

rtf doc object

Examples

```
settings <- list(treatment_col = "ARM", sex_col = "SEX", race_col = "RACE", age_col = "AGE")
demogRTF_table(safetyData::sdtm_dm, settings)
```

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demogRTF_ui *Demographics Table RTF - UI*

Description

Demographics Table RTF - UI

Usage

```
demogRTF_ui(id)
```

Arguments

`id`	module id

Value

returns shiny module UI

init_aeExplorer *Initialize Settings for Adverse Event Explorer widget*

Description

Initialize Settings for Adverse Event Explorer widget

Usage

```
init_aeExplorer(data, settings)
```

Arguments

data	labs data structured as one record per person per visit per measurement. See details for column requirements.
settings	named list of settings

Value

returns list with data and settings

init_paneledOutlierExplorer *Initialize Settings for Paneled Outlier Explorer widget*

Description

Initialize Settings for Paneled Outlier Explorer widget

Usage

```
init_paneledOutlierExplorer(data, settings)
```

Arguments

data	labs data structured as one record per person per visit per measurement. See details for column requirements.
settings	named list of settings

Value

returns list with data and settings

init_safetyOutlierExplorer

Initialize Settings for Safety Outlier Explorer widget

Description

Initialize Settings for Safety Outlier Explorer widget

Usage

```
init_safetyOutlierExplorer(data, settings)
```

Arguments

data	labs data structured as one record per person per visit per measurement. See details for column requirements.
settings	named list of settings

Value

returns list with data and settings

init_safetyResultsOverTime

Initialize Settings for Safety Results Over Time widget

Description

Initialize Settings for Safety Results Over Time widget

Usage

```
init_safetyResultsOverTime(data, settings)
```

Arguments

data	labs data structured as one record per person per visit per measurement. See details for column requirements.
settings	named list of settings

Value

returns list with data and settings

init_safetyShiftPlot *Initialize Settings for Safety Shift Plot widget*

Description

Initialize Settings for Safety Shift Plot widget

Usage

```
init_safetyShiftPlot(data, settings)
```

Arguments

data	labs data structured as one record per person per visit per measurement. See details for column requirements.
settings	named list of settings

Value

returns list with data and settings

lab_distribution_server *lab distribution Module - Server*

Description

A simple server for a shiny module looking at lab histograms. Intended primarily for technical demos.

Usage

```
lab_distribution_server(input, output, session, params)
```

Arguments

input	module input
output	module output
session	module session
params	parameters object with data and settings options.

Value

returns shiny module Server function

lab_distribution_ui *Lab distribution Module - UI*

Description

A simple UI for a shiny module looking at lab histograms. Intended primarily for technical demos.

Usage

```
lab_distribution_ui(id)
```

Arguments

id	module id

Value

returns shiny module UI

safetyOutlierExplorer_server *Safety Outlier Explorer Module - UI*

Description

Safety Outlier Explorer Module - UI

Usage

```
safetyOutlierExplorer_server(input, output, session, params)
```

Arguments

input	module input
output	module output
session	module session
params	parameters object with data and settings options.

Value

returns shiny module Server function

`safetyOutlierExplorer_ui` *Safety Outlier Explorer Module - UI*

Description

Safety Outlier Explorer Module - UI

Usage

```
safetyOutlierExplorer_ui(id)
```

Arguments

`id`	module id

Value

returns shiny module UI

`safety_outlier_explorer` *Safety Outlier Explorer*

Description

Safety Outlier Explorer

Usage

```
safety_outlier_explorer(data, settings)
```

Arguments

`data`	labs data structured as one record per person per visit per measurement. See details for column requirements.
`settings`	named list of settings with the parameters specified below.

Details

The settings object provides details the columns in the data set.

- "id_col"ID column
- "value_col"Value column
- "measure_col"Measure column
- "measure_values"Measure values
- "studyday_col"Study Day (numeric)

Value

returns a chart object

Examples

```
settings <- list(
    id_col = "USUBJID",
    measure_col = "LBTEST",
    measure_values = c("Albumin", "Bilirubin", "Chloride"),
    studyday_col = "VISITDY",
    value_col = "LBORRES"
)
safety_outlier_explorer(safetyData::sdtm_lb, settings)
```

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safety_results_over_time

Safety Results Over Time plot

Description

Safety Results Over Time plot

Usage

```
safety_results_over_time(data, settings)
```

Arguments

data	labs data structured as one record per person per visit per measurement. See details for column requirements.
settings	named list of settings with the parameters specified below.

Details

The settings object provides details the columns in the data set.

- "value_col"Value column
- "measure_col"Measure column
- "measure_values"Measure values
- "visit_col"Study Visit
- "visitn_col"Study Number
- "group_col"Grouping column
- "violins"Show Violin plots?
- "boxplots"Show Box Plots?
- "axis"set to "log" to use a log transformed axis, linear otherwise
- "drop_visit_string"Drop visits that contain this string. e.g. "unscheduled"

Value

returns a chart object

Examples

```
library(dplyr)
lb <- safetyData::sdtm_lb
sub_ids <- unique(lb$USUBJID)[1:100]
lb<-lb %>% filter(USUBJID %in% sub_ids)
settings <- list(
    value_col = "LBORRES",
    measure_col = "LBTEST",
    measure_values = c("Chloride"),
    visit_col = "VISIT",
    visitn_col = "VISITNUM",
    axis = "log"
)
safety_results_over_time(lb, settings)

# remove unscheduled visits, add violin plot and 2nd panel
settings$drop_visit_string <- "unscheduled"
settings$violins <- TRUE
settings$measure_values <- c("Albumin")
safety_results_over_time(lb, settings)

# add grouping by treatment
dm_sub <- safetyData::sdtm_dm %>% select(USUBJID, ARM)
dm_lb <- dm_sub %>% left_join(lb)
settings$group_col <- "ARM"
safety_results_over_time(dm_lb, settings)
```

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tendril_chart *Tendril plot*

Description

Create a plot using the Tendril package

Usage

```
tendril_chart(data, settings)
```

Arguments

data	list of data frames including dataframes named aes (adverse events) and dm (demographics)
settings	named list of domain-specific settings with the parameters specified below.

Details

The settings object provides details regarding the columns in the data sets.

- "settingsdmid_col"ID column
- "settingsdmtreatment_col"Treatment column
- "settingsdmtreatment_values–group1"Name of treatment 1
- "settingsdmtreatment_values–group2"Name of treatment 2
- "settingsaesid_col"ID column)
- "settingsaesbodsys_col"Body System
- "settingsaesstdy_col"Study Day

Value

returns a chart object

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