Package 'SelfControlledCohort'

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Type Package

Title Population-level estimation method that estimates
incidence rate comparison of exposed/unexposed time within an exposed
cohort

Version 1.1

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Description HOMEWORK- add more

Depends DatabaseConnector (>= 1.3.0)

Imports SqlRender (>= 1.1.1),
OhdsiRTools

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R topics documented:

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selfControlledCohort   *selfControlledCohort*

Description

selfControlledCohort generates population-level estimation from OMOP CDMv4 instance by
comparing exposed and unexposed time among exposed cohort.

Usage

```
selfControlledCohort(connectionDetails, cdmDatabaseSchema, cdmVersion = 5,
  oracleTempSchema, exposureIds, outcomeId,
  exposureDatabaseSchema = cdmDatabaseSchema, exposureTable = "drug_era",
  outcomeDatabaseSchema = cdmDatabaseSchema, outcomeTable = "condition_era",
  firstOccurrenceDrugOnly = TRUE, firstOccurrenceConditionOnly = TRUE,
  outcomeConditionTypeConceptIds = c(38000247), genderConceptids = c(8507,
```

```
8532), minAge = "", maxAge = "", studyStartDate = "",
studyEndDate = "", stratifyByGender = FALSE, stratifyByAge = FALSE,
stratifyByYear = FALSE, useLengthOfExposureExposed = TRUE,
timeAtRiskExposedStart = 1, surveillanceExposed = 30,
useLengthOfExposureUnexposed = TRUE, timeAtRiskUnexposedStart = -1,
surveillanceUnexposed = -30, hasFullTimeAtRisk = FALSE,
washoutWindow = 0, followupWindow = 0, shrinkage = 1e-04)
```

Arguments

connectionDetails

An R object of type connectionDetails created using the function createConnectionDetails in the DatabaseConnector package.

cdmDatabaseSchema

Name of database schema that contains the OMOP CDM and vocabulary.

cdmVersion   Define the OMOP CDM version used: currently support "4" and "5".

oracleTempSchema

For Oracle only: the name of the database schema where you want all temporary tables to be managed. Requires create/insert permissions to this database.

exposureIds   A vector containing the drug_concept_ids or cohort_definition_ids of the exposures of interest

outcomeId   The condition_concept_id or cohort_definition_id of the outcome of interest

exposureTable   The tablename that contains the exposure cohorts. If exposureTable <> DRUG_ERA, then expectation is exposureTable has format of COHORT table: cohort_concept_id, SUBJECT_ID, COHORT_START_DATE, COHORT_END_DATE.

outcomeTable   The tablename that contains the outcome cohorts. If outcomeTable <> CONDITION_OCCURRENCE, then expectation is outcomeTable has format of COHORT table: COHORT_DEFINITION_ID, SUBJECT_ID, COHORT_START_DATE, COHORT_END_DATE.

outcomeConditionTypeConceptIds

A list of TYPE_CONCEPT_ID values that will restrict condition occurrences. Only applicable if outcomeTable = CONDITION_OCCURRENCE.

firstOccurrenceDrugOnlyIf

TRUE, only use first occurrence of each drug concept id for each person

firstOccurrenceConditionOnlyIf

TRUE, only use first occurrence of each condition concept id for each person.

genderConceptidsList

of gender_concept_id, generally use MALE (8507) and FEMALE (8532).

minAgeInteger   for minimum allowable age.

maxAgeInteger   for maximum allowable age.

studyStartDateDate

for minimum allowable data for index exposure.

studyEndDateDate

for maximum allowable data for index exposure.

stratifyByGenderIf

TRUE, analysis will be calculated overall, and stratified across all gender groups.

stratifyByAgeIf

TRUE, analysis will be calculated overall, and stratified across all age groups (using AGE_GROUP table below).

stratifyByYearIf
> TRUE, analysis will be calculated overall, and stratified across all years of the index dates.

useLengthOfExposureExposedIf
> TRUE, use the duration from drugEraStart -> drugEraEnd as part of timeAtRisk.

timeAtRiskExposedStartInteger
> of days to add to drugEraStart for start of timeAtRisk (0 to include index date, 1 to start the day after).

surveillanceExposedAdditional
> window to add to end of exposure period (if useLengthOfExposureExposed = TRUE, then add to exposure end date, else add to exposure start date).

useLengthOfExposureUnposedif
> TRUE, use the duration from exposure start -> exposure end as part of timeAtRisk looking back before exposure start.

timeAtRiskUnexposedStartinteger
> of days to add to exposure start for start of timeAtRisk (0 to include index date, -1 to start the day before).

surveillanceUnexposedadditional
> window to add to end of exposure period (if useLengthOfExposureUnexposed = TRUE, then add to exposure end date, else add to exposure start date).

hasFullTimeAtRiskif
> TRUE, restrict to people who have full time-at-risk exposed and unexposed.

washoutWindowinteger
> to define required time observed before exposure start.

followupWindowinteger
> to define required time observed after exposure start.

shrinkageshrinkage
> used in IRR calculations, required >0 to deal with 0 case counts, but larger number means more shrinkage.

Details

Population-level estimation method that estimates incidence rate comparison of exposed/unexposed time within an exposed cohort.

Value

An object of type `sccResults` containing the results of the analysis.

References

Ryan PB, Schuemie MJ, Madigan D.Empirical performance of a self-controlled cohort method: lessons for developing a risk identification and analysis system. Drug Safety 36 Suppl1:S95-106, 2013

Examples

```
## Not run:
connectionDetails <- createConnectionDetails(dbms = "sql server",
                                             server = "RNDUSRDHIT07.jnj.com")
sccResult <- selfControlledCohort(connectionDetails,
                                  cdmDatabaseSchema = "cdm_truven_mdcr.dbo",
```

```
                                     exposureIds = c(767410, 1314924, 907879),
                                     outcomeId = 444382,
                                     outcomeTable = "condition_era")

## End(Not run)
```

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