Package 'cthist'

June 1, 2024

Title Clinical Trial Registry History

Version 2.1.9

Description Retrieves historical versions of clinical trial registry entries from <https://ClinicalTrials.gov>. Package functionality and implementation for v 1.0.0 is documented in Carlisle (2022) <DOI:10.1371/journal.pone.0270909>.

License AGPL (>= 3)

URL https://github.com/bgcarlisle/cthist

BugReports https://github.com/bgcarlisle/cthist/issues

Imports assertthat, dplyr, httr, jsonlite, magrittr, readr, rlang, stringr, tibble, purrr, tidyr

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

Encoding UTF-8

RoxygenNote 7.2.3

NeedsCompilation no

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R topics documented:

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clinicaltrials_gov_dates

Download a table of dates on which a ClinicalTrials.gov registry entry was updated

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Description

Download a table of dates on which a ClinicalTrials.gov registry entry was updated

Usage

```
clinicaltrials_gov_dates(nctid, status_change_only = FALSE)
```

Arguments

nctid   A character string including a well-formed ClinicalTrials.gov NCT Number, e.g. "NCT00942747". (A capitalized "NCT" followed by eight numerals with no spaces or hyphens.)

status_change_only

If TRUE, returns only the dates marked with a Recruitment Status change, default FALSE.

Value

A table with three columns: the version number (starting from 0), the ISO-8601 formatted date on which there were clinical trial history version updates, and the trial's overall status on that date.

Examples

```
versions <- clinicaltrials_gov_dates("NCT00942747")
```

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clinicaltrials_gov_download

Mass-download registry entry historical versions from ClinicalTrials.gov

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Description

This function will download all ClinicalTrials.gov registry records for the NCT numbers specified. Rather than transcribing NCT numbers by hand, it is recommended that you conduct a search for trials of interest using the ClinicalTrials.gov web front-end and download the result as a comma-separated value (CSV) file. The CSV can be read in to memory as a data frame and the NCT Number column can be passed directly to the function as the nctids argument.

Usage

```
clinicaltrials_gov_download(
  nctids,
  output_filename = NA,
  quiet = FALSE,
  latest = FALSE
)
```

Arguments

nctids   A list of well-formed NCT numbers, e.g. c("NCT00942747", "NCT03281616").

output_filename

                A character string for a filename into which the data frame will be written as a CSV, e.g. "historical_versions.csv". If no output filename is provided, the data frame of downloaded historical versions will be returned by the function as a data frame.

quiet   A boolean TRUE or FALSE. If TRUE, no messages will be printed during download. FALSE by default, messages printed for every version downloaded showing progress.

latest   A boolean TRUE or FALSE. If TRUE, only the latest version of the registry entry will be downloaded, if FALSE, all versions will be downloaded. FALSE by default.

Value

If an output filename is specified, on successful completion, this function returns TRUE and otherwise returns FALSE. If an output filename is not specified, on successful completion, this function returns a data frame containing the historical versions of the clinical trial that have been retrieved, and in case of error returns FALSE. After unsuccessful completion with an output filename specified, if the function is called again with the same NCT numbers and output filename, the function will check the output file for errors or incompletely downloaded registry entries, remove them and try to download the historical versions that are still needed, while preserving the ones that have already been downloaded correctly.

Examples

```
filename <- tempfile()
clinicaltrials_gov_download(c("NCT00942747",
    "NCT03281616"), filename)



hv <- clinicaltrials_gov_download("NCT00942747")
```

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clinicaltrials_gov_version

Download a registry entry version from ClinicalTrials.gov

Description

Download a registry entry version from ClinicalTrials.gov

Usage

```
clinicaltrials_gov_version(nctid, versionno = 0)
```

Arguments

nctid   A character string including a well-formed ClinicalTrials.gov NCT Number, e.g.
               "NCT00942747". (A capitalized "NCT" followed by eight numerals with no
               spaces or hyphens.)

versionno   An integer version number, e.g. 3, where 0 is the earliest version of the trial
               in question, 1 is the next most recent, etc. (Please note that this differs from
               the convention used in cthist v. <= 1.4.2, in which 1 is the earliest version
               of the trial in question.) If no version number is specified, the first version
               will be downloaded. If -1 (negative one) is specified, the latest version will be
               downloaded.

Value

A list containing the overall status, enrolment, start date, start date precision (month or day) primary completion date, primary completion date precision (month or day), primary completion date type, minimum age, maximum age, sex, accepts healthy volunteers, inclusion/exclusion criteria, outcome measures, overall contacts, central contacts, responsible party, lead sponsor, collaborators, reason why the trial stopped (if provided), whether results are posted, references data, organization indentifiers and other secondary trial identifiers.

Examples

```
version <- clinicaltrials_gov_version("NCT00942747", 1)
```

extract_publications	*Takes a data frame of the type provided by* clinicaltrials_gov_download() *and returns a new data frame containing one row per publication of the publication type specified indexed on ClinicalTrials.gov for every version of the clinical trial record provided.*

Description

This function does not connect to ClinicalTrials.gov, and only interprets data that has already been downloaded by expanding the nested JSON-encoded data in the references column provided by clinicaltrial_gov_version.

Usage

```
extract_publications(df, types = c("RESULT", "BACKGROUND", "DERIVED"))
```

Arguments

df	A data frame containing at least the following columns: nctid, version_number, total_versions, version_date, and references. The references column should contain a nested JSON-encoded table with three columns: pmid, type and citation. This data frame can be generated by the use of clinicaltrials_gov_download.
types	A list of types to be returned or a character string if only one type specified, e.g. "RESULT" or c("RESULT", "BACKGROUND"). Allowed types: "RESULT", "BACKGROUND", "DERIVED".

Value

A data frame with all the original columns, as well as an additional three columns: pmid, type and citation. The new data frame will have one row per publication.

Examples

```
hv <- clinicaltrials_gov_download("NCT00942747", latest=TRUE)
extract_publications(hv)
```

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