# How to Use PhenotypeLibrary R Package

## Gowtham A. Rao

## 2023-08-22

## Contents

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: 530 x 27
#>    cohortId cohortName       atlasId metaDataAll createdDate modifiedDate librarian cohortNameFormat
#>       <dbl> <chr>              <dbl> <chr>       <date>      <date>       <chr>     <chr>
#>  1        2 [W] COVID-19 dia~       2 "\n cohort~ 2021-09-22  2023-06-29   rao@ohds~ COVID-19 diagnos
#>  2        3 [P] Cough or Spu~       3 "\n cohort~ 2021-09-22  2023-06-29   rao@ohds~ Cough or Sputum
#>  3        4 [P] Diarrhea            4 "\n cohort~ 2021-09-23  2023-06-29   rao@ohds~ Diarrhea
#>  4        5 [P] Dyspnea             5 "\n cohort~ 2021-09-23  2023-06-29   rao@ohds~ Dyspnea
#>  5        6 [P] Fever              6 "\n cohort~ 2021-09-23  2023-06-29   rao@ohds~ Fever
#>  6        7 [P] Headache or ~       7 "\n cohort~ 2021-09-23  2023-06-29   rao@ohds~ Headache or Head
#>  7        8 [P] Altered smel~       8 "\n cohort~ 2021-09-23  2023-06-29   rao@ohds~ Altered smell o
#>  8        9 [P] Sore throat         9 "\n cohort~ 2021-09-23  2023-06-29   rao@ohds~ Sore throat
#>  9       10 [P] Nausea or Vo~      10 "\n cohort~ 2021-09-23  2023-06-29   rao@ohds~ Nausea or Vomit
#> 10       11 [P] Malaise and ~      11 "\n cohort~ 2021-09-23  2023-06-29   rao@ohds~ Malaise and or
#> # i 520 more rows
```

```
#> # i 15 more variables: addedVersion <chr>, logicDescription <chr>, hashTag <chr>, contributors <chr>
#> #   contributorOrganizations <chr>, peerReviewers <chr>, peerReviewerOrcIds <lgl>, recommendedEraPers
#> #   recommendedEraCollapseDurations <chr>, recommendSubsetOperators <chr>, recommendedReferentConcept
#> #   isReferenceCohort <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 <-
```

```r
  "Medicare Claims Synthetic Public Use Files (SynPUFs)"

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

CohortDiagnostics::executeDiagnostics(
  cohortDefinitionSet = cohortDefinitionSet,
  exportFolder = outputFolder,
  databaseId = databaseId,
  databaseName = databaseName,
  databaseDescription = databaseDescription,
  cohortDatabaseSchema = cohortDatabaseSchema,
  cdmDatabaseSchema = cdmDatabaseSchema,
  connectionDetails = connectionDetails,
  cohortTableNames = cohortTableNames
)
```