

Package ‘fingertipscharts’

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Type Package

Version 0.0.5

Title Produce Charts that you See on the Fingertips Website

Description Use Fingertips charts to recreate the visualisations that are displayed on the Fingertips website (<<http://fingertips.phe.org.uk/>>).

BugReports <https://github.com/PublicHealthEngland/fingertipscharts/issues>

Imports curl, dplyr, fingertipR, geojsonio, ggplot2 (>= 3.0), leaflet, lemon, mapproj, purrr, rlang, scales, sf (>= 0.7), stats, stringr, tibble, tidy, utils

Suggests gdtools, knitr, rmarkdown, testthat, vdiff

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area_profiles	<i>Plot spine chart</i>
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Description

Returns ggplot of spine chart

Usage

```
area_profiles(data, value, count, area_code, local_area_code, indicator,
  timeperiod, polarity, significance, area_type, cols = "fingertips",
  median_line_area_code = "E92000001", comparator_area_code = NA,
  bar_width = 0.75, local_point_shape = 21,
  local_point_outline = "black", comparator_point_shape = 23,
  comparator_point_outline = "gray30",
  comparator_point_fill = "gray30", relative_point_size = 1,
  relative_text_size = 1, header_positions = c(-1.43, -0.53, -0.35,
  -0.25, -0.15, -0.05, 1.05), header_labels = c("Indicator",
  "Time\nperiod", "Local\ncount", "Local\nvalue", "England\nvalue",
  "Worst/\nLowest", "Best/\nHighest"), indicator_label_nudgex = -0.075,
  domain = no_domains, relative_domain_text_size = 1,
  show_dividers = "none", datatable = TRUE,
  datatable_line_height = 0.6, dps = 1, percent_display = 0.25)
```

Arguments

data	a data frame to create the spine chart from. the data frame should contain data for all area types included in the chart (eg, if plotting for County & UA with a comparator of region and a median line for national, the data frame should contain all of these data)
value	unquoted field name containing the values to be plotted
count	unquoted field name where the count (numerator) is stored
area_code	unquoted field name where area codes are stored (local_area_code, median_line_area_code and comparator_area_code, if using, should all exist in this field)

local_area_code	string; the code of the area that the spine chart is being drawn for
indicator	unquoted field name of the field containing the indicator labels. Take care as errors will occur where indicator labels are the same but data exist for multiple sub-categories (for example, sex or age)
timeperiod	unquoted field name of the time period field
polarity	unquoted field name containing the polarity information (currently only handles polarity returned by fingertipsR package)
significance	unquoted field name describing the statistical significance for that indicator (eg, Better, Worse, Similar etc)
area_type	unquoted field name containing area type information. This ensures the vertebra are only plotted for the same area types as the local_area area type (eg, when plotting a spine chart for County & UA areas, regions and national area types will be removed)
cols	named character vector for the cols that will be applied to the significance field. The names should contain all of the levels in the significance field of the data frame. Defaults to the Fingertips colours based on the outputs from the API
median_line_area_code	string; area code for the median line. Defaults to "E92000001" (England)
comparator_area_code	string; area code for the comparator point. Defaults to NA
bar_width	numeric value; the distance between bars (0 to 1)
local_point_shape	numeric value; shape type for local area point (defaults to 21, circle). See ggplot2 shape types for different values
local_point_outline	string; control colour of the outline of the local point in the spine chart
comparator_point_shape	numeric value; shape type for regional area point (defaults to 23, diamond). See ggplot2 shape types for different values
comparator_point_outline	string; control colour of the outline of the regional point in the spine chart
comparator_point_fill	string; control the fill colour of the regional point in the spine chart
relative_point_size	numeric value; control the size of the points on the spine chart
relative_text_size	numeric value; control the size of the text in the accompanying table
header_positions	numeric vector; used to adjust columns of data table if they are overlapping. Must have a length of 7. Defaults to c(-1.43, -.53, -.35, -.25, -.15, -0.05, 1.05)
header_labels	character vector; labels used for the titles of the columns for a data table. Must have a length of 7. Defaults to c("Indicator", "Time period", "Local count", "Local value", "England value", "Worst/Lowest", "Best/Highest")

indicator_label_nudge_x	number; nudge the placement of the indicator label in the x direction. Negative values nudge to the left
domain	unquoted field name describing the grouping of the domains if wishing to split the spine chart into domains
relative_domain_text_size	numeric; control the text size for the domain labels (if include.domains = TRUE) relative to 1
show_dividers	string; whether to display horizontal lines between indicators. Values can be "all" or "outer". Any other value will not generate lines
datatable	logical; default = TRUE, display data table alongside spine chart
datatable_line_height	number; height of wrapped lines in the data table
dps	number; number of decimal places to be displayed in the data table. The default is 1. Set to NA if this should be the same as the input data
percent_display	number between 0 and 1; the percentage of values that needs to exist for a spine to display. Default is 0.25

Details

the function draws a bar chart (which is the spine) and then plots the data table (if `datatable = TRUE`) using `geom_text`. The bar chart is always plotted between 0 and 1 on the x scale. The columns in the data table are controlled by the `header_positions` argument. To adjust the length of the bars in the visualisation, amend the `header_positions` argument. The more negative the first value of the vector that goes into `header_positions`, the more condensed the bar part of the visualisation will be.

This function filters for the area type that is the same as your local area type and then calculates the "vertebra" from those data. Therefore, if you are comparing outputs with those seen on the Fingertips website, ensure you perform the same preprocessing. For example, some profiles display spine charts where small areas, such as Isles of Scilly, are removed before the spine is produced.

Value

a ggplot object containing a spine chart

Examples

```
# This example is untested because of the time required to retrieve the data
library(fingertipsR)
library(dplyr)
df <- fingertips_data(DomainID = 1938133222, rank = TRUE) %>%
  filter(Timeperiod == "2016")
p <- area_profiles(df,
  value = Value,
  count = Count,
  area_code = AreaCode,
  local_area_code = "E06000020",
```

```

        indicator = IndicatorName,
        timeperiod = Timeperiod,
        polarity = Polarity,
        significance = ComparedtoEnglandvalueorpercentiles,
        area_type = AreaType,
        cols = "fingertips",
        median_line_area_code = "E92000001",
        comparator_area_code = "E12000005",
        datatable = TRUE,
        relative_domain_text_size = 0.75,
        relative_text_size = 1.2,
        bar_width = 0.68,
        indicator_label_nudgex = -0.5)
p

## or an example with differing decimal places for individual indicators

library(dplyr)
df <- create_test_data() %>%
mutate(Value = case_when(
  grepl("2$|4$|6$", IndicatorName) ~ round(Value,1),
  TRUE ~ round(Value, 0)))
full_p <- area_profiles(df,
  value = Value,
  count = Count,
  area_code = AreaCode,
  local_area_code = "AC122",
  indicator = IndicatorName,
  timeperiod = Timeperiod,
  polarity = Polarity,
  significance = Significance,
  area_type = AreaType,
  median_line_area_code = "C001",
  comparator_area_code = "PAC12",
  datatable = TRUE,
  relative_domain_text_size = 0.75,
  relative_text_size = 1.2,
  bar_width = 0.68,
  indicator_label_nudgex = -0.1,
  show_dividers = "outer",
  header_positions = c(-0.7, -0.44, -0.35, -0.25,
    -0.15, -0.05, 1.08),
  dps = NA)
full_p

```

box_plots

Plot a series of boxplots

Description

Plot a series of boxplots

Usage

```
box_plots(data, timeperiod, value, title = "", subtitle = "",
          xlab = "", ylab = "")
```

Arguments

data	data.frame object to plot using ggplot2 functions
timeperiod	field containing the time period (unquoted)
value	field containing variable to be plotted on x axis (unquoted)
title	string; title of chart
subtitle	string; text to use as subtitle to graph
xlab	string; x-axis title
ylab	string; y-axis title

Value

a ggplot of boxplots for many areas over time

See Also

Other quick charts: [compare_areas](#), [compare_indicators](#), [map](#), [overview](#), [population](#), [trends](#)

Examples

```
# This example is untested because of the time required to retrieve the data
library(fingertipsR)
library(dplyr)
df <- fingertips_data(90366) %>%
  filter(Sex == "Male",
         AreaType == "County & UA",
         Age == "All ages")
p <- box_plots(df,
               timeperiod = Timeperiod,
               value = Value,
               title = "Life expectancy at birth",
               subtitle = "Males in Uper Tier Local Authorities England",
               ylab = "Age (years)")

p
```

compare_areas	<i>Plot compare areas chart</i>
---------------	---------------------------------

Description

Returns ggplot of compare areas chart

Usage

```
compare_areas(data, area, value, lowerci, upperci, fill, order = "desc",
  top_areas, title = "", xlab = "", ylab = "",
  legend.position = "bottom")
```

Arguments

data	data.frame object to plot using ggplot2 functions
area	field containing variable to be plotted on y axis (unquoted)
value	field containing variable to be plotted on x axis (unquoted)
lowerci	field containing variable to be plotted as lower confidence interval (unquoted - not required)
upperci	string; field containing variable to be plotted as upper confidence interval (unquoted - not required)
fill	field to be used to determine the colouring of the bars (unquoted)
order	one of "alphabetical", "asc" or "desc" - to determine how to order the bars
top_areas	character vector; the areas to fix at the top of the chart
title	string; title of chart
xlab	string; x-axis title
ylab	string; y-axis title
legend.position	the position of legends ("none", "left", "right", "bottom", "top", or two-element numeric vector)

Value

a ggplot of a compare areas chart

See Also

Other quick charts: [box_plots](#), [compare_indicators](#), [map](#), [overview](#), [population](#), [trends](#)

Examples

```

library(fingertipsR)
library(dplyr)
region <- "South East region"
top_names <- c("England", region)
ordered_levels <- c("Better",
                   "Similar",
                   "Worse",
                   "Not compared")
df <- fingertips_data(90316) %>%
  filter(is.na(CategoryType) &
         Timeperiod == "2016/17" &
         (AreaName %in% top_names |
          ParentName == region) &
         Sex == "Persons") %>%
  mutate(ComparedtoEnglandvalueorpercentiles =
         factor(ComparedtoEnglandvalueorpercentiles,
               levels = ordered_levels))
p <- compare_areas(df, AreaName, Value,
                  fill = ComparedtoEnglandvalueorpercentiles,
                  lowerci = LowerCI95.0limit,
                  upperci = UpperCI95.0limit,
                  order = "desc",
                  top_areas = top_names,
                  title = unique(df$IndicatorName))

p

```

compare_indicators *Plot compare indicators plot*

Description

Plot compare indicators plot

Usage

```

compare_indicators(data, x, y, xlab = "", ylab = "", point_size = 4,
                  highlight_area, area, add_R2 = FALSE)

```

Arguments

data	data.frame object to plot using ggplot2 functions
x	field containing x variable (unquoted)
y	field containing y variable (unquoted)
xlab	string; x-axis title
ylab	string; y-axis title
point_size	number; size of point

highlight_area character vector; list of areas for highlighting
 area field containing areas - should contain contents of highlight_area. Only required if highlight_area has a value (unquoted)
 add_R2 boolean; should R2 be displayed?

Value

a ggplot of compare indicators for 2 indicators

See Also

Other quick charts: [box_plots](#), [compare_areas](#), [map](#), [overview](#), [population](#), [trends](#)

Examples

```
# This example is untested because of the time required to retrieve the data
library(fingertipsR)
library(dplyr)
library(tidyr)
df <- fingertips_data(c(90362, 90366)) %>%
  group_by(IndicatorID) %>%
  filter(Timeperiod == "2014 - 16" &
         Sex == "Female",
         Age == "All ages") %>%
  ungroup() %>%
  select(IndicatorID, AreaName, Value) %>%
  mutate(IndicatorID = paste0("x", IndicatorID)) %>%
  spread(IndicatorID, Value)
p <- compare_indicators(df,
  x = x90362,
  y = x90366,
  xlab = "Healthy life expectancy at birth",
  ylab = "Life expectancy at birth",
  highlight_area = c("England", "Dorset (Cty)"),
  area = AreaName)

p
```

create_datatable *Data table supporting information*

Description

Returns a data frame containing the data that sits next to the spine chart

Usage

```
create_datatable(data, indicator, area_code, timeperiod, count, value,
  local_area_code, median_line_area_code, comparator_area_code, dps = 1)
```

Arguments

data	a data frame to create the spine chart from. the data frame should contain data for all area types included in the chart (eg, if plotting for County & UA with a comparator of region and a median line for national, the data frame should contain all of these data)
indicator	unquoted field name of the field containing the indicator labels. Take care as errors will occur where indicator labels are the same but data exist for multiple sub-categories (for example, sex or age)
area_code	unquoted field name where area codes are stored (local_area_code, median_line_area_code and comparator_area_code, if using, should all exist in this field)
timeperiod	unquoted field name of the time period field
count	unquoted field name where the count (numerator) is stored
value	unquoted field name containing the values to be plotted
local_area_code	string; the code of the area that the spine chart is being drawn for
median_line_area_code	string; area code for the median line. Defaults to "E92000001" (England)
comparator_area_code	string; area code for the comparator point. Defaults to NA
dps	number of decimal places to use in the data table

Value

A data frame containing the information that sits alongside the spine chart

create_test_data	<i>Create test data</i>
------------------	-------------------------

Description

Create dataset to be used in tests (useful for demo purposes too)

Usage

```
create_test_data()
```

Value

a dummy data.frame of data

Examples

```
df <- create_test_data()
```

fingertipscharts	<i>fingertipscharts: A package for creating the visualisations displayed in Fingertips</i>
------------------	--

Description

The fingertipscharts package provides one type of function

quick charts functions

Easy to produce Fingertips charts using tidyverse syntax

map	<i>Plot a choropleth map for an indicator</i>
-----	---

Description

Plot a choropleth map for an indicator

Usage

```
map(data, ons_api, area_code, fill, type = "static", value,
     name_for_label, title = "", subtitle = "", copyright_size = 4,
     copyright_year = Sys.Date())
```

Arguments

data	data.frame object to plot using ggplot2 functions
ons_api	string; GeoJSON address provided from the ONS geography portal
area_code	field containing area codes to join to shape file imported from ONS API
fill	field to be used to determine the colouring of the areas (unquoted)
type	string; the output map required. Can be "static" or "interactive"
value	field containing variable to be plotted on x axis (unquoted)
name_for_label	if interactive map, name of field containing area names to be used for label (unquoted) - optional
title	string; title of chart
subtitle	string; text to use as subtitle to graph
copyright_size	number; determine size of the copyright text
copyright_year	number (length 4) or Date class; the copyright year displayed at bottom of the map. Applies to static maps only

Value

a either a static or interactive ggplot choropleth map

See Also

Other quick charts: [box_plots](#), [compare_areas](#), [compare_indicators](#), [overview](#), [population_trends](#)

Examples

```
# This example is untested because of the time required to retrieve the data
library(fingertipsR)
library(dplyr)
df <- fingertips_data(90366) %>%
  filter(Sex == "Male" ,
         AreaType == "County & UA",
         Timeperiod == "2014 - 16",
         Age == "All ages")
ons_api <- "https://opendata.arcgis.com/datasets/687f346f5023410ba86615655ff33ca9_4.geojson"

p <- map(df,
         ons_api = ons_api,
         area_code = AreaCode,
         fill = ComparedtoEnglandvalueorpercentiles,
         title = "Life expectancy at birth",
         subtitle = "Males in Upper Tier Local Authorities England",
         copyright_year = 2018)

## For an interactive (leaflet) map
p <- map(df,
         ons_api = ons_api,
         area_code = AreaCode,
         fill = ComparedtoEnglandvalueorpercentiles,
         type = "interactive",
         value = Value,
         name_for_label = AreaName,
         title = "Life expectancy at birth<br>Males within UTLAs in England")

p
```

overview

Plot an overview (tartan rug) of multiple indicators

Description

Plot an overview (tartan rug) of multiple indicators

Usage

```
overview(data, area, indicator, value, fill, timeperiod, top_areas,
         wrap_length = 50, value_label_size = 1)
```

Arguments

<code>data</code>	data.frame object to plot using ggplot2 functions
<code>area</code>	field containing area names (unquoted)
<code>indicator</code>	field containing indicator names (unquoted)
<code>value</code>	field containing variable to be plotted (unquoted)
<code>fill</code>	field to be used to determine the colouring of the bars (unquoted)
<code>timeperiod</code>	field containing the time period (unquoted)
<code>top_areas</code>	character vector; the areas to fix at the left
<code>wrap_length</code>	number; maximum number of characters in indicator before wrapping it
<code>value_label_size</code>	number; amount to scale the size of the value label

Value

a ggplot of the overview/tartan rug plot

See Also

Other quick charts: [box_plots](#), [compare_areas](#), [compare_indicators](#), [map](#), [population](#), [trends](#)

Examples

```
library(fingertipsR)
library(dplyr)
region <- "North East region"
top_names <- c("England", region)
dfdom <- fingertips_data(DomainID = 1938133060) %>%
  filter(Timeperiod == "2016",
         Age == "All ages",
         (AreaName %in% top_names | ParentName == region)) %>%
  mutate(Value = round(Value, 1))
p <- overview(dfdom,
             area = AreaName,
             indicator = IndicatorName,
             value = Value,
             fill = ComparedtoEnglandvalueorpercentiles,
             top_areas = top_names, wrap_length = 40,
             value_label_size = 0.8)

p
```

population	<i>Plot population pyramid</i>
------------	--------------------------------

Description

Plot population pyramid

Usage

```
population(data, value, sex, age, area, area_name, comparator_1,
           comparator_2, title, subtitle, xlab)
```

Arguments

data	data.frame object to plot using ggplot2 functions
value	field containing variable to be plotted on x axis (unquoted)
sex	field containing sex variable (unquoted)
age	field containing age variable (unquoted)
area	field containing variable to be plotted on y axis (unquoted)
area_name	string; name of the local area (this should exist in the field described by the area parameter)
comparator_1	string; name of comparator area (this should exist in the field described by the area parameter)
comparator_2	string; name of comparator area (this should exist in the field described by the area parameter)
title	string; title of chart
subtitle	string; text to use as subtitle to graph
xlab	string; x-axis title

Value

a ggplot of a population pyramid against 2 optional comparators

See Also

Other quick charts: [box_plots](#), [compare_areas](#), [compare_indicators](#), [map](#), [overview](#), [trends](#)

Examples

```
# This example is untested because of the time required to retrieve the data
library(fingertipsR)
library(dplyr)
agelevels <- c("0-4", "5-9", "10-14", "15-19",
              "20-24", "25-29", "30-34",
```

```

      "35-39", "40-44", "45-49",
      "50-54", "55-59", "60-64",
      "65-69", "70-74", "75-79",
      "80-84", "85-89", "90+")
pops <- fingertips_data(92708) %>%
  filter(Timeperiod == "2015" &
         Sex %in% c("Male", "Female") &
         Age != "All ages") %>%
  mutate(Age = gsub(" yrs", "", Age),
         Age = factor(Age,
                      levels = agelevels)) %>%
  droplevels()
p <- population(pops,
               value = Value,
               sex = Sex,
               age = Age,
               area = AreaName,
               area_name = "Nottingham",
               comparator_1 = "England",
               comparator_2 = "East Midlands region",
               title = "Age Profile",
               subtitle = paste(unique(pops$IndicatorName), unique(pops$Timeperiod)),
               xlab = "% of total population")
p

```

round2

Proper rounding of values

Description

Proper rounding of values

Usage

```
round2(val, dps)
```

Arguments

val	numeric value to round
dps	numeric, number of decimal places

Details

function taken from this link (<https://stackoverflow.com/questions/12688717/round-up-from-5>)

scale_fill_phe	<i>Fingertips scale fill for ggplot2</i>
----------------	--

Description

Fingertips scale fill

Usage

```
scale_fill_phe(theme = "fingertips", ...)
```

Arguments

theme	string; current options are fingertips only for discrete scales
...	inputs to the scale_manual (for discrete values)

spine_data_check	<i>Check function for multiple values for an area in an indicator for spine chart</i>
------------------	---

Description

Check function for multiple values for an area in an indicator for spine chart

Usage

```
spine_data_check(data, indicator, area_code)
```

Arguments

data	a data frame to create the spine chart from. the data frame should contain data for all area types included in the chart (eg, if plotting for County & UA with a comparator of region and a median line for national, the data frame should contain all of these data)
indicator	unquoted field name of the field containing the indicator labels. Take care as errors will occur where indicator labels are the same but data exist for multiple sub-categories (for example, sex or age)
area_code	unquoted field name where area codes are stored (local_area_code, median_line_area_code and comparator_area_code, if using, should all exist in this field)

spine_preprocess *Preprocess data for spine chart*

Description

Returns a data frame with the latest time period of data for each indicator name.

Usage

```
spine_preprocess(data, indicator, timeperiod_sortable)
```

Arguments

data	a data frame to create the spine chart from. the data frame should contain data for all area types included in the chart (eg, if plotting for County & UA with a comparator of region and a median line for national, the data frame should contain all of these data)
indicator	unquoted field name for indicators. This should be what is presented as the label for the final spine chart, hence should be unique for each vertebra. Be careful the indicator doesn't have sub-categories based on other fields, such as sex (male, female, persons) or age group
timeperiod_sortable	unquoted field name containing the time period that is numeric and sortable, such that higher values are a later time period

Details

This processing only takes place on the indicator field and the time period field provided. If the data contains multiple sexes or age groups for an indicator, make sure the indicator field reflects this.

Value

A processed data frame for latest time periods of given indicators

spine_rescaler *Rescale spine data*

Description

Rescales data so it can be plotted on a spine chart

Usage

```
spine_rescaler(data, area_code, indicator, significance, polarity,
  area_type, value, timeperiod, local_area_code, median_line_area_code,
  comparator_area_code = NA, percent_display, dps = 1)
```

Arguments

data	a data frame to create the spine chart from. the data frame should contain data for all area types included in the chart (eg, if plotting for County & UA with a comparator of region and a median line for national, the data frame should contain all of these data)
area_code	unquoted field name where area codes are stored (local_area_code, median_line_area_code and comparator_area_code, if using, should all exist in this field)
indicator	unquoted field name of the field containing the indicator labels. Take care as errors will occur where indicator labels are the same but data exist for multiple sub-categories (for example, sex or age)
significance	unquoted field name describing the statistical significance for that indicator (eg, Better, Worse, Similar etc)
polarity	unquoted field name containing the polarity information (currently only handles polarity returned by fingertipsR package)
area_type	unquoted field name containing area type information. This ensures the vertebra are only plotted for the same area types as the local_area area type (eg, when plotting a spine chart for County & UA areas, regions and national area types will be removed)
value	unquoted field name containing the values to be plotted
timeperiod	unquoted field name of the time period field
local_area_code	string; the code of the area that the spine chart is being drawn for
median_line_area_code	string; area code for the median line. Defaults to "E92000001" (England)
comparator_area_code	string; area code for the comparator point. Defaults to NA
percent_display	number between 0 and 1; the percentage of values that needs to exist for a spine to display. Default is 0.25
dps	number; number of decimal places to be displayed in the data table. The default is 1. Set to NA if this should be the same as the input data

Value

A list containing "bars" and "points" which contains data that can be passed to the phe_spine_chart function

 theme_phe

Fingertips theme for ggplot2

Description

fingertips theme

Usage

```
theme_phe(theme = "fingertips", base_size = 11, base_family = "")
```

Arguments

theme	string; theme of chart, current are fingertips only
base_size	base font size
base_family	base font family

trends	<i>Plot trend chart</i>
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Description

Plot trend chart

Usage

```
trends(data, timeperiod, value, area, comparator, area_name, fill, lowerci,
        upperci, title = "", subtitle = "", xlab = "", ylab = "",
        point_size = 4)
```

Arguments

data	data.frame object to plot using ggplot2 functions
timeperiod	field containing the time period (unquoted)
value	field containing variable to be plotted on x axis (unquoted)
area	field containing variable to be plotted on y axis (unquoted)
comparator	string; name of comparator area (this should exist in the field described by the area parameter)
area_name	string; name of the local area (this should exist in the field described by the area parameter)
fill	field to be used to determine the colouring of the bars (unquoted)
lowerci	field containing variable to be plotted as lower confidence interval (unquoted - not required)
upperci	string; field containing variable to be plotted as upper confidence interval (unquoted - not required)
title	string; title of chart
subtitle	string; text to use as subtitle to graph
xlab	string; x-axis title
ylab	string; y-axis title
point_size	number; size of point

Value

a ggplot of trends for an indicator alongside a comparator

See Also

Other quick charts: [box_plots](#), [compare_areas](#), [compare_indicators](#), [map](#), [overview](#), [population](#)

Examples

```
# This example is untested because of the time required to retrieve the data
library(fingertipsR)
library(dplyr)
df <- fingertips_data(90366) %>%
  filter(Sex == "Male",
         Age == "All ages")
p <- trends(df,
            timeperiod = Timeperiod,
            value = Value,
            area = AreaName,
            comparator = "England",
            area_name = "Cambridgeshire",
            fill = ComparedtoEnglandvalueorpercentiles,
            title = "Life expectancy at birth",
            subtitle = "Cambridgeshire compared to England",
            xlab = "Year",
            ylab = "Age (years)")
p
```

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