**Medicaid eligibility cohort function – SQL and R applications**

Version 1.0

**Purpose**: Script to send a SQL query to the PHClaims database on the SQL Server 51 to return a Medicaid eligibility cohort with specified parameters, either working in SQL Server Management Studio or R.

**Access/permissions required**

* All required SQL and R scripts are stored in the APDE Medicaid folder on GitHub [here](https://github.com/PHSKC-APDE/Medicaid/tree/master/analysis/Elig%20cohort%20function)
* This script makes use of the following tables, stored procedures, and functions on SQL Server 51:
  + User must be able to SELECT following tables in PHClaims database:
    - dbo.mcaid\_elig\_overall
    - dbo.mcaid\_elig\_address
    - dbo.mcaid\_elig\_dual
    - dbo.mcaid\_elig\_demoever
  + User must be able to EXECUTE stored procedures in PH\_APDEStore database:
    - PH\KERNELI.sp\_mcaidcohort
  + User must be able to SELECT table-valued functions in PH\_APDEStore database:
    - dbo.Split

* To check your permissions on any database once you’ve connected, run the SQL code on GitHub [here](https://github.com/PHSKC-APDE/Medicaid/blob/master/analysis/Broad%20use%20functions/Server%20permissions.sql)

**Using the Medicaid eligibility cohort function in R**

1. You can use the R script titled “[mcaid\_cohort\_process.R](https://github.com/PHSKC-APDE/Medicaid/blob/master/analysis/Medicaid%20cohort%20function/mcaid_cohort_process.R)” to get started – this will source (i.e. load) the function mcaid\_cohort\_f from the R script “[mcaid\_cohort\_function.R](https://github.com/PHSKC-APDE/Medicaid/blob/master/analysis/Medicaid%20cohort%20function/mcaid_cohort_function.R)”
2. Make sure to have the suggested R packages installed and loaded (RODBC, dplyr, stringr, lubridate)
3. To pass parameters to this function, review the “Function parameters” section below

**Using the Medicaid eligibility cohort function in SQL Server Management Studio**

1. Copy and paste the SQL code from the SQL script “[mcaidcohort\_run.sql](https://github.com/PHSKC-APDE/Medicaid/blob/master/analysis/Medicaid%20cohort%20function/mcaidcohort_run.sql)” and tweak the parameters to your desire.

**Illustrative example**

Check out how the parameters are set in the “[mcaidcohort\_run.sql](https://github.com/PHSKC-APDE/Medicaid/blob/master/analysis/Medicaid%20cohort%20function/mcaidcohort_run.sql)” file. This will select a Medicaid eligibility cohort with the following parameters:

* Medicaid coverage between 1/1/2017 and 6/30/2017, with minimum coverage of 50% during this time period
* Members must have 0% Medicare-Medicaid dual eligibility coverage during this time
* Medicaid members must be between age 18 and 64 (inclusive), age is calculated as of the last day of the requested coverage date range
* Medicaid members must have been reported “male” alone or in combination at any point during the history of the King County Medicaid eligibility data set (hint: you can use the male\_t variable to further subset this cohort based on the percentage of person time each member spent in the “male” status)
* Medicaid members must have been reported “Black” alone or in combination at any point during the history of the King County Medicaid eligibility data set
* All ZIP codes and ZIP-based regions are included
* Medicaid members must have Arabic or Somali as the most frequently reported spoken or written language alone or in combination at any point in the history of the Medicaid eligibility data set

**Function parameters**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | **Definition** | **Input format/range** | **Default value** |
| begin | begin date for Medicaid coverage period | “YYYY-MM-DD” | 12 months prior to today’s date |
| end | end date for Medicaid coverage period | “YYYY-MM-DD” | 6 months prior to today’s date |
| covmin | minimum coverage required during requested date range (percent scale) | 0-100 | 0 |
| dualmax | maximum Medicare-Medicaid dual eligibility coverage allowed during requested date range (percent scale) | 0-100 | 100 |
| agemin | minimum age for cohort (integer) | positive integer | 0 |
| agemax | maximum age for cohort (integer) | positive integer | 200 |
| male, female, aian…latino, english…amharic | alone or in combination EVER gender, race, and language, respectively | 0, 1 | null |
| maxlang | most frequently reported spoken/written language | “SOMALI,ARABIC,etc.”  (all caps, comma-separated, no spaces) | null |
| zip | most frequently reported ZIP code during requested date range | “98103,98105,etc.”  (all caps, comma-separated, no spaces) | null |
| zregion | most frequently mapped ZIP code-based region during requested date range | “east,north,seattle,south”  (all caps, comma-separated, no spaces) | null |

**List of languages in Medicaid eligibility data**

|  |
| --- |
| ALBANIAN |
| AMHARIC |
| ARABIC |
| ARMENIAN |
| BENGALI |
| BIKOL |
| BISAYAN |
| BOSNIAN |
| BRAILLE |
| BULGARIAN |
| BURMESE |
| CAMBODIAN/KNMER |
| CANTONESE |
| CEBUANO |
| CHAM/CHING/DIJIM |
| CHAMIC LANGUAGES |
| CHAMORRO |
| CHINESE |
| CHIU CHOW |
| CHUUKESE |
| CREOLES AND PIDGINS F |
| CROATIAN |
| CZECH |
| DANISH |
| DARI |
| DUTCH; FLEMISH |
| ENGLISH |
| FARSI |
| FIJIAN |
| FILIPINO; PILIPINO |
| FINNISH |
| FRENCH |
| GEORGIAN |
| GERMAN |
| GREEK, MODERN (1453-) |
| GUJARATI |
| HAITIAN; HAITIAN CREOLE |
| HAKKA CHINESE |
| HEBREW |
| HILIGAYNON |
| HINDI |
| HMONG |
| HUNGARIAN |
| IGBO |
| ILOKO |
| INDONESIAN |
| IRANIAN |
| ITALIAN |
| JAPANESE |
| KHMER |
| KHMU |
| KIKUYU; GIKUYU |
| KOREAN |
| LAO |
| LARGE PRINT |
| LATIN |
| MACEDONIAN |
| MALAY |
| MALAYALAM |
| MANDARIN |
| MAORI |
| MARATHI |
| MARSHALLESE |
| MIEN |
| MON-KHMER |
| NEPALI |
| NORWEGIAN |
| OROMO |
| PANGASINAN |
| PANJABI; PUNJABI |
| PERSIAN |
| POLISH |
| PORTUGUESE |
| PUNJABI |
| PUSHTO |
| PUYALLUP |
| QUECHUA |
| ROMANIAN |
| RUSSIAN |
| SALISHAN LANGUAGES |
| SAMOAN |
| SANSKRIT |
| SERBIAN |
| SHONA |
| SIGN LANGUAGES |
| SLOVAK |
| SLOVENIAN |
| SOMALI |
| SPANISH; CASTILIAN |
| SUNDANESE |
| SWAHILI |
| SWEDISH |
| TAGALOG |
| TAMIL |
| TELUGU |
| THAI |
| TIBETAN |
| TIGRINYA |
| TOISHANESE |
| TONGA (TONGA ISLANDS) |
| TONGAN |
| TURKISH |
| UKRAINIAN |
| URDU |
| VIETNAMESE |
| VISAYAN |
| YAO |
| YORUBA |