

Package ‘rclinicaltrials’

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Type Package

Title Download Aggregate Trial Information and Results from
ClinicalTrials.gov

Description ClinicalTrials.gov is a registry and results database of publicly and privately supported clinical studies of human participants conducted around the world. Users can search for information about and results from those trials. This provides a set of functions to interact with the search and download features. Results are downloaded to temporary directories and returned as R objects.

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`rclinicaltrials-package`*An interface to the clinicaltrials.gov API*

Description

ClinicalTrials.gov is a registry and results database of publicly and privately supported clinical studies of human participants conducted around the world. Users can search for information about and results from those trials. This package provides a set of functions to interact with the search and download features. Results are downloaded to temporary directories and returned as R objects.

Details

`clinicaltrials_search` searches and returns basic study information. `clinicaltrials_count` counts the number of trials that satisfy a specific query. `clinicaltrials_download` downloads the set of trials that satisfy a query, which is passed as a string to the function. See `advanced_search_terms` for information about the search terms.

Author(s)

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References

<http://clinicaltrials.gov>

`advanced_search_terms` *Clinicaltrials.gov advanced search terms*

Description

Clinicaltrials.gov advanced search terms. Their keys, descriptions, and links to help documents.

Usage

```
data(advanced_search_terms)
```

Format

A data frame with three columns: the key to use in advanced search queries `keys`, a description of the search term `description`, and a link to the help document `help`.

Source

<http://clinicaltrials.gov/ct2/search/advanced>

Examples

```
advanced_search_terms
## Not run: browseURL(advanced_search_terms["age", "help"])
```

clinicaltrials_count *Count number of results for a given search*

Description

Count the number of results for a given search. Useful to check before attempting to pull down a very large number of records.

Usage

```
clinicaltrials_count(query = NULL)
```

Arguments

query Search pattern as a string; a vector of key-value pairs is interpreted as an advanced search and is therefore combined with '&'

Value

Number of results (integer).

Examples

```
# count trials satisfying 'heart disease AND stroke AND California'
## Not run: clinicaltrials_count(query = 'heart disease AND stroke AND California')

# advanced search for open, interventional trials involving melanoma
## Not run: clinicaltrials_count(query = c('recr=Open', 'type=Intr', 'cond=melanoma'))
```

clinicaltrials_download

Downloads detailed information about clinical trials satisfying a query

Description

Given a query, or a dataframe containing trial identifiers, downloads detailed study information from clinicaltrials.gov. Optionally includes results of completed trials. The URL search is limited to 2000 characters, and count restricted searches are done by NCT ID, which are 11 characters long. Therefore, the effective maximum count allowed is roughly 100. If count is greater than 100, then the first 100 trials will be returned, with a warning. To return all results, use a query string and set count to NULL.

Usage

```
clinicaltrials_download(query = NULL, tframe = NULL, count = 20,
  include_results = FALSE, include_textblocks = FALSE)
```

Arguments

query	Search pattern as a string; a vector of key-value pairs is interpreted as an advanced search and is therefore combined with '&'
tframe	Data frame containing trial identifiers, as returned by clinicaltrials_search
count	Limit the results to a specified integer. Set to NULL to include all results.
include_results	Logical. Include results of completed trials
include_textblocks	Logical. Include lengthy text descriptions and eligibility criteria.

Value

A list of data.frames.

Examples

```
# trials satisfying 'heart disease AND stroke AND California'
## Not run: clinicaltrials_download(query = 'heart disease AND stroke AND California', count = 5)
```

clinicaltrials_search *Search for clinical trials satisfying a query*

Description

Searches for results and returns a data.frame with basic study information.

Usage

```
clinicaltrials_search(query = NULL, count = 20)
```

Arguments

query	Search pattern as a string; a vector of key-value pairs is interpreted as an advanced search and is therefore combined with '&'
count	Limit the results to a specified integer. Set to NULL to include all results.

Value

A data.frame with the following columns: NCT study identifier, url, study title, status, condition summary, and date last changed

Examples

```
# count trials satisfying 'heart disease AND stroke AND California'
## Not run: clinicaltrials_search(query = 'heart disease AND stroke AND California')

# advanced search for open, interventional trials involving melanoma
## Not run: clinicaltrials_search(query = c('recr=Open', 'type=Intr', 'cond=melanoma'))

# limit to 10 results
## Not run: clinicaltrials_search(query = "colon cancer", count = 10)
```

gather_results	<i>Parses results from an xml object downloaded from clinicaltrials.gov</i>
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Description

Results of a clinical study are stored in a particular way. This reads and organizes the information and returns it as a list of dataframes. Throws an error if the xml has no `clinical_results` node.

Usage

```
gather_results(parsed)
```

Arguments

parsed A parsed XML object, as returned by `XML::xmlParse`

Value

A list of data.frames, participant flow, baseline data, outcome results

parse_study_xml	<i>Parses study information for a trial downloaded from clinicaltrials.gov</i>
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Description

Results of a clinical study are stored in a particular way. This reads and organizes the from a trial xml file (stored in a temporary directory) and returns it as a list of dataframes. Optionally includes long textblock fields and results fields stored as separate data frames.

Usage

```
parse_study_xml(file, include_textblocks = FALSE, include_results = FALSE)
```

Arguments

`file` Path to xml file
`include_textblocks` Logical, include long textblock fields in the results
`include_results` Logical, include results data, if available

Value

A list of `data.frames`, study information, locations, interventions, arms, outcomes, results, and textblocks. Results and textblock frames will be NULL if not requested.

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