

How to Use PhenotypeLibrary R Package

Gowtham A. Rao

2023-03-14

Contents

1	Installation	1
2	Retrieval	1
3	Use	2

PhenotypeLibrary is part of HADES

1 Installation

- This is an installable R-package that may be installed as follows:

```
remotes::install_github("OHDSI/PhenotypeLibrary")
```

2 Retrieval

- The list of cohort definitions available may be retrieved as follows:

```
PhenotypeLibrary::listPhenotypes()
```

```
#> # A tibble: 208 x 16
#>   cohortId cohortName      descr~1 createdD~2 modified~3 libra~4 cohor~5 lastM~6 status logic~7
#>   <dbl> <chr>          <chr> <date> <date> <chr> <chr> <lg1> <chr> <chr>
#> 1      2 [W] COVID-19 diagn~ "Statu~ 2021-09-22 2023-03-14 rao@oh~ COVID-- NA Withd~ Withdr~
#> 2      3 [P] Cough or Sputu~ "Statu~ 2021-09-22 2023-01-03 rao@oh~ Cough ~ NA Pendi~ All ev~
#> 3      4 [P] Diarrhea (3Pe, ~ "Statu~ 2021-09-23 2023-01-03 rao@oh~ Diarrh~ NA Pendi~ All ev~
#> 4      5 [P] Dyspnea (7Pe, ~ "Statu~ 2021-09-23 2023-01-03 rao@oh~ Dyspne~ NA Pendi~ All ev~
#> 5      6 [P] Fever (3Pe, 30~ "Statu~ 2021-09-23 2023-02-12 rao@oh~ Fever ~ NA Pendi~ All ev~
#> 6      7 [P] Headache or He~ "Statu~ 2021-09-23 2023-02-12 rao@oh~ Headac~ NA Pendi~ All ev~
#> 7      8 [P] Altered smell ~ "Statu~ 2021-09-23 2023-02-12 rao@oh~ Altere~ NA Pendi~ Altere~
#> 8      9 [P] Sore throat (3~ "Statu~ 2021-09-23 2023-02-12 rao@oh~ Sore t~ NA Pendi~ All ev~
#> 9     10 [P] Nausea or Vomi~ "Statu~ 2021-09-23 2022-12-06 rao@oh~ Nausea~ NA Pendi~ All ev~
#> 10     11 [P] Malaise and or~ "Statu~ 2021-09-23 2023-02-12 rao@oh~ Malais~ NA Pendi~ All ev~
#> # ... with 198 more rows, and abbreviated variable names 1: description, 2: createdDate, 3: modified
#> # 6: lastModifiedBy, 7: logicDescription, 8: contributor, 9: addedVersion, *: Reviewer
```

- You can extract one or more cohort definitions into a cohortDefinitionSet object as

```
cohortDefinitionSet <- PhenotypeLibrary::getPlCohortDefinitionSet(cohortIds = c(1, 2, 3))

cohortDefinitionSet
```

```
#> # A tibble: 2 x 4
#>   cohortId cohortName                                json
#>   <dbl> <chr>                                <chr>
#> 1       2 [W] COVID-19 diagnosis or SARS-CoV-2 test (1pos) (3Ps, 7Era) "{\n\t\"cdmVersionRange\" : \"
#> 2       3 [P] Cough or Sputum (3Pe, 30Era)      \"{\n\t\"cdmVersionRange\" : \"
```

- cohortDefinitionSet is now a data.frame with specifications for the cohort ids 1, 2 and 3. For cohorts that conform to OHDSI Circe specifications, the field json is the cohort json specification that may be posted into your Atlas instance. The SQL is the SQL rendered from the JSON. For cohorts that do not conform to OHDSI Circe specification, only the SQL is provided and the json is left empty.

3 Use

- You can instantiate the cohorts in your environment as follows using (OHDSI/CohortGenerator)[<https://github.com/OHDSI/CohortGenerator>].

```
connectionDetails <-
  DatabaseConnector::createConnectionDetails(
    dbms = "postgresql",
    server = "some.server.com/ohdsi",
    user = "joe",
    password = "secret"
  )
cdmDatabaseSchema <- "cdm_synpuf"
cohortDatabaseSchema <- "scratch.dbo"
cohortTables <- CohortGenerator::getCohortTableNames()
CohortGenerator::generateCohortSet(
  connectionDetails = connectionDetails,
  cdmDatabaseSchema = cdmDatabaseSchema,
  cohortDatabaseSchema = cohortDatabaseSchema,
  cohortTableNames = cohortTables,
  cohortDefinitionSet = cohortDefinitionSet
)
```

- You can also run cohort diagnostics on this cohortDefinitionSet object as follows:

```
databaseId <- "synpuf"

databaseName <-
  "Medicare Claims Synthetic Public Use Files (SynPUFs)"

databaseDescription <-
  "Medicare Claims Synthetic Public Use Files (SynPUFs) were created to allow interested parties to gain

CohortDiagnostics::executeDiagnostics(
```

```
cohortDefinitionSet = cohortDefinitionSet,  
exportFolder = outputFolder,  
databaseId = databaseId,  
databaseName = databaseName,  
databaseDescription = databaseDescription,  
cohortDatabaseSchema = cohortDatabaseSchema,  
cdmDatabaseSchema = cdmDatabaseSchema,  
connectionDetails = connectionDetails,  
cohortTableNames = cohortTableNames  
)
```