

Package ‘rreg’

May 9, 2026

Title Visualization for Norwegian Health Quality Registries

Version 0.2.1

Description Assists for presentation and visualization of data from the Norwegian Health Quality Registries following the standardization based on the requirement specified by the National Service for Health Quality Registries. This requirement can be accessed from (<<https://www.kvalitetsregistre.no/resultater-til-publisering-pa-nett>>). Unfortunately the website is only available in Norwegian.

Depends R (>= 3.0)

Imports ggplot2 (>= 2.1.0), directlabels, grid, stats

Suggests data.table, gridExtra, testthat

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Encoding UTF-8

LazyData true

RoxygenNote 6.0.1

NeedsCompilation no

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Repository CRAN

Date/Publication 2018-03-22 14:11:31 UTC

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hfdata

hfdata as sample data for institutions

Description

hfdata is just a randomly created dataset to show how this package works. The centre names are derived from names of towns on the north-eastern part of Borneo.

Usage

hfdata

Format

hfdata consist of several columns:

- inst: The institution names and "Sabah" is the region name
- id: The identification number of the centres
- 2003-2007: The measurement collected yearly based
- case1: Cases normally distributed with mean=60 and SD=30
- case2: Cases normally distributed with mean=20 and SD=2
- extt: Variable with extreme values
- ll: Lower limit for case2
- up: Upper limit for case2

regbar*Barplot with explicit data comparison*

Description

Create a barplot with the possibility to differentiate a specific item compared to the rest. This is useful in a situation when there is a need to show the total value as compared to each items in the x-axis. A specific example related to the Norwegian Health Registries is when the aggregated value from each health institutions or health regions is compared to the national data.

Usage

```
regbar(data, x, y, comp, num, aim = NULL, split = NULL, ascending = TRUE,  
       title, ylab, col1, col2, col3, flip = TRUE, ...)
```

Arguments

data	Data set
x	x-axis
y	y-axis
comp	Compare a specific bar from the rest for a vivid comparison eg. National compared to the different districts
num	Include denominator i.e N in the figure eg. Tawau HF (N=2088)
aim	A line on y-axis indicating aim
split	Where to split inside and outside text eg. 10% of max as split=0.1
ascending	Sort data ascending order
title	Title for the plot
ylab	Label for y-axis
col1	Color for bars
col2	Color for the 'diff' bar
col3	Color for aim line
flip	Flip plot horizontally
...	Additional arguments

Examples

```
# basic usage
library("rreg")
regbar(data = hfdata, x = inst, y = case2)
regbar(hfdata, inst, case2, comp = "Tawau HF")
regbar(hfdata, inst, 2007, comp = "Taw", num = extt)

# split text visualisatio at 5% of max value
regbar(hfdata, inst, 2007, comp = "Taw", split = 0.05)
```

regcom

Barplot with point and table for comparison

Description

Create a barplot with point to visualise comparison. It is also possible to include table to show the value of the plot.

Usage

```
regcom(data, x, y1, y2, tab = TRUE, title, scale, ascending = TRUE, col1,
       col2, lab1, lab2, num, rotate, leg1, leg2, ...)
```

Arguments

data	Data set
x	x-axis
yl	Variable or column for local values
yc	Variable or column for national values
tab	Include table
title	Title for the plot
scale	Scale for x-axis ie. percentage or number
ascending	Sort data ascending order
col1	Color for bars
col2	Color for the 'diff' bar
lab1	Label for table first column
lab2	Label for table second column
num	Include denominator i.e N in the figure eg. Tawau HF (N=2088)
rotate	Rotate table text
leg1	Text legend for bar
leg2	Text legend for point
...	Additional arguments

Examples

```
library("rreg")
regcom(data = hfdata, x = inst, yl = case2, yc = case1)

# include table
regcom(data = hfdata, x = inst, yl = case2, yc = case1, tab = FALSE)

# keep original order
regcom(data = hfdata, x = inst, yl = case2, yc = case1, scale = "Percentage", ascending = FALSE)

# text for table rotate 10%
regcom(data = hfdata, x = inst, yl = case2, yc = case1, lab1="Tawau", lab2="Negara", rotate=10)
```

regerr

Plot for variability

Description

Create a plot to show uncertainty either by showing the Standard Error of the Mean (SEM) or Confidence Interval (CI). Lower and upper limit should be specified. Figure should also be commented if the variability is a SEM or CI.

Usage

```
regerr(data, x, y, ll, ul, title, ylab, comp, col1, col2, ascending = TRUE,
       flip = TRUE, ...)
```

Arguments

data	Data set
x	x-axis
y	y-axis
ll	Lower limit
ul	Upper limit
title	Title for the plot
ylab	Label for y-axis
comp	Compare a specific bar from the rest for a vivid comparison eg. National compared to the different districts
col1	Color for bars
col2	Color for the 'diff' bar
ascending	Sort data ascending order
flip	Flip plot horizontally
...	Additional arguments

Examples

```
# basic usage
regerr(hfdata, inst, case2, ll, ul)
regerr(hfdata, inst, case2, ll, ul, comp="Sabah")
```

regline

Line plot to show trend

Description

Create a line plot that can be used to elucidate if trends exist over time.

Usage

```
regline(data, x, y, grp, title, ylab, colp, digit, ...)
```

Arguments

<code>data</code>	Data set
<code>x</code>	x-axis
<code>y</code>	y-axis
<code>grp</code>	Group variable
<code>title</code>	Title for the plot
<code>ylab</code>	Label for y-axis
<code>colp</code>	Color palettes to use from ColorBrewer. To check other palettes run <code>library(RColorBrewer); display.brewer.all()</code>
<code>digit</code>	Number of digit to show
<code>...</code>	Additional arguments

Examples

```
regrline(data = yrdata, x=year, y=pros, grp=var)
regrline(yrdata, year, pros, var, colp="Set1", digit=1)
```

regrad

Dartboard diagram for precision

Description

Create a dartboard style diagram to visualise precision. The middle point represent complete precision for example the objectives or plans. Imagine it's like a dartboard and the center means 100% precision or it could be completeness/achievement. The standard division of the proportion to show precision allocated in the diagram is 50%, 80% and 100%.

Usage

```
regrad(data, x, y, long = FALSE, title, size, pct1, pct2, col1, col2, col3,
...)
```

Arguments

<code>data</code>	Data set
<code>x</code>	Names of variable
<code>y</code>	Value of the variable
<code>long</code>	Split whitespaces of the variable names
<code>title</code>	Title for the plot
<code>size</code>	Size of the point
<code>pct1</code>	Percentage first pie proportion

pct2	Percentage second pie proportion
col1	Colour of the first pie proportion
col2	Colour of the second pie proportion
col3	Colour of the third pie proportion
...	Additional arguments

Details

These parameters should be specified:

- x-axis 1st column: The names of the different institutions
- y-axis 2nd column: The value to show completeness

Note

The ggplot2 package is required to run this function

Source

hfdata is a sample data which does not derive from a real data

Examples

```
# basic usage
library("rreg")
regrad(data = hfdata)
regrad(data = hfdata, title = "Plot title", long = TRUE)
regrad(hfdata, y= case1, title="Plot title", size=10, col1="blue", col2="green", col3="yellow")
```

rreg

rreg *package*

Description

Data visualization for Norwegian Health Quality Registries with R. This package will assist and standardize the visualization of data from the Norwegian Health Quality Registries. The standardization is based on the requirement specified by the Nasjonalt servicemiljø for medisinske kvalitet-sregistre.

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yrdata

yrdata is sample data for trends

Description

yrdata is just a sample data to use in example for "regline" function.

Usage

yrdata

Format

yrdata consist of these variables:

- year: List of different years
- var: Variable to be grouped
- N: Number of n for each group
- sum: Total for each year
- pros: Percentage for each group

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