Package 'PubmedQuery'

July 25, 2024

Type Package

Title PubmedQuery: To learn patterns of Medication Compliance and Persistence

Version 0.0.1

Date 2024-06-01

Maintainer Gowtham Rao <rao@ohdsi.org>

Description The PubmedQuery R package analyzes medication compliance and persistence in cohorts. It assesses drug utilization from first exposure, calculates key metrics like medication possession ratio and proportional days covered, and enhances insights into real-world adherence to improve patient outcomes.

Depends DatabaseConnector (>= 5.0.0),
R (>= 4.1.0)

Imports checkmate,
dplyr,
lifecycle,
ParallelLogger,
SqlRender

Suggests Eunomia,
remotes,
rmarkdown,
knitr,
testthat,
withr

Remotes ohdsi/Eunomia,
ohdsi/ParallelLogger

License Apache License

RoxygenNote 7.3.1

VignetteBuilder knitr

Roxygen list(markdown = TRUE)

Encoding UTF-8

Language en-US

URL https://ohdsi.github.io/PubmedQuery/, https://github.com/OHDSI/PubmedQuery

BugReports https://github.com/OHDSI/PubmedQuery/issues

R topics documented:

---

getPubMedArticleSummaries

Retrieve PubMed Article Summaries for a Set of PMIDs

Description

This function uses the NCBI E-utilities API to fetch detailed summaries for a list of PubMed IDs (PMIDs). It handles multiple PMIDs by processing them in batches to stay within the API's rate limits. The results include detailed publication data formatted in a tibble.

Usage

```
getPubMedArticleSummaries(pmids)
```

Arguments

pmids   A vector of character strings representing the PubMed IDs for which summaries
                    are required.

Value

A tibble containing detailed article summaries including publication URLs, PMC IDs, abstracts, and other metadata.

---

getPubMedPmcIdsFromPmIds

Retrieve PMCIDs for a vector of PubMed IDs (PMIDs)

Description

This function queries the PubMed database using the NCBI's E-utilities API to fetch the corresponding PMCIDs for given PMIDs. The results are extracted from the XML response and returned in a data frame.

Usage

```
getPubMedPmcIdsFromPmIds(pmids)
```

Arguments

pmids   A character vector specifying the PubMed IDs for which PMCIDs are sought.

Value

A data frame with columns 'PMID' and 'PMCID', representing the PMCID associated with each given PMID.

---

getPubmQuerySearchString

Get PubMed Query Search String

Description

Constructs a search query string for PubMed based on specified search criteria. This function creates a default search string using various epidemiological and cohort study related terms. It can be extended to include specific affiliation filters, such as for Johnson & Johnson.

Usage

```
getPubmQuerySearchString(meshTerm, freeText = NULL)
```

Arguments

meshTerm	Character string specifying the main MeSH term to include in the search.
freeText	(optional) Character string specifying free text to search in title and abstract.

Value

A character string representing the complete PubMed search query.

---

retrieveAndSavePmcXmlForPmcIds

Retrieve and Save PMC XML Using Multiple Methods

Description

This function attempts to retrieve XML data for a list of PMC IDs using the tidy PMC method first. If the tidy PMC method fails, it then tries using the Rentrez method. It saves the retrieved XML to files in directories corresponding to the retrieval method used within a specified output folder.

Usage

```
retrieveAndSavePmcXmlForPmcIds(pmcIds, outputFolder = ".", incremental = TRUE)
```

Arguments

pmcIds	A vector of PMC IDs for which to retrieve XML data.
outputFolder	A character string specifying the output folder location. The default is the current working directory.
incremental	A logical value indicating whether to skip retrieval if the output file already exists. Default is TRUE.

Value

A list with two elements:

- successA list of successfully retrieved and saved XML contents, indexed by PMC ID.
- failedA list of PMC IDs for which XML retrieval failed using both methods, set to NA.

---

retrievePMCXMLUsingRentrez

Retrieve PMC XML

Description

This function fetches the full text of an article in XML format from PubMed Central (PMC) using a given PMC ID. This function employs the rentrez package to fetch the XML. If an error occurs during the fetching process, an appropriate error message is returned.

Usage

```
retrievePMCXMLUsingRentrez(pmcId)
```

Arguments

pmcId   A character string representing the PMC ID of the article.

Value

A character string containing the full text of the article in XML format, or an error message if unable to retrieve.

---

retrievePMCXMLUsingTidyPmc

Retrieve PMC XML

Description

This function fetches the full text of an article in XML format from PubMed Central (PMC) using a given PMC ID. If the direct retrieval fails, it searches for an open access article via europepmc and attempts to download it.

Usage

```
retrievePMCXMLUsingTidyPmc(pmcId)
```

Arguments

pmcId   A character string representing the PMC ID of the article.

Value

A character string containing the full text of the article in XML format, or an error message if unable to retrieve.

Index