

How to Use PhenotypeLibrary R Package

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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: 878 x 63
#>   cohortId cohortName cohortNameFormatted cohortNameLong librarian status addedVersion logicDescrip
#>   <dbl> <chr> <chr> <chr> <chr> <chr> <chr> <chr>
#> 1 2 [W] COVID~ COVID-19 diagnosis~ COVID-19 diag~ rao@ohds~ Withd~ <NA> Withdrawn by
#> 2 3 [P] Cough~ Cough or Sputum Cough or Sput~ rao@ohds~ Pendi~ <NA> All events o
#> 3 4 [P] Diarr~ Diarrhea Diarrhea rao@ohds~ Pendi~ <NA> All events o
#> 4 5 [P] Dyspn~ Dyspnea Dyspnea rao@ohds~ Pendi~ <NA> All events o
#> 5 6 [P] Fever Fever Fever rao@ohds~ Pendi~ <NA> All events o
#> 6 7 [P] Head~ Headache or Headac~ Headache or H~ rao@ohds~ Pendi~ <NA> All events o
#> 7 8 [P] Alter~ Altered smell or t~ Altered smell~ rao@ohds~ Pendi~ <NA> Altered smell
#> 8 9 [P] Sore ~ Sore throat Sore throat rao@ohds~ Pendi~ <NA> All events o
#> 9 10 [P] Nause~ Nausea or Vomiting Nausea or Vom~ rao@ohds~ Pendi~ <NA> All events o
#> 10 11 [P] Malai~ Malaise and or fat~ Malaise and o~ rao@ohds~ Pendi~ <NA> All events o
#> # i 868 more rows
```

```
#> # i 53 more variables: contributors <chr>, contributorOrcIds <chr>, contributorOrganizations <chr>,
#> #   peerReviewerOrcIds <lgl>, recommendedReferentConceptIds <chr>, ohdsiForumPost <chr>, createdDate
#> #   modifiedDate <date>, lastModifiedBy <lgl>, replaces <dbl>, isReferenceCohort <dbl>, censorWindow
#> #   censorWindowEndDate <lgl>, collapseSettingsType <chr>, collapseEraPad <dbl>, exitStrategy <chr>,
#> #   exitDateOffSetField <chr>, exitDateOffSet <dbl>, numberOfInclusionRules <dbl>, qualifyingLimitTy
#> #   primaryCriteriaLimit <chr>, numberOfCohortEntryEvents <dbl>, numberOfDomainsInEntryEvents <dbl>,
```

- 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) "{\n\t\"cdmVersionRange\" : \">=5.0.0\",
#> 2       3 [P] Cough or Sputum                        "{\n\t\"cdmVersionRange\" : \">=5.0.0\",
```

- 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
)

```