

# Package: gtrendshealth (via r-universe)

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**Type** Package

**Title** Query the 'Google Trends for Health' API

**Version** 1.0.0

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**Description** Connects to the 'Google Trends for Health' API hosted at <<https://trends.google.com/trends/>>, allowing projects authorized to use the health research data to query 'Google Trends'.

**License** MIT + file LICENSE

**URL** <https://github.com/CDCgov/gtrendshealth>

**Imports** utils, jsonlite, httr

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.3.2

**Depends** R (>= 4.1.0)

**Suggests** testthat (>= 3.0.0)

**Config/testthat/edition** 3

**BugReports** <https://github.com/CDCgov/gtrendshealth/issues>

**Config/pak/sysreqs** libssl-dev

**Repository** <https://cdcgov.r-universe.dev>

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**RemoteUrl** <https://github.com/cdcgov/gtrendshealth>

**RemoteRef** HEAD

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get_gt_api_key	<i>Read the GOOGLE TRENDS FOR HEALTH API Key</i>
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### Description

This function will read your GOOGLE TRENDS FOR HEALTH API key from the environment variables. If you do not have an .Renvirom file, the function will create one for you. If you already have an .Renvirom file, the function will append the key to your existing file, while making a backup of your original file for recovery purposes.

### Usage

```
get_gt_api_key(key = NULL)
```

### Arguments

key	The API key from your Google Developer project authorized for Google Trends for Health API use, formatted in quotes. A key can be acquired by requesting access at <a href="https://support.google.com/trends/contact/trends_api">https://support.google.com/trends/contact/trends_api</a> and following the setup instructions.
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### Value

Returns the API key that is set in the GOOGLE\_TRENDS\_FOR\_HEALTH\_API\_KEY environment variable.

### Examples

```
tryCatch(  
  get_gt_api_key(),  
  error = function(e) cat("You need to set up a valid key")  
)
```

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get_health_trends	<i>Query the Google Trends for Health API</i>
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### Description

For health research only, fetches a graph of search volumes per time within a set of restrictions. Each term will result in a timeline of search over time. Note the data is sampled and Google can't guarantee the accuracy of the numbers. This service is closed to a subset of Health researchers. The quota provision is individually maintained by the Trends team.

**Usage**

```

get_health_trends(
  terms,
  resolution,
  start,
  end,
  country = NULL,
  region = NULL,
  dma = NULL,
  key = get_gt_api_key(),
  wait = TRUE
)

```

**Arguments**

terms	Required. Search terms the user wishes to explore. Up to 30 queries can be sent. Term format can be either a query or entity (e.g. /m/0d2p9p) and can include ORs using '+' sign. Example: "/m/0d2p9p + /m/0nd4ffr + awesomeness" will return a combined timeline of the three terms (which obviously differs from "/m/0d2p9p, /m/0nd4ffr, awesomeness" that returns 3 different timelines.)
resolution	One of day, week, month, or year. Week is default for the API, but required here to protect the quotas.
start	A date object representing the start of the query period. The default for the API is 2004-01-01, but a value is required here.
end	A date object representing the start of the query period. The default for the API is today, but a value is required here.
country, region, dma	Only one field of GeoRestriction should be filled. Country format is ISO-3166-2 (2-letters), e.g. US. Region format is ISO-3166-2 (4-letters), e.g. US-NY (see more examples here: <a href="http://en.wikipedia.org/wiki/ISO_3166-2:US">en.wikipedia.org/wiki/ISO_3166-2:US</a> ). DMA is nielsen dma id, e.g. 501 ( <a href="http://support.google.com/richmedia/answer/2745487">support.google.com/richmedia/answer/2745487</a> ).
key	The API key from your Google Developer project authorized for Google Trends for Health API use, as a character. Defaults to using the API key set up for this package, if any. A key can be acquired by requesting access at <a href="https://support.google.com/trends/contact/trends_api">https://support.google.com/trends/contact/trends_api</a> and following the setup instructions.
wait	Wait before submitting the query, to protect the API quotas. The Google Trends for Health API is limited to 2 queries per second.

**Value**

A data.frame with one row per term and period, with the probability of the term being included in a search, for the specified geographic restriction and dates range. The probabilities are provided by the API as values multiplied by 1e7.

**Examples**

```

if(Sys.getenv("GOOGLE_TRENDS_FOR_HEALTH_API_KEY")=="){
  # Set up your API if not installed
  set_gt_api_key("<your-valid-api-key>")
}

# run this example if you have set up a valid API key
tryCatch({
  # Query the Google Trends for Health service
  monthly_trends <- get_health_trends(
    terms = "fever",
    resolution = "month",
    start = as.Date("2024-01-01"),
    end = as.Date("2024-12-31"),
    country = "US"
  )

  # set a date for each monthly observation
  # using the 15th of each month for the day
  monthly_trends$date <- as.Date(
    strptime(
      paste("15", monthly_trends$period),
      format = "%d %b %Y"
    )
  )

  print(monthly_trends)

  # Query the Google Trends for Health service
  daily_trends <- get_health_trends(
    terms = "fever",
    resolution = "day",
    start = as.Date("2024-01-01"),
    end = as.Date("2024-12-31"),
    country = "US"
  )

  head(daily_trends)

  # plot the time series
  plot(
    daily_trends$date, daily_trends$value, type = "l", col = "blue",
    xlab = "Date",
    ylab = "Value",
    main = "Daily and Monthly Trends for Fever"
  )
  lines(monthly_trends$date, monthly_trends$value, col = "red", lwd = 2)
  legend("topright", legend = c("Daily Trends", "Monthly Trends"),
        col = c("blue", "red"), lty = 1, lwd = c(1, 2))
}, error = function(e) cat("\nYou need to set up a valid API key")
)

```

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`set_gt_api_key`*Set up a GOOGLE TRENDS FOR HEALTH API Key for Repeated Use*

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## Description

This function will set your GOOGLE TRENDS FOR HEALTH API key as an environment variable. If using `install = TRUE` then the key will also be saved to your `.Renviron` file so it can be called securely without being stored in your code. After you have installed your key, it can be called any time by typing `Sys.getenv("GOOGLE_TRENDS_FOR_HEALTH_API_KEY")` and can be used in package functions by simply typing `GOOGLE_TRENDS_FOR_HEALTH_API_KEY`. If you do not have an `.Renviron` file, the function will create one for you. If you already have an `.Renviron` file, the function will append the key to your existing file, while making a backup of your original file for recovery purposes.

## Usage

```
set_gt_api_key(key, overwrite = FALSE, install = FALSE, path = "HOME")
```

## Arguments

<code>key</code>	The API key from your Google Developer project authorized for Google Trends for Health API use, formatted in quotes. A key can be acquired by requesting access at <a href="https://support.google.com/trends/contact/trends_api">https://support.google.com/trends/contact/trends_api</a> and following the setup instructions.
<code>overwrite</code>	If this is set to <code>TRUE</code> , it will overwrite an existing <code>CENSUS_API_KEY</code> that you already have in your <code>.Renviron</code> file.
<code>install</code>	if <code>TRUE</code> , will install the key in your <code>.Renviron</code> file for use in future sessions. Defaults to <code>FALSE</code> .
<code>path</code>	Path to install the API key into.

## Value

Returns the API key that was saved to the `GOOGLE_TRENDS_FOR_HEALTH_API_KEY` environment variable. If `install = TRUE`, it saves the API key in the specified `.Renviron` file.

## Examples

```
set_gt_api_key("111111abc", install = TRUE, path = tempdir())
# The first time, reload your environment so you can use the key without
# restarting R.
readRenviron("~/Renviron")
# You can check it with:
Sys.getenv("GOOGLE_TRENDS_FOR_HEALTH_API_KEY")

# If you need to overwrite an existing key:
set_gt_api_key(
  "111111abc", overwrite = TRUE, install = TRUE, path = tempdir()
```

```
)  
# The first time, reload your environment so you can use the key without  
# restarting R.  
readRenviron("~/Renviron")  
# You can check it with:  
Sys.getenv("GOOGLE_TRENDS_FOR_HEALTH_API_KEY")  
  
# clean up  
unlink(  
list.files(tempdir(), all.files = TRUE, full.names = TRUE, pattern = ".Renv")  
)
```

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