Get Drug Case Inclusion

```r
library(tidyverse)
library(bigrquery)

# This query represents dataset "asthma_steroids" for domain "drug"
# and was generated for All of Us Controlled Tier Dataset v7
dataset_45376339_drug_sql <- paste("
    SELECT
        d_exposure.person_id,
        d_exposure.drug_concept_id,
        d_standard_concept.concept_name as standard_concept_name,
        d_standard_concept.concept_code as standard_concept_code,
        d_standard_concept.vocabulary_id as standard_vocabulary
    FROM
        ( SELECT
            *
        FROM
            `drug_exposure` d_exposure
        WHERE
            (
                drug_concept_id IN (SELECT
                    DISTINCT ca.descendant_id
                FROM
                    `cb_criteria_ancestor` ca
                JOIN
                    (SELECT
                        DISTINCT c.concept_id
                    FROM
                        `cb_criteria` c
                    JOIN
                        (SELECT
                            CAST(cr.id as string) AS id
                        FROM
                            `cb_criteria` cr
                        WHERE
                            concept_id IN (1110942, 1115572, 1149380,
1196514, 1506270, 1518254, 1550557, 1551099, 36883745, 902938, 903963,
905233, 939259)
                            AND full_text LIKE '%_rank1]%'        ) a
                        ON (c.path LIKE CONCAT('%.', a.id, '.%')
                        OR c.path LIKE CONCAT('%.', a.id)
                        OR c.path LIKE CONCAT(a.id, '.%')
                        OR c.path = a.id)
                    WHERE
                        is_standard = 1
                        AND is_selectable = 1) b
```

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                        ON (ca.ancestor_id = b.concept_id)))
                    AND (d_exposure.PERSON_ID IN (SELECT
                        distinct person_id
                FROM
                    `cb_search_person` cb_search_person
                WHERE
                    cb_search_person.person_id IN (SELECT
                        person_id
                    FROM
                        `cb_search_person` p
                    WHERE
                        has_whole_genome_variant = 1 )
                    AND cb_search_person.person_id IN (SELECT
                        person_id
                    FROM
                        `cb_search_person` p
                    WHERE
                        has_ehr_data = 1 ) )
            )) d_exposure
    LEFT JOIN
        `concept` d_standard_concept
            ON d_exposure.drug_concept_id =
d_standard_concept.concept_id", sep="")

# Formulate a Cloud Storage destination path for the data exported
from BigQuery.
# NOTE: By default data exported multiple times on the same day will
overwrite older copies.
#       But data exported on a different days will write to a new
location so that historical
#       copies can be kept as the dataset definition is changed.
drug_45376339_path <- file.path(
  Sys.getenv("WORKSPACE_BUCKET"),
  "bq_exports",
  Sys.getenv("OWNER_EMAIL"),
  strftime(lubridate::now(), "%Y%m%d"),  # Comment out this line if
you want the export to always overwrite.
  "drug_45376339",
  "drug_45376339_*.csv")
message(str_glue('The data will be written to {drug_45376339_path}.
Use this path when reading ',
                 'the data into your notebooks in the future.'))

# Perform the query and export the dataset to Cloud Storage as CSV
files.
# NOTE: You only need to run `bq_table_save` once. After that, you can
#       just read data from the CSVs in Cloud Storage.
bq_table_save(
  bq_dataset_query(Sys.getenv("WORKSPACE_CDR"),
```

```
  dataset_45376339_drug_sql, billing = Sys.getenv("GOOGLE_PROJECT")),
    drug_45376339_path,
    destination_format = "CSV")

# Read the data directly from Cloud Storage into memory.
# NOTE: Alternatively you can `gsutil -m cp {drug_45376339_path}` to
copy these files
#        to the Jupyter disk.
read_bq_export_from_workspace_bucket <- function(export_path) {
  col_types <- cols(standard_concept_name = col_character(),
standard_concept_code = col_character(), standard_vocabulary =
col_character())
  bind_rows(
    map(system2('gsutil', args = c('ls', export_path), stdout = TRUE,
stderr = TRUE),
        function(csv) {
          message(str_glue('Loading {csv}.'))
          chunk <- read_csv(pipe(str_glue('gsutil cat {csv}')),
col_types = col_types, show_col_types = FALSE)
          if (is.null(col_types)) {
            col_types <- spec(chunk)
          }
          chunk
        }))
}
steroids_df <-
read_bq_export_from_workspace_bucket(drug_45376339_path)

unique(steroids_df$standard_concept_name)

— Attaching core tidyverse packages ————————————————
tidyverse 2.0.0 —
✔ dplyr      1.1.4      ✔ readr      2.1.5
✔ forcats    1.0.0      ✔ stringr    1.5.1
✔ ggplot2    3.5.2      ✔ tibble     3.2.1
✔ lubridate  1.9.4      ✔ tidyr      1.3.1
✔ purrr      1.0.4
— Conflicts ————————————————————————————————————
tidyverse_conflicts() —
✖ dplyr::filter() masks stats::filter()
✖ dplyr::lag()    masks stats::lag()
ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force
all conflicts to become errors
The data will be written to gs://fc-secure-672eeb92-4859-4ed9-9f59-
d4349f3534a0/bq_exports/micah_hysong@researchallofus.org/20250825/
drug_45376339/drug_45376339_*.csv. Use this path when reading the data
into your notebooks in the future.

Loading
gs://fc-secure-672eeb92-4859-4ed9-9f59-d4349f3534a0/bq_exports/micah_h
```

ysong@researchallofus.org/20250825/drug_45376339/
drug_45376339_000000000000.csv.

   [1] "prednisone 10 MG Oral Tablet [Orasone]"

   [2] "prednisolone acetate 10 MG/ML Ophthalmic Suspension [Pred Forte]"

   [3] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG Topical Ointment [Myocidin]"

   [4] "prednisone 20 MG Oral Tablet [Predone]"

   [5] "budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

   [6] "60 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler [Dulera]"

   [7] "prednisone 5 MG Oral Tablet [Deltasone]"

   [8] "60 ACTUAT flunisolide 0.08 MG/ACTUAT Metered Dose Inhaler [Aerospan]"

   [9] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Triamcot]"

 [10] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [Mycogen]"

 [11] "triamcinolone acetonide 1 MG/ML Topical Cream [Kenalog]"

 [12] "budesonide 9 MG Extended Release Oral Capsule [Ortikos]"

 [13] "1 ML dexamethasone phosphate 10 MG/ML Prefilled Syringe"

 [14] "fluticasone propionate 0.22 MG/ACTUAT Metered Dose Inhaler"

 [15] "prednisolone sodium phosphate 2.5 MG/ML / sulfacetamide sodium 100 MG/ML Ophthalmic Solution [Vasocidin]"

 [16] "budesonide Dry Powder Inhaler"

 [17] "dexamethasone phosphate 1 MG/ML Ophthalmic Solution"

 [18] "14 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

 [19] "14 ACTUAT fluticasone furoate 0.1 MG/ACTUAT Dry Powder Inhaler [Arnuity]"

[20] "budesonide 0.25 MG/ML Inhalation Suspension [Pulmicort]"

[21] "{21 (prednisolone 5 MG Oral Tablet) } Pack"

[22] "120 ACTUAT flunisolide 0.08 MG/ACTUAT Metered Dose Inhaler [Aerospan]"

[23] "triamcinolone acetonide 0.00025 MG/MG Topical Ointment [Aristocort]"

[24] "dexamethasone phosphate 4 MG/ML Injection"

[25] "triamcinolone acetonide 0.25 MG/ML Topical Cream [Triacet]"

[26] "triamcinolone acetonide 1 MG/ML Topical Lotion"

[27] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[28] "budesonide 0.18 MG/ACTUAT Dry Powder Inhaler"

[29] "60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

[30] "{48 (prednisone 5 MG Oral Tablet) } Pack"

[31] "fluticasone propionate 0.05 MG/ACTUAT Dry Powder Inhaler"

[32] "triamcinolone acetonide 0.00025 MG/MG Topical Ointment [Kenalog]"

[33] "fluticasone furoate 0.1 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Breo]"

[34] "budesonide 0.5 MG/ML [Pulmicort]"

[35] "triamcinolone hexacetonide 20 MG/ML Injection [Hexatrione]"

[36] "Sensor 60 ACTUAT fluticasone propionate 0.055 MG/ACTUAT Dry Powder Inhaler [Armonair]"

[37] "1 ML methylprednisolone acetate 40 MG/ML Injection"

[38] "budesonide 0.125 MG/ML Inhalation Suspension [Pulmicort]"

[39] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Tri-Med]"

[40] "beclomethasone dipropionate 0.084 MG/ACTUAT Metered Dose Nasal Spray [Vancenase]"

[41] "120 ACTUAT mometasone furoate 0.05 MG/ACTUAT Metered Dose Inhaler [Asmanex]"

[42] "dexamethasone 0.1 MG/ML Oral Solution [Hexadrol]"

[43] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[44] "120 ACTUAT beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[45] "mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler [Asmanex]"

[46] "60 ACTUAT ciclesonide 0.16 MG/ACTUAT Metered Dose Inhaler"

[47] "ciclesonide 0.037 MG/ACTUAT Metered Dose Nasal Spray [Zetonna]"

[48] "14 ACTUAT budesonide 2 MG/ACTUAT Rectal Foam"

[49] "methylprednisolone 8 MG [Medrol]"

[50] "1 ML triamcinolone acetonide 80 MG/ML Injection"

[51] "prednisone 50 MG Oral Tablet"

[52] "60 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[53] "0.5 ML omalizumab 150 MG/ML Prefilled Syringe [Xolair]"

[54] "ciclesonide 0.16 MG/ACTUAT Metered Dose Inhaler"

[55] "dexamethasone 0.5 MG Oral Tablet [Decadron]"

[56] "dexamethasone 6 MG [Decadron]"

[57] "triamcinolone acetonide 0.001 MG/MG [Aristocort]"

[58] "triamcinolone acetonide 1 MG/ML Topical Cream [Zytopic]"

[59] "60 ACTUAT budesonide 0.09 MG/ACTUAT Dry Powder Inhaler"

[60] "{21 (dexamethasone 1.5 MG Oral Tablet) } Pack"

[61] "200 ACTUAT beclomethasone dipropionate 0.084 MG/ACTUAT Metered Dose Inhaler [Vanceril]"

[62] "60 ACTUAT flunisolide 0.08 MG/ACTUAT Metered Dose Inhaler"

[63] "2 ML triamcinolone hexacetonide 20 MG/ML Injection"

[64] "fluticasone furoate 0.1 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[65] "methylprednisolone acetate 80 MG/ML Injectable Suspension [Depo-Medrol]"

[66] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Trilocort]"

[67] "prednisone 50 MG"

[68] "fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[69] "methylprednisolone 32 MG"

[70] "dexamethasone 3 MG/ML"

[71] "mometasone furoate 0.001 MG/MG [Elocon]"

[72] "prednisolone 40 MG/ML"

[73] "prednisolone 10 MG/ML Ophthalmic Solution [Ocu-Pred Forte]"

[74] "120 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[75] "prednisolone 3 MG/ML Oral Solution"

[76] "dexamethasone sodium phosphate 4 MG/ML Injectable Solution [Dexasone]"

[77] "flunisolide 0.029 MG/ACTUAT Metered Dose Nasal Spray [Nasarel]"

[78] "prednisolone 15 MG Disintegrating Oral Tablet"

[79] "dexamethasone 0.001 MG/MG / neomycin 0.0035 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment [Poly-Dex]"

[80] "24 HR budesonide 6 MG Extended Release Oral Capsule [Ortikos]"

[81] "triamcinolone acetonide 0.5 MG Oral Tablet"

[82] "fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray [Aller-Flo]"

[83] "budesonide 0.09 MG/ACTUAT Dry Powder Inhaler"

[84] "24 HR budesonide 9 MG Extended Release Oral Tablet [Uceris]"

[85] "methylprednisolone 8 MG Oral Tablet [Medrol]"

[86] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [Dexacidin]"

[87] "dexamethasone 0.001 MG/MG / neomycin 0.0035 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment [Dexacidin]"

[88] "triamcinolone acetonide 0.25 MG/ML Topical Cream [Aristocort]"

[89] "{21 (dexamethasone 1.5 MG Oral Tablet) } Pack [DexPak TaperPak 6 Day]"

[90] "60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT Dry Powder Inhaler [Armonair]"

[91] "dexamethasone 2 MG/ML Injectable Solution"

[92] "dexamethasone acetate 8 MG/ML [Dalalone]"

[93] "triamcinolone acetonide 0.005 MG/MG Topical Ointment"

[94] "dexamethasone 1.5 MG Oral Tablet"

[95] "120 ACTUAT beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Inhaler"

[96] "prednisolone 5 MG Oral Tablet [MILLIPRED]"

[97] "methylprednisolone 40 MG"

[98] "triamcinolone acetonide 0.005 MG/MG"

[99] "prednisolone 1 MG/ML Oral Solution [Bubbli-Pred]"

[100] "28 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[101] "dexamethasone 10 MG"

[102] "dexamethasone 4 MG Oral Tablet [Hexadrol]"

[103] "triamcinolone acetonide 0.055 MG/ACTUAT Metered Dose Nasal Spray [Aller-Cort]"

[104] "24 HR budesonide 9 MG Extended Release Oral Capsule"

[105] "prednisolone 10 MG/ML Ophthalmic Solution [Pred-Phosphate]"

[106] "methylprednisolone 16 MG"

[107] "{12 (dexamethasone 0.75 MG Oral Tablet [Decadron]) } Pack [Decadron 5-12]"

[108] "methylprednisolone 125 MG Injection [Solu-Medrol]"

[109] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler"

[110] "triamcinolone acetonide 10 MG/ML Injectable Suspension [Kenalog]"

[111] "dexamethasone 1 MG/ML / tobramycin 3 MG/ML Ophthalmic Suspension [Tobradex]"

[112] "60 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[113] "fluticasone propionate 0.5 MG/ML Topical Cream"

[114] "triamcinolone acetonide 0.25 MG/ML Topical Cream [Kenalog]"

[115] "fluticasone propionate 0.5 MG/ML Topical Cream [Cutivate]"

[116] "60 ACTUAT fluticasone propionate 0.11 MG/ACTUAT Metered Dose Inhaler [Flovent]"

[117] "Methylprednisolone 4 MG Extended Release Oral Tablet"

[118] "triamcinolone acetonide 0.055 MG/ACTUAT Metered Dose Nasal Spray [Nasacort]"

[119] "60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[120] "{12 (prednisone 5 MG Oral Tablet) } Pack"

[121] "triamcinolone 0.0025 MG/MG"

[122] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG Topical Ointment [Myco Biotic]"

[123] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [Mycasone]"

[124] "prednisolone 5 MG/ML [Prelone]"

[125] "prednisolone 15 MG [Orapred]"

[126] "120 ACTUAT budesonide 0.18 MG/ACTUAT Dry Powder Inhaler"

[127] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[128] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML Ophthalmic Solution"

[129] "prednisolone 1.2 MG/ML Ophthalmic Suspension"

[130] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Breyna]"

[131] "1 ML omalizumab 150 MG/ML Prefilled Syringe [Xolair]"

[132] "dexamethasone 0.001 MG/MG / neomycin 0.0035 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment [Maxitrol]"

[133] "fluticasone propionate 0.1 MG/ACTUAT Dry Powder Inhaler"

[134] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Cort-K]"

[135] "60 ACTUAT fluticasone propionate 0.044 MG/ACTUAT Metered Dose Inhaler"

[136] "dexamethasone 0.1 MG/ML Oral Solution [Decadron]"

[137] "triamcinolone acetonide 32 MG Injection"

[138] "{1 (118 ML) (dimethicone 20 MG/ML Topical Cream) / 1 (80000 MG) (triamcinolone acetonide 1 MG/ML Topical Cream) } Pack"

[139] "prednisolone 5 MG Disintegrating Oral Tablet"

[140] "prednisone 1 MG Delayed Release Oral Tablet [Rayos]"

[141] "triamcinolone hexacetonide 20 MG/ML Injection"

[142] "dexamethasone 0.75 MG Oral Tablet"

[143] "dexamethasone Injectable Solution"

[144] "prednisone 20 MG [Deltasone]"

[145] "80 ACTUAT beclomethasone dipropionate 0.042 MG/ACTUAT Metered Dose Inhaler"

[146] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [Ocu-Trol]"

[147] "fluticasone propionate 0.05 MG/ACTUAT [Flonase]"

[148] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG

Topical Ointment"

[149] "60 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[150] "14 ACTUAT mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler [Asmanex]"

[151] "methylprednisolone 2000 MG Injection [Solu-Medrol]"

[152] "dexamethasone 0.75 MG Oral Tablet [Decadron]"

[153] "Sensor 60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[154] "triamcinolone acetonide 0.001 MG/MG Topical Ointment [Aricin]"

[155] "7 ACTUAT mometasone furoate 0.11 MG/ACTUAT Dry Powder Inhaler"

[156] "mometasone furoate 0.37 MG Drug Implant"

[157] "beclomethasone"

[158] "fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[159] "azelastine hydrochloride 0.137 MG/ACTUAT / fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray [Dymista]"

[160] "prednisone 2.5 MG Oral Tablet"

[161] "60 ACTUAT fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[162] "prednisolone acetate 0.002 MG/MG / sulfacetamide sodium 0.1 MG/MG Ophthalmic Ointment"

[163] "28 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[164] "30 ACTUAT fluticasone furoate 0.05 MG/ACTUAT Dry Powder Inhaler [Arnuity]"

[165] "dexamethasone sodium phosphate 24 MG/ML Injectable Solution"

[166] "triamcinolone acetonide 0.25 MG/ML Topical Lotion [Kenalog]"

[167] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [AK-Trol]"

[168] "flunisolide 0.08 MG/ACTUAT Metered Dose Inhaler"

[169] "120 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[170] "methylprednisolone acetate 20 MG/ML [Depo-Medrol]"

[171] "formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[172] "Dexamethasone 0.1 MG"

[173] "methylprednisolone 32 MG Oral Tablet [Medrol]"

[174] "budesonide 3 MG [Entocort]"

[175] "dexamethasone sodium phosphate 1 MG/ML [Decadron]"

[176] "methylprednisolone Injection [Solu-Medrol]"

[177] "{21 (methylprednisolone 4 MG Oral Tablet [Medrol]) } Pack [Medrol Dosepak]"

[178] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [Mycomar]"

[179] "60 ACTUAT fluticasone propionate 0.055 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

[180] "28 ACTUAT fluticasone propionate 0.25 MG/ACTUAT Dry Powder Inhaler"

[181] "dexamethasone 0.4 MG Drug Implant"

[182] "beclomethasone dipropionate 0.042 MG/ACTUAT Metered Dose Inhaler"

[183] "triamcinolone 0.066 MG/ML Topical Spray"

[184] "{6 (prednisone 10 MG Oral Tablet [Sterapred DS]) } Pack [Sterapred DS Uni-Pak 6 Day]"

[185] "200 ACTUAT beclomethasone dipropionate 0.042 MG/ACTUAT Metered Dose Inhaler"

[186] "fluticasone Nasal Suspension"

[187] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [Mycolog]"

[188] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Tramacort]"

[189] "methylprednisolone 100 MG"

[190] "{21 (prednisolone 5 MG Oral Tablet [MILLIPRED]) } Pack [Millipred DP 6 Day]"

[191] "prednisolone Injectable Solution"

[192] "{6 (prednisone 10 MG Oral Tablet) } Pack"

[193] "60 ACTUAT fluticasone propionate 0.1 MG/ACTUAT Dry Powder Inhaler [Flovent]"

[194] "fluticasone propionate 0.00005 MG/MG Topical Ointment"

[195] "60 ACTUAT fluticasone propionate 0.22 MG/ACTUAT Metered Dose Inhaler"

[196] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [Dexasporin]"

[197] "neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML / prednisolone 5 MG/ML Ophthalmic Suspension"

[198] "dexamethasone sodium phosphate 24 MG/ML Injectable Solution [Decadron]"

[199] "prednisone 1 MG Oral Tablet [Orasone]"

[200] "methylprednisolone 125 MG Injection [A-MethaPred]"

[201] "triamcinolone acetonide 0.25 MG/ML Topical Cream [Triderm]"

[202] "dexamethasone Topical Cream"

[203] "60 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler"

[204] "240 ACTUAT triamcinolone acetonide 0.1 MG/ACTUAT Metered Dose Inhaler"

[205] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Trilone]"

[206] "200 ACTUAT beclomethasone dipropionate 0.042 MG/ACTUAT Metered Dose Inhaler [Vanceril]"

[207] "triamcinolone diacetate 40 MG/ML"

[208] "triamcinolone acetonide 40 MG/ML Injectable Suspension"

[209] "prednisone 5 MG Oral Tablet [Prednicot]"

[210] "60 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[211] "60 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler"

[212] "prednisone 20 MG"

[213] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Tri-Kort]"

[214] "triamcinolone acetonide 0.25 MG/ML Topical Cream [Flutex]"

[215] "30 ACTUAT fluticasone furoate 0.2 MG/ACTUAT Dry Powder Inhaler"

[216] "fluticasone furoate 0.2 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Trelegy]"

[217] "prednisolone 4 MG/ML Oral Solution"

[218] "{49 (dexamethasone 1.5 MG Oral Tablet) } Pack"

[219] "prednisone 5 MG Oral Tablet [Econosone]"

[220] "120 ACTUAT fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[221] "dexamethasone 0.1 MG/ML Oral Solution [Baycadron]"

[222] "prednisone 25 MG"

[223] "ciclesonide 0.05 MG/ACTUAT Metered Dose Nasal Spray [Omnaris]"

[224] "methylprednisolone acetate 40 MG"

[225] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Kenaject]"

[226] "dexamethasone 103.4 MG/ML Injection [Dexycu]"

[227] "100 ACTUAT beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Inhaler"

[228] "budesonide 0.18 MG/ACTUAT Dry Powder Inhaler [Pulmicort]"

[229] "{14 (methylprednisolone 16 MG Oral Tablet) } Pack"

[230] "methylprednisolone 20 MG/ML"

[231] "mometasone furoate 0.025 MG/ACTUAT / olopatadine hydrochloride

0.665 MG/ACTUAT Metered Dose Nasal Spray [Ryaltris]"

[232] "triamcinolone Topical Ointment"

[233] "fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[234] "14 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[235] "budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[236] "30 ACTUAT mometasone furoate 0.11 MG/ACTUAT Dry Powder Inhaler [Asmanex]"

[237] "triamcinolone acetonide 0.001 MG/MG Topical Ointment [Triderm]"

[238] "triamcinolone acetonide 1 MG/ML Topical Cream [Dermasorb TA]"

[239] "{48 (prednisone 10 MG Oral Tablet [Sterapred DS]) } Pack [Sterapred DS 12 Day Uni-Pak]"

[240] "budesonide 0.032 MG/ACTUAT Nasal Spray [Rhinocort]"

[241] "200 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler"

[242] "mometasone furoate 1.35 MG Drug Implant [Sinuva]"

[243] "prednisone 50 MG [Deltasone]"

[244] "dexamethasone 1.5 MG [Decadron]"

[245] "60 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[246] "14 ACTUAT fluticasone furoate 0.1 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[247] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Kenalog]"

[248] "triamcinolone acetonide 0.001 MG/MG [Kenalog]"

[249] "dexamethasone sodium phosphate 1 MG/ML Ophthalmic Solution [Decadron]"

[250] "dexamethasone 0.1 MG/ML"

[251] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048

MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler [Breztri]"

[252] "budesonide Inhalation Suspension [Pulmicort]"

[253] "120 ACTUAT fluticasone propionate 0.044 MG/ACTUAT Metered Dose Inhaler [Flovent]"

[254] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[255] "fluticasone propionate 0.093 MG/ACTUAT Metered Dose Nasal Spray [Xhance]"

[256] "methylprednisolone 40 MG Injection [A-MethaPred]"

[257] "formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler"

[258] "50 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[259] "flunisolide 0.029 MG/ACTUAT Metered Dose Nasal Spray [Nasalide]"

[260] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [N.T.A.]"

[261] "mometasone Drug Implant"

[262] "prednisolone 5 MG/ML Oral Solution [Prelone]"

[263] "14 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[264] "240 ACTUAT triamcinolone acetonide 0.075 MG/ACTUAT Metered Dose Inhaler"

[265] "Breath-Actuated 120 ACTUAT beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Inhaler"

[266] "methylprednisolone acetate 80 MG/ML [Depo-Medrol]"

[267] "28 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[268] "fluticasone propionate 0.00005 MG/MG Topical Ointment [Cutivate]"

[269] "Triamcinolone 5 MG"

[270] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG

Topical Ointment [Myco-Triacet]"

[271] "dexamethasone 16 MG/ML"

[272] "fluticasone propionate 0.113 MG/ACTUAT Dry Powder Inhaler"

[273] "triamcinolone acetonide 0.25 MG/ML Topical Cream [Aricin]"

[274] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [Mytrex]"

[275] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG Topical Ointment [Mycolog]"

[276] "prednisolone 5 MG Oral Tablet [Prednoral]"

[277] "triamcinolone Metered Dose Nasal Spray [Nasacort]"

[278] "fluticasone propionate 0.1 MG/ACTUAT"

[279] "60 ACTUAT fluticasone propionate 0.055 MG/ACTUAT Dry Powder Inhaler"

[280] "dexamethasone 2 MG Oral Tablet"

[281] "prednisone 5 MG Oral Tablet [Prednicen-M]"

[282] "fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[283] "triamcinolone acetonide 5 MG/ML Topical Cream [Aristocort]"

[284] "triamcinolone acetonide 1 MG/ML Topical Cream [Triderm]"

[285] "triamcinolone hexacetonide 20 MG/ML [Aristospan]"

[286] "prednisone 5 MG [Deltasone]"

[287] "dexamethasone phosphate 0.0005 MG/MG Ophthalmic Ointment"

[288] "dexamethasone 0.1 MG/ML Oral Solution"

[289] "dexamethasone 0.001 MG/MG / tobramycin 0.003 MG/MG Ophthalmic Ointment [Tobradex]"

[290] "mometasone furoate 0.001 MG/MG Topical Ointment [Elocon]"

[291] "Methylprednisolone 20 MG Injectable Suspension"

[292] "fluticasone propionate 0.25 MG/ACTUAT Dry Powder Inhaler [Flovent]"

[293] "prednisone 1 MG Oral Tablet [Meticorten]"

[294] "prednisolone sodium phosphate 2.5 MG/ML / sulfacetamide sodium 100 MG/ML Ophthalmic Solution"

[295] "methylprednisolone 1 MG/ML"

[296] "methylprednisolone 4 MG Oral Tablet [Medrol]"

[297] "120 ACTUAT mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler"

[298] "30 ACTUAT fluticasone furoate 0.1 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[299] "prednisone 1 MG Delayed Release Oral Tablet"

[300] "dexamethasone 8 MG"

[301] "fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[302] "dexamethasone 0.001 MG/MG"

[303] "triamcinolone acetonide 1 MG/ML Topical Cream [Flutex]"

[304] "methylprednisolone 62.5 MG/ML Injectable Solution"

[305] "1 ML triamcinolone acetonide 40 MG/ML Injection [Kenalog]"

[306] "1 ML triamcinolone acetonide 40 MG/ML Injection [Triesence]"

[307] "100 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[308] "triamcinolone 0.001 MG/MG"

[309] "formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler"

[310] "triamcinolone acetonide 80 MG/ML"

[311] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [Eyetrol]"

[312] "{25 (dexamethasone 1.5 MG Oral Tablet) } Pack [Zcort 7 Day Taper]"

[313] "prednisolone 3 MG/ML Oral Suspension"

[314] "triamcinolone acetonide 0.25 MG/ML Topical Cream"

[315] "60 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[316] "240 ACTUAT triamcinolone acetonide 0.075 MG/ACTUAT Metered Dose Inhaler [Azmacort]"

[317] "30 ACTUAT fluticasone furoate 0.1 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Breo]"

[318] "triamcinolone 0.01 MG/MG"

[319] "triamcinolone acetonide 1 MG/ML Topical Cream [Adcortyl]"

[320] "triamcinolone 0.055 MG/ACTUAT Nasal Spray"

[321] "fluticasone furoate 0.05 MG/ACTUAT Dry Powder Inhaler [Arnuity]"

[322] "budesonide 6 MG Extended Release Oral Capsule [Ortikos]"

[323] "methylprednisolone 32 MG Oral Tablet"

[324] "prednisolone 5 MG Oral Tablet [Prednistab]"

[325] "prednisone 2.5 MG"

[326] "Beclomethasone 0.2 MG/ACTUAT Dry Powder Inhaler [Easyhaler Beclometasone] by Orion"

[327] "28 ACTUAT fluticasone propionate 0.1 MG/ACTUAT Dry Powder Inhaler [Flovent]"

[328] "60 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[329] "prednisone 10 MG Oral Tablet [Deltasone]"

[330] "18700 MG Beclomethasone 0.00000256 MG/MG Inhalant Solution [Beclometason-Ct] Box of 2"

[331] "triamcinolone acetonide 0.0005 MG/MG Topical Ointment [Trianex]"

[332] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG Topical Ointment [Mytrex]"

[333] "prednisolone 1 MG/ML Oral Solution [Pediapred]"

[334] "gentamicin 3 MG/ML / prednisolone acetate 10 MG/ML Ophthalmic

Suspension"

[335] "triamcinolone hexacetonide 20 MG/ML Injectable Suspension [Aristospan]"

[336] "prednisolone 3 MG/ML"

[337] "dexamethasone 1 MG/ML / tobramycin 3 MG/ML Ophthalmic Suspension"

[338] "60 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[339] "2 ML triamcinolone acetonide 40 MG/ML Prefilled Syringe"

[340] "triamcinolone 1 MG"

[341] "triamcinolone 0.001 MG/MG Paste"

[342] "methylprednisolone acetate 80 MG/ML Injection"

[343] "triamcinolone acetonide 0.001 MG/MG Topical Ointment"

[344] "dexamethasone phosphate 1 MG/ML Ophthalmic Solution [AK-Dex]"

[345] "methylprednisolone 2 MG Oral Tablet [Medrol]"

[346] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Acetocot]"

[347] "methylprednisolone 10 MG/ML Injectable Solution"

[348] "methylprednisolone acetate 80 MG/ML Injectable Suspension"

[349] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler"
[350] "ciprofloxacin 3 MG/ML / dexamethasone 1 MG/ML Otic Suspension [Ciprodex]"

[351] "14 ACTUAT fluticasone furoate 0.1 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Trelegy]"
[352] "beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Nasal Spray [Qnasl]"

[353] "prednisolone acetate 0.002 MG/MG / sulfacetamide sodium 0.1 MG/MG Ophthalmic Ointment [Blephamide]"

[354] "triamcinolone acetonide 0.005 MG/MG Topical Ointment [Kenalog]"

[355] "methylprednisolone Injectable Solution"

[356] "triamcinolone acetonide 0.005 MG/MG Topical Ointment [Aristocort]"

[357] "Methylprednisolone 4 MG Oral Capsule"

[358] "triamcinolone 0.1 MG/ACTUAT"

[359] "dexamethasone 0.001 MG/MG / tobramycin 0.003 MG/MG Ophthalmic Ointment"

[360] "fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[361] "120 ACTUAT fluticasone propionate 0.22 MG/ACTUAT Metered Dose Inhaler"

[362] "28 ACTUAT fluticasone propionate 0.25 MG/ACTUAT Dry Powder Inhaler [Flovent]"

[363] "prednisone 10 MG Oral Tablet [Prednicot]"

[364] "prednisone 2 MG"

[365] "Sensor 60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

[366] "prednisolone acetate 1.25 MG/ML Ophthalmic Suspension [Econopred]"

[367] "prednisolone sodium phosphate 2.5 MG/ML / sulfacetamide sodium 100 MG/ML Ophthalmic Suspension"

[368] "{35 (dexamethasone 1.5 MG Oral Tablet) } Pack [DexPak TaperPak Junior 10 Day]"

[369] "120 ACTUAT mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler"

[370] "methylprednisolone 16 MG Oral Tablet [Medrol]"

[371] "60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

[372] "prednisone 1 MG/ML Oral Solution"

[373] "flunisolide 0.029 MG/ACTUAT Metered Dose Nasal Spray"

[374] "triamcinolone acetonide 1 MG/ML Topical Lotion [Kenalog]"

[375] "triamcinolone acetonide 0.005 MG/MG [Kenalog]"

[376] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG Topical Ointment [Mycogen]"

[377] "{49 (dexamethasone 1.5 MG Oral Tablet [Decadron]) } Pack [Decadron DP 12 Day]"

[378] "prednisolone 10 MG/ML Ophthalmic Solution [AK-Pred]"

[379] "prednisolone acetate 1.25 MG/ML Ophthalmic Suspension"

[380] "prednisolone acetate 10 MG/ML Ophthalmic Suspension [Econopred Plus]"

[381] "triamcinolone acetonide 1 MG/ML Topical Cream [Delta Tritex]"

[382] "14 ACTUAT fluticasone furoate 0.2 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Breo]"

[383] "fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[384] "beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Nasal Spray"

[385] "dexamethasone 0.7 MG Drug Implant"

[386] "flunisolide"

[387] "60 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[388] "triamcinolone acetonide 0.25 MG/ML Topical Lotion"

[389] "budesonide 0.032 MG/ACTUAT Metered Dose Nasal Spray"

[390] "fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[391] "100 ACTUAT flunisolide 0.25 MG/ACTUAT Metered Dose Inhaler"

[392] "beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[393] "28 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler"
[394] "dexamethasone 2 MG"

[395] "prednisolone 20 MG/ML Injectable Solution"

[396] "prednisolone 15 MG Disintegrating Oral Tablet [Orapred]"

[397] "triamcinolone acetonide 0.05 MG/ACTUAT"

[398] "prednisolone 5 MG Effervescent Oral Tablet"

[399] "methylprednisolone Injection"

[400] "60 ACTUAT fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[401] "triamcinolone acetonide 0.001 MG/MG Topical Ointment [Kenalog]"

[402] "60 ACTUAT ciclesonide 0.16 MG/ACTUAT Metered Dose Inhaler [Alvesco]"

[403] "triamcinolone acetonide 5 MG/ML Topical Cream [Triderm]"

[404] "15 ML Methylprednisolone 1 MG/ML Topical Ointment [Advantan]"

[405] "fluticasone furoate 0.2 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[406] "Budesonide Inhalation Solution"

[407] "budesonide 3 MG"

[408] "14 ACTUAT fluticasone furoate 0.2 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[409] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler"

[410] "triamcinolone acetonide 0.001 MG/MG Topical Ointment [Cinolar]"

[411] "dexamethasone 0.001 MG/MG / neomycin 0.0035 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment [Dexasporin]"

[412] "dexamethasone Injectable Solution [Decadron]"

[413] "Sensor 60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[414] "Sensor 60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT Dry Powder Inhaler"

[415] "methylprednisolone acetate 40 MG/ML Injectable Suspension [Depo-Medrol]"

[416] "omalizumab 150 MG/ML Prefilled Syringe [Xolair]"

[417] "prednisone 10 MG"

[418] "prednisone 5 MG Delayed Release Oral Tablet [Rayos]"

[419] "triamcinolone Injectable Suspension [Kenalog]"

[420] "prednisolone 50 MG"

[421] "prednisone 5 MG/ML Oral Solution"

[422] "triamcinolone diacetate 40 MG/ML Injectable Suspension"

[423] "60 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[424] "triamcinolone acetonide 1 MG/ML Topical Cream [Aricin]"

[425] "Methylprednisolone 125 MG Injection [Solu-Medrone]"

[426] "prednisone 1 MG"

[427] "triamcinolone acetonide 0.0005 MG/MG Topical Ointment"

[428] "prednisolone sodium phosphate 2.5 MG/ML / sulfacetamide sodium 100 MG/ML Ophthalmic Solution [Sulster]"

[429] "120 ACTUAT fluticasone propionate 0.11 MG/ACTUAT Metered Dose Inhaler [Flovent]"

[430] "prednisone 2 MG Delayed Release Oral Tablet"

[431] "fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray [Flonase]"

[432] "28 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[433] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [Neopolydex]"

[434] "30 ACTUAT fluticasone furoate 0.1 MG/ACTUAT Dry Powder Inhaler"

[435] "fluticasone Metered Dose Nasal Spray [Flonase]"

[436] "Methylprednisolone 20 MG Prefilled Syringe"

[437] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [Methadex]"

[438] "{25 (dexamethasone 1.5 MG Oral Tablet) } Pack"

[439] "prednisolone 0.01 MG/MG"

[440] "methylprednisolone 4 MG Oral Tablet"

[441] "60 ACTUAT budesonide 0.09 MG/ACTUAT Dry Powder Inhaler [Pulmicort]"

[442] "beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[443] "120 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Breyna]"

[444] "14 ACTUAT budesonide 2 MG/ACTUAT Rectal Foam [Uceris]"

[445] "methylprednisolone Oral Tablet"

[446] "fluticasone furoate 0.0275 MG/ACTUAT Metered Dose Nasal Spray"

[447] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [Maxitrol]"

[448] "fluticasone furoate 0.2 MG/ACTUAT Dry Powder Inhaler"

[449] "fluticasone furoate 0.2 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[450] "dexamethasone acetate 8 MG/ML Injectable Suspension"

[451] "methylprednisolone acetate 20 MG/ML"

[452] "triamcinolone hexacetonide 20 MG/ML"

[453] "triamcinolone diacetate 25 MG/ML"

[454] "prednisolone 30 MG Disintegrating Oral Tablet"

[455] "{35 (dexamethasone 1.5 MG Oral Tablet) } Pack [Zema Pak 10 Day]"

[456] "prednisolone 1000 MG Injectable Solution"

[457] "10 ML prednisolone 5 MG/ML Otic Solution"

[458] "mometasone furoate 0.05 MG/ACTUAT Metered Dose Nasal Spray"

[459] "dexamethasone 1 MG/ML Oral Solution"

[460] "{48 (prednisone 10 MG Oral Tablet) } Pack"

[461] "120 ACTUAT beclomethasone dipropionate 0.084 MG/ACTUAT Metered

Dose Inhaler"

[462] "mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler [Asmanex]"

[463] "fluticasone / umeclidinium / vilanterol Dry Powder Inhaler [Trelegy]"

[464] "prednisone 8 MG"

[465] "prednisolone 3 MG/ML Oral Solution [Orapred]"

[466] "prednisolone 10 MG Disintegrating Oral Tablet [Orapred]"

[467] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Ken-Jec]"

[468] "clotrimazole / gentamicin / mometasone Otic Suspension [LoZatom]"

[469] "60 ACTUAT fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[470] "120 ACTUAT fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[471] "28 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler [Breztri]"
[472] "beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Nasal Spray [Qnasl]"

[473] "methylprednisolone 4 MG"

[474] "methylprednisolone 2 MG"

[475] "120 ACTUAT fluticasone propionate 0.044 MG/ACTUAT Metered Dose Inhaler"

[476] "dexamethasone 1 MG/ML Ophthalmic Suspension"

[477] "prednisone 20 MG Oral Tablet [Deltasone]"

[478] "triamcinolone 0.5 MG"

[479] "14 ACTUAT fluticasone furoate 0.2 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Trelegy]"
[480] "Sensor 60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

[481] "budesonide 0.25 MG/ML Inhalation Suspension"

[482] "methylprednisolone"

[483] "120 ACTUAT mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler [Asmanex]"

[484] "14 ACTUAT fluticasone furoate 0.1 MG/ACTUAT Dry Powder Inhaler"

[485] "60 ACTUAT fluticasone propionate 0.25 MG/ACTUAT Dry Powder Inhaler"

[486] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Cenocort]"

[487] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Sano Log]"

[488] "60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT Dry Powder Inhaler [Armonair]"

[489] "prednisone Oral Tablet [Deltasone]"

[490] "ciprofloxacin 3 MG/ML / dexamethasone 1 MG/ML Otic Suspension"

[491] "triamcinolone acetonide 0.001 MG/MG Topical Ointment [Adcortyl]"

[492] "mometasone furoate 1 MG/ML Topical Cream"

[493] "fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[494] "triamcinolone acetonide 5 MG/ML Topical Cream"

[495] "120 ACTUAT fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[496] "prednisone 5 MG"

[497] "120 ACTUAT fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[498] "60 ACTUAT fluticasone propionate 0.22 MG/ACTUAT Metered Dose Inhaler [Flovent]"

[499] "prednisone 5 MG/ML Oral Solution [Prednisone Intensol]"

[500] "{39 (dexamethasone 1.5 MG Oral Tablet) } Pack"

[501] "prednisolone acetate 10 MG/ML Ophthalmic Suspension"

[502] "budesonide 0.5 MG/ML Inhalation Suspension"

[503] "dexamethasone 0.7 MG Drug Implant [Ozurdex]"

[504] "budesonide 0.5 MG/ML Inhalation Suspension [Pulmicort]"

[505] "dexamethasone 0.5 MG [Decadron]"

[506] "Sensor 60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT Dry Powder Inhaler [Armonair]"

[507] "gentamicin 0.003 MG/MG / prednisolone acetate 0.006 MG/MG Ophthalmic Ointment [Pred-G]"

[508] "dexamethasone phosphate 10 MG/ML Injectable Solution"

[509] "triamcinolone hexacetonide 20 MG/ML Injectable Suspension"

[510] "prednisolone 10 MG/ML Ophthalmic Solution [Prednisol]"

[511] "azelastine hydrochloride 0.137 MG/ACTUAT / fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray"

[512] "dexamethasone 1 MG/ML Topical Solution"

[513] "prednisone 50 MG Oral Tablet [Orasone]"

[514] "28 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[515] "mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler"

[516] "triamcinolone acetonide 40 MG/ML"

[517] "prednisolone 3 MG/ML Oral Solution [Prelone]"

[518] "triamcinolone acetonide 32 MG Injection [Zilretta]"

[519] "gentamicin 0.003 MG/MG / prednisolone acetate 0.006 MG/MG Ophthalmic Ointment"

[520] "triamcinolone acetonide 0.005 MG/MG [Aristocort]"

[521] "prednisolone 1.25 MG/ML Ophthalmic Solution"

[522] "methylprednisolone 8 MG"

[523] "budesonide 9 MG"

[524] "prednisolone Oral Tablet"

[525] "14 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[526] "methylprednisolone 8 MG Oral Tablet"

[527] "dexamethasone 0.5 MG/ML / tobramycin 3 MG/ML Ophthalmic Suspension [Tobradex]"

[528] "dexamethasone 4 MG"

[529] "prednisone 10 MG Oral Tablet [Sterapred DS]"

[530] "prednisolone 10 MG/ML Ophthalmic Solution [Inflamase Forte]"

[531] "triamcinolone hexacetonide 5 MG/ML Injectable Suspension [Aristospan]"

[532] "fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[533] "1 ML methylprednisolone acetate 40 MG/ML Injection [Depo-Medrol]"

[534] "1 ML methylprednisolone acetate 80 MG/ML Injection"

[535] "methylprednisolone acetate 40 MG/ML Injectable Suspension"

[536] "fluticasone propionate 0.093 MG/ACTUAT Metered Dose Nasal Spray"

[537] "dexamethasone sodium phosphate 4 MG/ML Injectable Solution [Hexadrol]"

[538] "28 ACTUAT fluticasone propionate 0.1 MG/ACTUAT Dry Powder Inhaler"

[539] "ciclesonide 0.08 MG/ACTUAT Metered Dose Inhaler"

[540] "200 ACTUAT beclomethasone dipropionate 0.042 MG/ACTUAT Metered Dose Inhaler [Beclovent]"

[541] "triamcinolone hexacetonide 5 MG/ML [Aristospan]"

[542] "fluticasone propionate 0.22 MG/ACTUAT Metered Dose Inhaler [Flovent]"

[543] "prednisone 5 MG Oral Tablet"

[544] "{21 (prednisone 10 MG Oral Tablet) } Pack"

[545] "methylprednisolone 62.5 MG/ML Injectable Solution [Solu-Medrol]"

[546] "triamcinolone acetonide 0.25 MG/ML [Kenalog]"

[547] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler"

[548] "fluticasone propionate 0.1 MG/ACTUAT Dry Powder Inhaler [Flovent]"

[549] "30 ACTUAT fluticasone furoate 0.2 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[550] "triamcinolone acetonide 0.001 MG/MG Oral Paste [Adcortyl]"

[551] "triamcinolone hexacetonide 5 MG/ML Injectable Suspension"

[552] "{49 (dexamethasone 1.5 MG Oral Tablet) } Pack [Zodex 12 Day Taper]"

[553] "methylprednisolone 24 MG Oral Tablet"

[554] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG Topical Ointment [Tri-Statin]"

[555] "prednisone 5 MG Oral Tablet [Orasone]"

[556] "30 ACTUAT fluticasone furoate 0.1 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Trelegy]"
[557] "prednisone Oral Tablet"

[558] "prednisolone 10 MG/ML Ophthalmic Solution"

[559] "mometasone furoate 1 MG/ML Topical Cream [Momexin]"

[560] "mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler"

[561] "60 ACTUAT fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[562] "dexamethasone 1.5 MG"

[563] "prednisolone 5 MG/ML Oral Solution"

[564] "dexamethasone sodium phosphate 4 MG/ML Injectable Solution [Dalalone]"

[565] "triamcinolone 4 MG Oral Tablet"

[566] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Trilog]"

[567] "120 ACTUAT fluticasone propionate 0.11 MG/ACTUAT Metered Dose Inhaler"

[568] "60 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[569] "fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[570] "fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[571] "beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler"

[572] "14 ACTUAT fluticasone furoate 0.2 MG/ACTUAT Dry Powder Inhaler [Arnuity]"

[573] "ciclesonide 0.037 MG/ACTUAT Metered Dose Nasal Spray"

[574] "Budesonide / formoterol Inhalant Solution [Symbicort]"

[575] "gentamicin 3 MG/ML / prednisolone acetate 10 MG/ML Ophthalmic Suspension [Pred-G]"

[576] "prednisone 10 MG Oral Tablet"

[577] "1 ML dexamethasone phosphate 10 MG/ML Injection"

[578] "prednisolone 5 MG Oral Tablet"

[579] "mometasone furoate 0.001 MG/MG Topical Ointment"

[580] "dexamethasone sodium phosphate 0.4 MG/ML Injectable Solution"

[581] "30 ACTUAT fluticasone furoate 0.2 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[582] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.05 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[583] "0.9 ML triamcinolone acetonide 40 MG/ML Injection [Xipere]"

[584] "nystatin / triamcinolone Topical Cream [Mycolog]"

[585] "triamcinolone acetonide 5 MG/ML [Aristocort]"

[586] "omalizumab 150 MG Injection"

[587] "triamcinolone acetonide 1 MG/ML Topical Cream [Ledercort]"

[588] "60 ACTUAT mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler"

[589] "triamcinolone acetonide 0.001 MG/MG Topical Ointment [Ledercort]"

[590] "mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler [Asmanex]"

[591] "mometasone furoate 0.05 MG/ACTUAT Metered Dose Nasal Spray [Nasonex]"

[592] "120 ACTUAT mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler"

[593] "120 ACTUAT fluticasone propionate 0.22 MG/ACTUAT Metered Dose Inhaler [Flovent]"

[594] "60 ACTUAT fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[595] "prednisone 30 MG"

[596] "mometasone furoate 1.35 MG Drug Implant"

[597] "fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray [Clarispray]"

[598] "dexamethasone 1 MG Oral Tablet"

[599] "60 ACTUAT fluticasone propionate 0.044 MG/ACTUAT Metered Dose Inhaler [Flovent]"

[600] "60 ACTUAT fluticasone propionate 0.11 MG/ACTUAT Metered Dose Inhaler"

[601] "dexamethasone 20 MG/ML"

[602] "120 ACTUAT flunisolide 0.08 MG/ACTUAT Metered Dose Inhaler"

[603] "prednisolone 15 MG"

[604] "prednisone"

[605] "dexamethasone 0.25 MG Oral Tablet"

[606] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Robalog]"

[607] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045

MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[608] "triamcinolone acetonide 0.001 MG/MG Topical Ointment [Aristocort]"

[609] "50 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler"

[610] "beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Nasal Spray"

[611] "{48 (prednisolone 5 MG Oral Tablet) } Pack"

[612] "methylprednisolone 500 MG Injection"

[613] "mometasone"

[614] "{21 (methylprednisolone 4 MG Oral Tablet) } Pack"

[615] "budesonide 3 MG Delayed Release Oral Capsule"

[616] "30 ACTUAT fluticasone furoate 0.1 MG/ACTUAT Dry Powder Inhaler [Arnuity]"

[617] "30 ACTUAT fluticasone furoate 0.2 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Breo]"

[618] "prednisone 2.5 MG Oral Tablet [Deltasone]"

[619] "budesonide 3 MG Delayed Release Oral Capsule [Entocort]"

[620] "beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Inhaler"

[621] "60 ACTUAT fluticasone propionate 0.05 MG/ACTUAT Dry Powder Inhaler"

[622] "prednisolone 20 MG/ML Injectable Suspension"

[623] "fluticasone propionate 0.11 MG/ACTUAT Metered Dose Inhaler"

[624] "triamcinolone"

[625] "methylprednisolone 500 MG Injection [Solu-Medrol]"

[626] "omalizumab 150 MG Injection [Xolair]"

[627] "beclomethasone dipropionate 0.042 MG/ACTUAT Metered Dose Nasal Spray [Beconase]"

[628] "fluticasone propionate 0.25 MG/ACTUAT Dry Powder Inhaler"

[629] "fluticasone furoate 0.2 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Breo]"

[630] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Cortinide]"

[631] "triamcinolone acetonide 0.001 MG/MG Oral Paste [Kenalog]"

[632] "Triamcinolone Nasal Spray [Nasacort Allergy]"

[633] "prednisolone 20 MG"

[634] "methylprednisolone 16 MG Oral Tablet"

[635] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[636] "Triamcinolone 10 MG"

[637] "dexamethasone sodium phosphate 4 MG/ML Injectable Solution [Decadron]"

[638] "fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray [Nasoflow]"

[639] "1 ML dexamethasone phosphate 4 MG/ML Injection"

[640] "flunisolide 0.025 MG/ACTUAT Metered Dose Nasal Spray"

[641] "120 ACTUAT mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler [Asmanex]"

[642] "triamcinolone acetonide 0.001 MG/MG Topical Gel"

[643] "prednisolone 1.2 MG/ML Ophthalmic Suspension [Pred Mild]"

[644] "triamcinolone acetonide 0.001 MG/MG"

[645] "fluticasone furoate 0.1 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Trelegy]"

[646] "prednisone 1 MG Oral Tablet [Econosone]"

[647] "dexamethasone 0.001 MG/MG / neomycin 0.0035 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment [AK-Trol]"

[648] "triamcinolone acetonide 1 MG/ML Topical Cream [Triacet]"

[649] "methylprednisolone acetate 80 MG/ML"

[650] "120 ACTUAT ciclesonide 0.16 MG/ACTUAT Metered Dose Inhaler"

[651] "{21 (prednisone 5 MG Oral Tablet [Sterapred]) } Pack [Sterapred 5 MG Uni-Pak]"

[652] "triamcinolone acetonide 1 MG/ML Topical Cream [Aristocort]"

[653] "60 ACTUAT fluticasone propionate 0.05 MG/ACTUAT Dry Powder Inhaler [Flovent]"

[654] "60 ACTUAT ciclesonide 0.08 MG/ACTUAT Metered Dose Inhaler [Alvesco]"

[655] "24 HR budesonide 9 MG Extended Release Oral Tablet"

[656] "omalizumab 125 MG/ML Injection [Xolair]"

[657] "120 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler"

[658] "fluticasone furoate 0.0275 MG/ACTUAT Metered Dose Nasal Spray [Flonase Sensimist]"

[659] "formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[660] "prednisolone acetate 5 MG Oral Tablet"

[661] "budesonide 0.1 MG/ACTUAT Nasal Spray [Rhinocort Aqua]"

[662] "beclomethasone dipropionate 0.042 MG/ACTUAT Metered Dose Nasal Spray [Vancenase]"

[663] "methylprednisolone 4 MG [Medrol]"

[664] "prednisolone 1 MG/ML [Pediapred]"

[665] "azelastine / fluticasone Metered Dose Nasal Spray"

[666] "mometasone furoate 1 MG/ML Topical Cream [Elocon]"

[667] "beclomethasone dipropionate 0.042 MG/ACTUAT Metered Dose Nasal Spray"

[668] "triamcinolone acetonide 0.147 MG/ML Topical Spray [Kenalog]"

[669] "1 ML triamcinolone acetonide 40 MG/ML Prefilled Syringe"

[670] "{27 (dexamethasone 1.5 MG Oral Tablet) } Pack"

[671] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Triam]"

[672] "methylprednisolone 10 MG/ML"

[673] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [Tri-Statin]"

[674] "dexamethasone phosphate 4 MG/ML Injectable Solution"

[675] "dexamethasone 4 MG Oral Tablet"

[676] "budesonide"

[677] "prednisone 20 MG Oral Tablet [Prednicot]"

[678] "dexamethasone 0.001 MG/MG / neomycin 0.0035 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment [Ocu-Trol]"

[679] "methylprednisolone 40 MG Injection [Solu-Medrol]"

[680] "1 ML dexamethasone phosphate 4 MG/ML Prefilled Syringe"

[681] "30 ACTUAT fluticasone furoate 0.1 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[682] "beclomethasone dipropionate 0.084 MG/ACTUAT Metered Dose Nasal Spray"

[683] "triamcinolone acetonide 10 MG/ML [Kenalog]"

[684] "triamcinolone acetonide 10 MG/ML"

[685] "prednisolone 2 MG/ML Oral Solution"

[686] "fluticasone propionate 0.5 MG/ML Topical Lotion [Beser]"

[687] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG Topical Ointment [Nyst-Olone]"

[688] "triamcinolone acetonide 0.00025 MG/MG Topical Ointment"

[689] "{6 (prednisone 5 MG Oral Tablet) } Pack"

[690] "Breath-Actuated 120 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler"

[691] "30 ACTUAT mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler [Asmanex]"

[692] "60 ACTUAT fluticasone propionate 0.25 MG/ACTUAT Dry Powder Inhaler [Flovent]"

[693] "60 ACTUAT fluticasone propionate 0.23 MG/ACTUAT / salmeterol

0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[694] "omalizumab Injection"

[695] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Clinalog]"

[696] "Sensor 60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT Dry Powder Inhaler [Armonair]"

[697] "dexamethasone Injection"

[698] "1 ML omalizumab 150 MG/ML Prefilled Syringe"

[699] "mometasone furoate 1 MG/ML Topical Lotion"

[700] "Breath-Actuated 120 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[701] "ciclesonide 0.05 MG/ACTUAT Metered Dose Nasal Spray"

[702] "Methylprednisolone 40 MG Prefilled Syringe"

[703] "triamcinolone acetonide 40 MG/ML Injectable Suspension [Triamonide]"

[704] "budesonide 0.125 MG/ML Inhalation Suspension"

[705] "200 ACTUAT Budesonide 0.18 MG/ACTUAT Dry Powder Inhaler [Pulmicort]"

[706] "methylprednisolone 1000 MG Injection [Solu-Medrol]"

[707] "dexamethasone 0.4 MG Drug Implant [Dextenza]"

[708] "dexamethasone 20 MG Oral Tablet"

[709] "prednisone 1 MG/ML Oral Solution [Liquid Pred]"

[710] "dexamethasone 4 MG Oral Tablet [Decadron]"

[711] "100 ACTUAT flunisolide 0.25 MG/ACTUAT Metered Dose Inhaler [AeroBid]"

[712] "Breath-Actuated 120 ACTUAT beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[713] "nystatin 100 UNT/MG / triamcinolone acetonide 0.001 MG/MG Topical Ointment [N.T.A.]"

[714] "dexamethasone 6 MG Oral Tablet [Decadron]"

[715] "7 ACTUAT mometasone furoate 0.11 MG/ACTUAT Dry Powder Inhaler [Asmanex]"

[716] "triamcinolone acetonide 40 MG/ML Injection"

[717] "30 ACTUAT fluticasone furoate 0.05 MG/ACTUAT Dry Powder Inhaler"

[718] "methylprednisolone 40 MG Injection"

[719] "fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray [Fluticare]"

[720] "120 ACTUAT budesonide 0.18 MG/ACTUAT Dry Powder Inhaler [Pulmicort]"

[721] "60 ACTUAT fluticasone propionate 0.1 MG/ACTUAT Dry Powder Inhaler"

[722] "lidocaine hydrochloride 10 MG/ML / methylprednisolone acetate 40 MG/ML Injectable Suspension"

[723] "methylprednisolone acetate 20 MG/ML Injectable Suspension [Depo-Medrol]"

[724] "fluticasone furoate 0.1 MG/ACTUAT Dry Powder Inhaler"

[725] "24 HR budesonide 6 MG Extended Release Oral Capsule"

[726] "fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT [Advair]"

[727] "prednisolone 5 MG Oral Tablet [Prednesol]"

[728] "triamcinolone acetonide 5 MG/ML [Kenalog]"

[729] "30 ACTUAT mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler"

[730] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler [Breztri]"
[731] "prednisolone 10 MG Disintegrating Oral Tablet"

[732] "methylprednisolone acetate 40 MG/ML [Depo-Medrol]"

[733] "14 ACTUAT fluticasone furoate 0.1 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[734] "dexamethasone 1 MG/ML Oral Solution [Dexamethasone Intensol]"

[735] "triamcinolone acetonide 0.0005 MG/MG Topical Ointment [Tritocin]"

[736] "triamcinolone acetonide 80 MG/ML Injectable Suspension [Kenalog]"

[737] "dexamethasone sodium phosphate 0.2 MG/ML Injectable Solution"

[738] "triamcinolone 0.25 MG/MG"

[739] "prednisolone 5 MG Oral Tablet [Cotolone]"

[740] "prednisone 5 MG Oral Tablet [Sterapred]"

[741] "ciclesonide"

[742] "{25 (prednisone 10 MG Oral Tablet) } Pack"

[743] "triamcinolone acetonide 0.001 MG/MG Oral Paste"

[744] "mometasone furoate 1 MG/ML Topical Lotion [Elocon]"

[745] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [Myco Biotic]"

[746] "prednisone 50 MG Oral Tablet [Deltasone]"

[747] "triamcinolone acetonide 1 MG/ML Topical Cream [Pediaderm TA]"

[748] "dexamethasone sodium phosphate 1 MG/ML Ophthalmic Solution"

[749] "mometasone furoate 0.01 MG/MG"

[750] "prednisolone 5 MG Oral Tablet [Stintisone]"

[751] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension"

[752] "120 ACTUAT fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[753] "{39 (dexamethasone 1.5 MG Oral Tablet) } Pack [Dxevo 11 Day Taper]"

[754] "120 ACTUAT mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler [Asmanex]"

[755] "prednisone 40 MG"

[756] "triamcinolone acetonide 0.1 MG/ACTUAT Metered Dose Inhaler"

[757] "dexamethasone 0.25 MG"

[758] "dexamethasone 0.5 MG"

[759] "28 ACTUAT fluticasone propionate 0.05 MG/ACTUAT Dry Powder Inhaler"

[760] "budesonide 0.032 MG/ACTUAT Metered Dose Nasal Spray [Rhinocort]"

[761] "budesonide 0.032 MG/ACTUAT Nasal Spray"

[762] "triamcinolone acetonide 0.001 MG/MG Oral Paste [Oralone]"

[763] "{21 (dexamethasone 1.5 MG Oral Tablet) } Pack [HiDex 6-Day Taper]"

[764] "dexamethasone 4 MG/ML Injectable Suspension"

[765] "omalizumab Injectable Solution"

[766] "60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[767] "14 ACTUAT fluticasone furoate 0.2 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[768] "60 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[769] "fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray [Nasopro 24]"

[770] "60 ACTUAT ciclesonide 0.08 MG/ACTUAT Metered Dose Inhaler"

[771] "fluticasone propionate 0.5 MG/ML Topical Lotion"

[772] "fluticasone furoate 0.05 MG/ACTUAT Dry Powder Inhaler"

[773] "budesonide 0.25 MG/ML [Pulmicort]"

[774] "methylprednisolone 32 MG [Medrol]"

[775] "14 ACTUAT fluticasone furoate 0.1 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Breo]"

[776] "{21 (prednisone 5 MG Oral Tablet) } Pack"

[777] "30 ACTUAT fluticasone furoate 0.2 MG/ACTUAT Dry Powder Inhaler [Arnuity]"

[778] "120 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[779] "methylprednisolone acetate 20 MG/ML Injectable Suspension"

[780] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Breyna]"

[781] "dexamethasone 0.001 MG/MG / neomycin 0.005 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment"

[782] "mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler"

[783] "{51 (dexamethasone 1.5 MG Oral Tablet) } Pack [DexPak TaperPak 13 Day]"

[784] "dexamethasone 0.5 MG Oral Tablet"

[785] "1 ML triamcinolone acetonide 40 MG/ML Injection"

[786] "budesonide 0.2 MG Inhalation Powder"

[787] "14 ACTUAT mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler"

[788] "100 ACTUAT beclomethasone dipropionate 0.08 MG/ACTUAT Metered Dose Inhaler"

[789] "triamcinolone Injection"

[790] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream [Myco-Triacet]"

[791] "{48 (prednisone 5 MG Oral Tablet [Sterapred]) } Pack [Sterapred 5 MG 12 Day Uni-Pak]"

[792] "prednisolone acetate 10 MG/ML Ophthalmic Suspension [Ocu-Pred-A]"

[793] "{21 (prednisone 10 MG Oral Tablet [Sterapred DS]) } Pack [Sterapred DS Uni-Pak]"

[794] "triamcinolone acetonide 0.055 MG/ACTUAT Metered Dose Nasal Spray"

[795] "prednisone 5 MG Delayed Release Oral Tablet"

[796] "fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[797] "dexamethasone 20 MG Oral Tablet [Hemady]"

[798] "prednisone 2 MG Delayed Release Oral Tablet [Rayos]"

[799] "triamcinolone acetonide 3 MG/ML"

[800] "methylprednisolone 1000 MG Injection"

[801] "omalizumab"

[802] "prednisolone 30 MG Disintegrating Oral Tablet [Orapred]"

[803] "dexamethasone 0.001 MG/MG / neomycin 0.0035 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment [Dexacine]"

[804] "budesonide 0.2 MG Inhalation Powder [Pulmicort]"

[805] "60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT Dry Powder Inhaler"

[806] "triamcinolone acetonide 40 MG/ML Injectable Suspension [TAC]"

[807] "methylprednisolone Injection [Depo-Medrol]"

[808] "mometasone 0.001 MG/MG"

[809] "60 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[810] "0.5 ML omalizumab 150 MG/ML Prefilled Syringe"

[811] "dexamethasone 0.5 MG/ML / tobramycin 3 MG/ML Ophthalmic Suspension"

[812] "fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[813] "{6 (prednisone 5 MG Oral Tablet [Sterapred]) } Pack [Sterapred Uni-Pak 6 Day]"

[814] "prednisolone acetate 2 MG/ML / sulfacetamide sodium 100 MG/ML Ophthalmic Suspension [Blephamide]"

[815] "fluticasone furoate 0.2 MG/ACTUAT Dry Powder Inhaler [Arnuity]"

[816] "{41 (dexamethasone 1.5 MG Oral Tablet) } Pack"

[817] "prednisolone 1 MG/ML Oral Suspension"

[818] "fluticasone propionate 0.1 MG/ACTUAT [Flovent]"

[819] "dexamethasone 0.1 MG/ACTUAT Metered Dose Inhaler"

[820] "prednisone 20 MG Oral Tablet [Orasone]"

[821] "{12 (prednisone 5 MG Oral Tablet [Sterapred]) } Pack [Sterapred Uni-Pak 12 Day]"

[822] "14 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[823] "60 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[824] "methylprednisolone 2 MG Oral Tablet"

[825] "30 ACTUAT fluticasone furoate 0.2 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler [Trelegy]"
[826] "fluticasone furoate 0.1 MG/ACTUAT / umeclidinium 0.0625 MG/ACTUAT / vilanterol 0.025 MG/ACTUAT Dry Powder Inhaler"

[827] "triamcinolone diacetate 40 MG/ML [Aristocort]"

[828] "triamcinolone hexacetonide 5 MG/ML"

[829] "flunisolide Metered Dose Nasal Spray [Apo-Flunisolide]"

[830] "{1 (113400 MG) (ammonium lactate 120 MG/ML Topical Foam) / 1 (45000 MG) (mometasone furoate 1 MG/ML Topical Cream) } Pack"

[831] "triamcinolone Injectable Suspension"

[832] "prednisone 1 MG Oral Tablet"

[833] "triamcinolone acetonide 10 MG/ML Injectable Suspension"

[834] "60 ACTUAT fluticasone propionate 0.055 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[835] "prednisone 5 MG Oral Tablet [Decortisyl]"

[836] "dexamethasone 1 MG/ML Ophthalmic Suspension [Maxidex]"

[837] "prednisolone 10 MG/ML Ophthalmic Solution [Isolone Forte]"

[838] "dexamethasone 1 MG/ML / neomycin 3.5 MG/ML / polymyxin B 10000 UNT/ML Ophthalmic Suspension [Poly-Dex]"

[839] "prednisolone Otic Solution [Predsol]"

[840] "prednisone 20 MG Oral Tablet"

[841] "dexamethasone sodium phosphate 4 MG/ML Injectable Solution"

[842] "prednisolone acetate 10 MG/ML Ophthalmic Suspension [Omnipred]"

[843] "1 ML methylprednisolone acetate 80 MG/ML Injection [Depo-Medrol]"

[844] "60 ACTUAT mometasone furoate 0.22 MG/ACTUAT Dry Powder Inhaler [Asmanex]"

[845] "fluticasone furoate 0.0275 MG/ACTUAT Metered Dose Nasal Spray [Veramyst]"

[846] "dexamethasone 4 MG [Decadron]"

[847] "prednisolone 0.01 MG/ML"

[848] "prednisolone 3 MG/ML Oral Solution [AsmalPred Plus]"

[849] "methylprednisolone acetate 40 MG/ML Injection"

[850] "triamcinolone 1 MG Oral Tablet [Aristocort]"

[851] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.05 MG/ACTUAT Metered Dose Inhaler"

[852] "triamcinolone acetonide 3 MG/ML Injectable Suspension"

[853] "methylprednisolone 125 MG Injection"

[854] "nystatin 100000 UNT/ML / triamcinolone acetonide 1 MG/ML Topical Cream"

[855] "prednisolone"

[856] "dexamethasone 1 MG"

[857] "14 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[858] "30 ACTUAT mometasone furoate 0.11 MG/ACTUAT Dry Powder Inhaler"

[859] "fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[860] "prednisolone acetate 2 MG/ML / sulfacetamide sodium 100 MG/ML Ophthalmic Suspension"

[861] "prednisone 5 MG Oral Capsule"

[862] "triamcinolone acetonide 40 MG/ML Injectable Suspension [U-Tri-Lone]"

[863] "triamcinolone acetonide 1 MG/ML Topical Cream"

[864] "triamcinolone acetonide 1 MG/ML Topical Cream [Rx Triamcinolone]"

[865] "dexamethasone 0.5 MG/ML Ophthalmic Solution"

[866] "fluticasone propionate 0.5 MG/ML Topical Lotion [Cutivate]"

[867] "60 ACTUAT fluticasone propionate 0.055 MG/ACTUAT Dry Powder Inhaler [Armonair]"

[868] "0.9 ML triamcinolone acetonide 40 MG/ML Injection"

[869] "dexamethasone"

[870] "methylprednisolone Injectable Solution [Solu-Medrol]"

[871] "budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Breyna]"

[872] "prednisolone 1 MG/ML Oral Solution"

[873] "Methylprednisolone 40 MG Injectable Solution"

[874] "methylprednisolone 2000 MG Injection"

[875] "Methylprednisolone 40 MG Injectable Solution [Solu-Medrone]"

[876] "triamcinolone acetonide 0.05 MG/ACTUAT Metered Dose Nasal Spray [Tri-Nasal]"

[877] "50 ACTUAT flunisolide 0.25 MG/ACTUAT Metered Dose Inhaler"

[878] "triamcinolone acetonide 5 MG/ML Topical Cream [Kenalog]"

[879] "dexamethasone 6 MG Oral Tablet"

[880] "fluticasone"

[881] "28 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[882] "14 ACTUAT fluticasone furoate 0.2 MG/ACTUAT Dry Powder Inhaler"

[883] "120 ACTUAT fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[884] "dexamethasone 1.5 MG Oral Tablet [Decadron]"

[885] "dexamethasone phosphate 1 MG/ML Ophthalmic Solution [Ocu-Dex]"

[886] "prednisone 100 MG"

[887] "flunisolide 0.08 MG/ACTUAT Metered Dose Inhaler [Aerospan]"

[888] "fluticasone propionate 0.05 MG/ACTUAT Metered Dose Nasal Spray"

[889] "prednisone 10 MG Oral Tablet [Predone]"

[890] "dexamethasone 0.001 MG/MG / neomycin 0.0035 MG/MG / polymyxin B 10 UNT/MG Ophthalmic Ointment"

[891] "triamcinolone acetonide 0.147 MG/ML Topical Spray"

[892] "100 ACTUAT beclomethasone dipropionate 0.04 MG/ACTUAT Metered Dose Inhaler [Qvar]"

[893] "prednisolone 4 MG/ML Oral Solution [Veripred]"

[894] "dexamethasone phosphate 1 MG/ML Ophthalmic Solution [Dexasol]"

[895] "triamcinolone 8 MG [Aristocort]"

```r
steroid_perscription_holders<-unique(steroids_df$person_id)
length(steroid_perscription_holders)
```

[1] 177584

```r
library(tidyverse)
library(bigrquery)

# This query represents dataset "asthma_mild_drugs" for domain "drug"
# and was generated for All of Us Controlled Tier Dataset v7
dataset_97024772_drug_sql <- paste("
    SELECT
        d_exposure.person_id,
        d_exposure.drug_concept_id,
        d_standard_concept.concept_name as standard_concept_name,
        d_standard_concept.concept_code as standard_concept_code,
        d_standard_concept.vocabulary_id as standard_vocabulary
    FROM
        ( SELECT
            *
        FROM
            `drug_exposure` d_exposure
        WHERE
            (
                drug_concept_id IN (SELECT
                    DISTINCT ca.descendant_id
                FROM
```

```
                    `cb_criteria_ancestor` ca
            JOIN
                (SELECT
                    DISTINCT c.concept_id
                FROM
                    `cb_criteria` c
                JOIN
                    (SELECT
                        CAST(cr.id as string) AS id
                    FROM
                        `cb_criteria` cr
                    WHERE
                        concept_id IN (1111220, 1111706, 1112921,
1114620, 1123995, 1125449, 1137529, 1147878, 1152631, 1154161,
1154343, 1192218, 1196677, 1236744, 1237049, 1563413)
                        AND full_text LIKE '%_rank1]%'        ) a
                        ON (c.path LIKE CONCAT('%.', a.id, '.%')
                        OR c.path LIKE CONCAT('%.', a.id)
                        OR c.path LIKE CONCAT(a.id, '.%')
                        OR c.path = a.id)
                WHERE
                    is_standard = 1
                    AND is_selectable = 1) b
                    ON (ca.ancestor_id = b.concept_id)))
                AND (d_exposure.PERSON_ID IN (SELECT
                    distinct person_id
            FROM
                `cb_search_person` cb_search_person
            WHERE
                cb_search_person.person_id IN (SELECT
                    person_id
                FROM
                    `cb_search_person` p
                WHERE
                    has_whole_genome_variant = 1 )
                AND cb_search_person.person_id IN (SELECT
                    person_id
                FROM
                    `cb_search_person` p
                WHERE
                    has_ehr_data = 1 ) )
            )) d_exposure
    LEFT JOIN
        `concept` d_standard_concept
            ON d_exposure.drug_concept_id =
d_standard_concept.concept_id", sep="")

# Formulate a Cloud Storage destination path for the data exported
from BigQuery.
```

```r
# NOTE: By default data exported multiple times on the same day will
overwrite older copies.
#        But data exported on a different days will write to a new
location so that historical
#        copies can be kept as the dataset definition is changed.
drug_97024772_path <- file.path(
  Sys.getenv("WORKSPACE_BUCKET"),
  "bq_exports",
  Sys.getenv("OWNER_EMAIL"),
  strftime(lubridate::now(), "%Y%m%d"),  # Comment out this line if
you want the export to always overwrite.
  "drug_97024772",
  "drug_97024772_*.csv")
message(str_glue('The data will be written to {drug_97024772_path}.
Use this path when reading ',
                 'the data into your notebooks in the future.'))

# Perform the query and export the dataset to Cloud Storage as CSV
files.
# NOTE: You only need to run `bq_table_save` once. After that, you can
#        just read data from the CSVs in Cloud Storage.
bq_table_save(
  bq_dataset_query(Sys.getenv("WORKSPACE_CDR"),
dataset_97024772_drug_sql, billing = Sys.getenv("GOOGLE_PROJECT")),
  drug_97024772_path,
  destination_format = "CSV")


# Read the data directly from Cloud Storage into memory.
# NOTE: Alternatively you can `gsutil -m cp {drug_97024772_path}` to
copy these files
#        to the Jupyter disk.
read_bq_export_from_workspace_bucket <- function(export_path) {
  col_types <- cols(standard_concept_name = col_character(),
standard_concept_code = col_character(), standard_vocabulary =
col_character())
  bind_rows(
    map(system2('gsutil', args = c('ls', export_path), stdout = TRUE,
stderr = TRUE),
        function(csv) {
          message(str_glue('Loading {csv}.'))
          chunk <- read_csv(pipe(str_glue('gsutil cat {csv}')),
col_types = col_types, show_col_types = FALSE)
          if (is.null(col_types)) {
            col_types <- spec(chunk)
          }
          chunk
        }))
}
asthma_mild_drug_df <-
```

```
read_bq_export_from_workspace_bucket(drug_97024772_path)

unique(asthma_mild_drug_df$standard_concept_name)
```

The data will be written to gs://fc-secure-672eeb92-4859-4ed9-9f59-d4349f3534a0/bq_exports/micah_hysong@researchallofus.org/20250825/drug_97024772/drug_97024772_*.csv. Use this path when reading the data into your notebooks in the future.

Loading gs://fc-secure-672eeb92-4859-4ed9-9f59-d4349f3534a0/bq_exports/micah_hysong@researchallofus.org/20250825/drug_97024772/drug_97024772_000000000000.csv.

```
  [1] "pirbuterol acetate 0.2 MG/ACTUAT [Maxair]"

  [2] "104 ACTUAT nedocromil sodium 1.75 MG/ACTUAT Metered Dose
Inhaler [Tilade]"

  [3] "terbutaline sulfate 2.5 MG Oral Tablet [Brethine]"

  [4] "theophylline 600 MG"

  [5] "60 ACTUAT fluticasone propionate 0.23 MG/ACTUAT / salmeterol
0.021 MG/ACTUAT Metered Dose Inhaler"

  [6] "fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021
MG/ACTUAT Metered Dose Inhaler"

  [7] "28 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol
0.05 MG/ACTUAT Dry Powder Inhaler"

  [8] "Albuterol 0.2 MG Metered Dose Inhaler [Ventolin]"

  [9] "80 ACTUAT pirbuterol acetate 0.2 MG/ACTUAT Metered Dose Inhaler
[Maxair]"

 [10] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048
MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler"

 [11] "Albuterol 0.09 MG/ACTUAT Inhalant Solution"

 [12] "fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05
MG/ACTUAT Dry Powder Inhaler [Advair]"

 [13] "theophylline 300 MG Extended Release Oral Tablet"

 [14] "80 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler
[Ventolin]"
```

[15] "theophylline 300 MG Extended Release Oral Capsule"

[16] "terbutaline sulfate 5 MG Oral Tablet [Brethine]"

[17] "formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler"

[18] "zafirlukast 10 MG [Accolate]"

[19] "theophylline 600 MG Extended Release Oral Tablet [Uniphyl]"

[20] "60 ACTUAT aclidinium bromide 0.4 MG/ACTUAT / formoterol fumarate 0.012 MG/ACTUAT Dry Powder Inhaler [Duaklir]"

[21] "60 ACTUAT salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[22] "theophylline 300 MG Extended Release Oral Tablet [Pliva brand of Theophylline]"

[23] "80 ACTUAT levalbuterol 0.045 MG/ACTUAT Metered Dose Inhaler"

[24] "salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[25] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.05 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[26] "albuterol Oral Tablet [Proventil]"

[27] "zileuton"

[28] "112 ACTUAT cromolyn sodium 0.8 MG/ACTUAT Metered Dose Inhaler"

[29] "albuterol 2 MG Oral Tablet [Proventil]"

[30] "60 ACTUAT fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[31] "levalbuterol 0.103 MG/ML Inhalation Solution"

[32] "montelukast 10 MG"

[33] "60 ACTUAT fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[34] "metaproterenol sulfate 4 MG/ML Inhalation Solution"

[35] "theophylline 400 MG [Theo-24]"

[36] "theophylline 400 MG Extended Release Oral Capsule [Theo-24]"

[37] "60 ACTUAT fluticasone propionate 0.055 MG/ACTUAT / salmeterol

0.014 MG/ACTUAT Dry Powder Inhaler"

 [38] "200 ACTUAT levalbuterol 0.045 MG/ACTUAT Metered Dose Inhaler [Xopenex]"

 [39] "cromolyn sodium 10 MG/ML Inhalation Solution"

 [40] "Albuterol / Ipratropium Injectable Solution"

 [41] "theophylline 300 MG Oral Tablet"

 [42] "Sensor 200 ACTUAT albuterol 0.09 MG/ACTUAT Dry Powder Inhaler [ProAir]"

 [43] "terbutaline sulfate 2.5 MG Oral Tablet [Bricanyl]"

 [44] "cromolyn sodium 0.8 MG/ACTUAT Metered Dose Inhaler [Intal]"

 [45] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler [Dulera]"

 [46] "cromolyn sodium 40 MG/ML Ophthalmic Solution"

 [47] "60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

 [48] "theophylline 300 MG Extended Release Oral Capsule [Theo-24]"

 [49] "terbutaline sulfate 5 MG Oral Tablet [Bricanyl]"

 [50] "albuterol 1 MG Rectal Suppository"

 [51] "theophylline 250 MG"

 [52] "ipratropium 0.6 MG/ML Nasal Spray"

 [53] "60 ACTUAT fluticasone propionate 0.055 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

 [54] "14 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

 [55] "levalbuterol 0.21 MG/ML Inhalation Solution"

 [56] "montelukast 4 MG Oral Granules"

 [57] "nedocromil sodium 20 MG/ML Ophthalmic Solution"

 [58] "Sensor 60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

[59] "albuterol 4 MG Oral Tablet [Cobutolin]"

[60] "albuterol 0.21 MG/ML Inhalation Solution"

[61] "fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[62] "200 ACTUAT albuterol 0.09 MG/ACTUAT / ipratropium bromide 0.018 MG/ACTUAT Inhalation Spray [Combivent]"

[63] "montelukast 5 MG Chewable Tablet [Singulair]"

[64] "metaproterenol sulfate 10 MG"

[65] "albuterol / ipratropium Inhalation Solution"

[66] "60 ACTUAT fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[67] "theophylline 300 MG Extended Release Oral Tablet [Lasma]"

[68] "theophylline 200 MG [T-Phyl]"

[69] "zileuton 600 MG Oral Tablet [Zyflo]"

[70] "theophylline Injection"

[71] "ipratropium"

[72] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[73] "albuterol 2 MG/ML Inhalation Solution"

[74] "albuterol 0.417 MG/ML Inhalation Solution"

[75] "500 ML theophylline 0.8 MG/ML Injection"

[76] "theophylline 250 MG Oral Tablet"

[77] "theophylline 200 MG Oral Tablet"

[78] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[79] "formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler"

[80] "28 ACTUAT salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[81] "300 ACTUAT pirbuterol acetate 0.2 MG/ACTUAT Metered Dose

Inhaler [Maxair]"

 [82] "metaproterenol sulfate 20 MG Oral Tablet [Alupent]"

 [83] "zafirlukast 20 MG Oral Tablet"

 [84] "pirbuterol acetate 0.2 MG/ACTUAT Metered Dose Inhaler"

 [85] "theophylline 100 MG Extended Release Oral Capsule"

 [86] "theophylline 300 MG Extended Release Oral Tablet [Theodur]"

 [87] "cromolyn sodium 100 MG Oral Capsule"

 [88] "theophylline 400 MG Extended Release Oral Capsule [Uniphyl]"

 [89] "theophylline 200 MG Extended Release Oral Capsule"

 [90] "fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

 [91] "albuterol 4 MG [Vospire]"

 [92] "theophylline 100 MG Oral Tablet [Slo-Phyllin]"

 [93] "albuterol 4 MG Oral Tablet [Salbulin]"

 [94] "theophylline 350 MG"

 [95] "60 ACTUAT fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

 [96] "12 HR albuterol 4 MG Extended Release Oral Tablet [Proventil]"

 [97] "albuterol 5 MG/ML Inhalation Solution"

 [98] "albuterol 0.83 MG/ML Inhalation Solution [Proventil]"

 [99] "60 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[100] "60 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler"

[101] "ipratropium bromide 0.2 MG/ML Inhalation Solution [Atrovent]"

[102] "albuterol 0.1 MG/ACTUAT / ipratropium bromide 0.02 MG/ACTUAT Inhalation Spray"

[103] "60 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[104] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler"

[105] "theophylline 200 MG Extended Release Oral Tablet"

[106] "arformoterol 0.0075 MG/ML Inhalation Solution"

[107] "28 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[108] "120 ACTUAT formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler"

[109] "albuterol 0.1 MG/ML"

[110] "200 ACTUAT ipratropium bromide 0.018 MG/ACTUAT Metered Dose Inhaler"

[111] "nedocromil"

[112] "albuterol 0.5 MG/ML"

[113] "formoterol fumarate 0.01 MG/ML Inhalation Solution"

[114] "12 HR albuterol 4 MG Extended Release Oral Tablet"

[115] "80 ACTUAT pirbuterol acetate 0.2 MG/ACTUAT Metered Dose Inhaler"

[116] "zafirlukast 10 MG Oral Tablet [Accolate]"

[117] "theophylline 400 MG Extended Release Oral Tablet [Uniphyllin Continus]"

[118] "14 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[119] "12 HR zileuton 600 MG Extended Release Oral Tablet [Zyflo]"

[120] "albuterol 0.4 MG/ML Oral Solution"

[121] "120 ACTUAT fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[122] "formoterol fumarate 0.012 MG Inhalation Powder [Foradil]"

[123] "nedocromil sodium 20 MG/ML Ophthalmic Solution [Alocril]"

[124] "120 ACTUAT fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[125] "theophylline 200 MG"

[126] "albuterol 0.417 MG/ML Inhalation Solution [Accuneb]"

[127] "60 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler"

[128] "12 HR albuterol 8 MG Extended Release Oral Tablet"

[129] "120 ACTUAT fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[130] "fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[131] "120 ACTUAT fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[132] "albuterol 0.4 MG/ML Oral Solution [Ventolin]"

[133] "60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

[134] "metaproterenol"

[135] "albuterol 4 MG Oral Tablet"

[136] "theophylline Oral Tablet"

[137] "montelukast 4 MG Chewable Tablet"

[138] "200 ACTUAT albuterol 0.09 MG/ACTUAT Dry Powder Inhaler"

[139] "300 ACTUAT pirbuterol acetate 0.2 MG/ACTUAT Metered Dose Inhaler"

[140] "albuterol 5 MG/ML Inhalation Solution [Proventil]"

[141] "albuterol 2 MG Oral Tablet [Salbuvent]"

[142] "cromolyn sodium 5.2 MG/ACTUAT Metered Dose Nasal Spray"

[143] "14 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[144] "60 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[145] "formoterol Inhalation Solution"

[146] "theophylline 5.33 MG/ML Oral Solution [Elixophyllin]"

[147] "fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[148] "theophylline 200 MG Extended Release Oral Tablet [T-Phyl]"

[149] "Sensor 60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler [AirDuo]"

[150] "60 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[151] "200 ACTUAT ipratropium bromide 0.018 MG/ACTUAT Metered Dose Inhaler [Atrovent]"

[152] "theophylline 250 MG [Theolair]"

[153] "albuterol 0.2 MG/ML"

[154] "ipratropium bromide 0.021 MG/ACTUAT Metered Dose Nasal Spray [Atrovent]"

[155] "zafirlukast 20 MG"

[156] "fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT [Advair]"

[157] "60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[158] "guaifenesin 180 MG / theophylline 300 MG Oral Capsule"

[159] "theophylline"

[160] "albuterol Metered Dose Inhaler"

[161] "12 HR zileuton 600 MG Extended Release Oral Tablet"

[162] "theophylline 250 MG Extended Release Oral Tablet"

[163] "metaproterenol sulfate 2 MG/ML Oral Solution"

[164] "budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[165] "120 ACTUAT albuterol 0.1 MG/ACTUAT / ipratropium bromide 0.02 MG/ACTUAT Inhalation Spray [Combivent]"

[166] "theophylline 200 MG Extended Release Oral Capsule [Theo-24]"

[167] "60 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[168] "albuterol 0.83 MG/ML Inhalation Solution [Arm-A-Med]"

[169] "200 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler"

[170] "60 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[171] "cromolyn sodium 5.2 MG/ACTUAT Nasal Spray"

[172] "theophylline 5.33 MG/ML Oral Solution [Slo-Phyllin]"

[173] "nedocromil sodium 1.75 MG/ACTUAT [Tilade]"

[174] "pirbuterol"

[175] "60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[176] "60 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[177] "montelukast 10 MG [Singulair]"

[178] "albuterol 2 MG [Proventil]"

[179] "cromolyn sodium 20 MG Inhalation Powder"

[180] "cromolyn Inhalation Solution"

[181] "metaproterenol sulfate 50 MG/ML"

[182] "400 ACTUAT pirbuterol acetate 0.2 MG/ACTUAT Metered Dose Inhaler"

[183] "cromolyn sodium 20 MG/ML Oral Solution [Gastrocrom]"

[184] "fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[185] "fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[186] "60 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[187] "arformoterol 0.0075 MG/ML Inhalation Solution [Brovana]"

[188] "terbutaline 5 MG"

[189] "montelukast Oral Tablet"

[190] "cromolyn 0.04 MG/MG"

[191] "albuterol 2 MG"

[192] "cromolyn 0.04 MG/MG Ophthalmic Ointment"

[193] "theophylline 300 MG"

[194] "cromolyn sodium 10 MG/ML [Intal]"

[195] "1 ML terbutaline sulfate 1 MG/ML Injection"

[196] "fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[197] "levalbuterol 0.417 MG/ML Inhalation Solution [Xopenex]"

[198] "albuterol 0.2 MG Inhalation Powder"

[199] "120 ACTUAT albuterol 0.1 MG/ACTUAT / ipratropium bromide 0.02 MG/ACTUAT Inhalation Spray"

[200] "fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[201] "theophylline 450 MG Extended Release Oral Tablet [Theodur]"

[202] "60 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[203] "guaifenesin 10 MG/ML / pseudoephedrine hydrochloride 2 MG/ML / theophylline 10 MG/ML Oral Solution"

[204] "metaproterenol sulfate 6 MG/ML Inhalation Solution"

[205] "200 ACTUAT levalbuterol 0.045 MG/ACTUAT Metered Dose Inhaler"

[206] "120 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[207] "400 ACTUAT pirbuterol acetate 0.2 MG/ACTUAT Metered Dose Inhaler [Maxair]"

[208] "theophylline 400 MG Extended Release Oral Capsule"

[209] "albuterol 2 MG Oral Tablet [Ventolin]"

[210] "albuterol 0.83 MG/ML"

[211] "14 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[212] "albuterol 0.09 MG/ACTUAT Metered Dose Inhaler"

[213] "levalbuterol 2.5 MG/ML Inhalation Solution [Xopenex]"

[214] "budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[215] "theophylline 100 MG Extended Release Oral Tablet"

[216] "fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[217] "salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Serevent]"

[218] "montelukast 4 MG [Singulair]"

[219] "albuterol 4 MG"

[220] "ipratropium bromide 0.2 MG/ML Inhalation Solution"

[221] "28 ACTUAT salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Serevent]"

[222] "12 HR albuterol 8 MG Extended Release Oral Tablet [Vospire]"

[223] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler [Breztri]"
[224] "albuterol 0.09 MG/ACTUAT Metered Dose Inhaler [Ventolin]"

[225] "200 ACTUAT ipratropium bromide 0.017 MG/ACTUAT Metered Dose Inhaler"

[226] "60 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[227] "fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[228] "salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Serevent]"

[229] "theophylline 450 MG Extended Release Oral Tablet"

[230] "albuterol 2 MG Oral Tablet [Asmaven]"

[231] "terbutaline sulfate 1 MG/ML"

[232] "levalbuterol 2.5 MG/ML Inhalation Solution"

[233] "albuterol 2 MG [Ventolin]"

[234] "levalbuterol"

[235] "120 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[236] "albuterol 0.833 MG/ML / ipratropium bromide 0.167 MG/ML Inhalation Solution [DuoNeb]"

[237] "formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[238] "120 ACTUAT formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler [Bevespi]"

[239] "200 ACTUAT metaproterenol sulfate 0.65 MG/ACTUAT Metered Dose Inhaler"

[240] "ipratropium bromide 0.021 MG/ACTUAT Metered Dose Nasal Spray"

[241] "60 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[242] "60 ACTUAT salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Serevent]"

[243] "montelukast 5 MG [Singulair]"

[244] "terbutaline 2.5 MG"

[245] "theophylline 200 MG Oral Capsule"

[246] "albuterol 2 MG Oral Tablet"

[247] "theophylline 200 MG Extended Release Oral Tablet [Theodur]"

[248] "NDA020503 200 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler [Proventil]"

[249] "14 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[250] "fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[251] "albuterol 8 MG [Volmax]"

[252] "albuterol 1 MG"

[253] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler"
[254] "formoterol fumarate 0.012 MG Inhalation Powder"

[255] "zafirlukast 20 MG Oral Tablet [Accolate]"

[256] "zafirlukast 10 MG Oral Tablet"

[257] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Breyna]"

[258] "theophylline 200 MG Oral Tablet [Pliva brand of Theophylline]"

[259] "NDA020983 200 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler [Ventolin]"

[260] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[261] "montelukast 4 MG Oral Granules [Singulair]"

[262] "arformoterol Inhalation Solution"

[263] "montelukast 10 MG Oral Tablet"

[264] "zileuton 600 MG Oral Tablet"

[265] "nedocromil sodium 1.75 MG/ACTUAT Metered Dose Inhaler"

[266] "cromolyn sodium 40 MG/ML Ophthalmic Solution [Opticrom]"

[267] "120 ACTUAT budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Breyna]"

[268] "albuterol 4 MG Oral Tablet [Ventolin]"

[269] "levalbuterol 0.417 MG/ML Inhalation Solution"

[270] "60 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[271] "fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[272] "28 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler"
[273] "montelukast 10 MG Oral Tablet [Singulair]"

[274] "montelukast 4 MG Chewable Tablet [Singulair]"

[275] "theophylline 400 MG [Uniphyl]"

[276] "theophylline 100 MG"

[277] "albuterol Injectable Solution"

[278] "budesonide 0.08 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Breyna]"

[279] "formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler [Dulera]"

[280] "albuterol 2 MG Oral Tablet [Cobutolin]"

[281] "zafirlukast"

[282] "terbutaline sulfate 2.5 MG Oral Tablet"

[283] "terbutaline sulfate 5 MG Oral Tablet"

[284] "ipratropium bromide 0.042 MG/ACTUAT Metered Dose Nasal Spray [Atrovent]"

[285] "80 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler"

[286] "theophylline 100 MG Extended Release Oral Capsule [Slo-bid]"

[287] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.05 MG/ACTUAT Metered Dose Inhaler"

[288] "montelukast"

[289] "formoterol fumarate 0.01 MG/ML Inhalation Solution [Perforomist]"

[290] "formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.1 MG/ACTUAT Metered Dose Inhaler"

[291] "cromolyn sodium 5.2 MG/ACTUAT [Nasalcrom]"

[292] "albuterol 4 MG Oral Tablet [Proventil]"

[293] "theophylline 5.33 MG/ML Oral Solution"

[294] "theophylline 400 MG"

[295] "albuterol 0.21 MG/ML Inhalation Solution [Accuneb]"

[296] "theophylline 50 MG"

[297] "terbutaline Injection"

[298] "metaproterenol sulfate 10 MG Oral Tablet"

[299] "albuterol 4 MG [Volmax]"

[300] "cromolyn sodium 0.8 MG/ACTUAT [Intal]"

[301] "theophylline 300 MG Extended Release Oral Tablet [Theo-Time]"

[302] "cromolyn sodium 100 MG [Gastrocrom]"

[303] "albuterol 2 MG Oral Tablet [Salbulin]"

[304] "theophylline 100 MG Extended Release Oral Capsule [Theo-24]"

[305] "cromolyn sodium 40 MG/ML Ophthalmic Solution [Crolom]"

[306] "albuterol 4 MG [Proventil]"

[307] "ipratropium 0.6 MG/ML Nasal Spray [Atrovent]"

[308] "arformoterol"

[309] "28 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[310] "theophylline 300 MG Extended Release Oral Capsule [Slo-bid Gyrocaps]"

[311] "albuterol 0.4 MG/ML Oral Solution [Libetist]"

[312] "60 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[313] "albuterol 4 MG Oral Tablet [Salbuvent]"

[314] "salmeterol"

[315] "albuterol 0.09 MG/ACTUAT Metered Dose Inhaler [ProAir]"

[316] "28 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Advair]"

[317] "levalbuterol Inhalation Solution"

[318] "cromolyn sodium 5.2 MG/ACTUAT Metered Dose Nasal Spray [Nasalcrom]"

[319] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler"

[320] "theophylline 400 MG Extended Release Oral Tablet"

[321] "albuterol 0.83 MG/ML Inhalation Solution [Ventolin]"

[322] "albuterol 0.09 MG/ACTUAT Metered Dose Inhaler [Proventil]"

[323] "cromolyn sodium 0.8 MG/ACTUAT Metered Dose Inhaler"

[324] "cromolyn sodium 20 MG/ML"

[325] "60 ACTUAT fluticasone propionate 0.115 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler"

[326] "120 ACTUAT fluticasone propionate 0.23 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[327] "28 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler [Breztri]"
[328] "levalbuterol 0.21 MG/ML Inhalation Solution [Xopenex]"

[329] "Sensor 200 ACTUAT albuterol 0.09 MG/ACTUAT Dry Powder Inhaler"

[330] "albuterol 4 MG Oral Tablet [Asmaven]"

[331] "14 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[332] "albuterol 5 MG/ML Inhalation Solution [Ventolin]"

[333] "28 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[334] "theophylline 600 MG Extended Release Oral Tablet"

[335] "ritodrine hydrochloride 0.3 MG/ML Injectable Solution"

[336] "theophylline 400 MG Extended Release Oral Tablet [Uniphyl]"

[337] "terbutaline 0.2 MG/ACTUAT Metered Dose Inhaler"

[338] "montelukast 5 MG Chewable Tablet"

[339] "60 ACTUAT fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler [Wixela]"

[340] "levalbuterol 0.045 MG/ACTUAT Metered Dose Inhaler"

[341] "Sensor 60 ACTUAT fluticasone propionate 0.232 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[342] "ritodrine"

[343] "fluticasone propionate 0.1 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[344] "200 ACTUAT cromolyn sodium 0.8 MG/ACTUAT Metered Dose Inhaler [Intal]"

[345] "albuterol 5 MG/ML Inhalation Solution [Arm-A-Med]"

[346] "theophylline 300 MG Extended Release Oral Capsule [Pro-Vent]"

[347] "200 ACTUAT albuterol 0.09 MG/ACTUAT / ipratropium bromide 0.018 MG/ACTUAT Inhalation Spray"

[348] "albuterol 0.83 MG/ML Inhalation Solution [Airet]"

[349] "112 ACTUAT cromolyn sodium 0.8 MG/ACTUAT Metered Dose Inhaler [Intal]"

[350] "120 ACTUAT formoterol fumarate 0.005 MG/ACTUAT / mometasone furoate 0.2 MG/ACTUAT Metered Dose Inhaler"

[351] "terbutaline"

[352] "NDA020983 60 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler [Ventolin]"

[353] "80 ACTUAT levalbuterol 0.045 MG/ACTUAT Metered Dose Inhaler [Xopenex]"

[354] "Sensor 60 ACTUAT fluticasone propionate 0.113 MG/ACTUAT / salmeterol 0.014 MG/ACTUAT Dry Powder Inhaler"

[355] "cromolyn sodium 10 MG/ML Inhalation Solution [Intal]"

[356] "cromolyn"

[357] "NDA020503 200 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler"

[358] "albuterol Inhalation Solution"

[359] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0045 MG/ACTUAT Metered Dose Inhaler [Symbicort]"

[360] "terbutaline Oral Tablet [Brethine]"

[361] "levalbuterol 0.103 MG/ML Inhalation Solution [Xopenex]"

[362] "albuterol 0.833 MG/ML / ipratropium bromide 0.167 MG/ML Inhalation Solution"

[363] "cromolyn sodium 20 MG/ML Oral Solution"

[364] "ipratropium Inhalation Solution"

[365] "zafirlukast 20 MG [Accolate]"

[366] "NDA021457 200 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler [ProAir]"

[367] "NDA020983 60 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler"

[368] "NDA020983 200 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler"

[369] "60 ACTUAT fluticasone propionate 0.5 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[370] "200 ACTUAT ipratropium bromide 0.017 MG/ACTUAT Metered Dose Inhaler [Atrovent]"

[371] "theophylline 300 MG Oral Tablet [Quibron-T]"

[372] "12 HR albuterol 4 MG Extended Release Oral Tablet [Vospire]"

[373] "budesonide 0.16 MG/ACTUAT / formoterol fumarate 0.0048 MG/ACTUAT / glycopyrrolate 0.009 MG/ACTUAT Metered Dose Inhaler [Breztri]"
[374] "formoterol"

[375] "NDA021457 200 ACTUAT albuterol 0.09 MG/ACTUAT Metered Dose Inhaler"

[376] "120 ACTUAT fluticasone propionate 0.045 MG/ACTUAT / salmeterol 0.021 MG/ACTUAT Metered Dose Inhaler [Advair]"

[377] "200 ACTUAT albuterol 0.09 MG/ACTUAT Dry Powder Inhaler [ProAir]"

[378] "salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[379] "28 ACTUAT fluticasone propionate 0.25 MG/ACTUAT / salmeterol 0.05 MG/ACTUAT Dry Powder Inhaler"

[380] "theophylline 100 MG Extended Release Oral Tablet [Theo-Sav]"

[381] "200 ACTUAT cromolyn sodium 0.8 MG/ACTUAT Metered Dose Inhaler"

```
[382] "albuterol 0.83 MG/ML Inhalation Solution"

[383] "200 ACTUAT metaproterenol sulfate 0.65 MG/ACTUAT Metered Dose
Inhaler [Alupent]"

[384] "metaproterenol sulfate 50 MG/ML Inhalation Solution [Alupent]"

[385] "ipratropium bromide 0.042 MG/ACTUAT Metered Dose Nasal Spray"

[386] "albuterol"

[387] "120 ACTUAT budesonide 0.16 MG/ACTUAT / formoterol fumarate
0.0045 MG/ACTUAT Metered Dose Inhaler [Breyna]"

[388] "cromolyn sodium 100 MG"
```

```r
mild_asthma_drug_perscription_holders<-
unique(asthma_mild_drug_df$person_id)
length(mild_asthma_drug_perscription_holders)
```

```
[1] 106774
```

```r
asthma_drug_cases <- unique(c(steroid_perscription_holders,
mild_asthma_drug_perscription_holders))
length(asthma_drug_cases)
```

```
[1] 190174
```

Get those with Asthma Diagnosis

```r
library(tidyverse)
library(bigrquery)

# This query represents dataset "asthma_snomed" for domain "condition"
# and was generated for All of Us Controlled Tier Dataset v7
dataset_27096384_condition_sql <- paste("
    SELECT
        c_occurrence.person_id,
        c_occurrence.condition_concept_id,
        c_standard_concept.concept_name as standard_concept_name,
        c_standard_concept.concept_code as standard_concept_code,
        c_standard_concept.vocabulary_id as standard_vocabulary,
        c_occurrence.condition_start_datetime
    FROM
        ( SELECT
              *
          FROM
              `condition_occurrence` c_occurrence
          WHERE
```

```
            (
                condition_concept_id IN (SELECT
                    DISTINCT c.concept_id
                FROM
                    `cb_criteria` c
                JOIN
                    (SELECT
                        CAST(cr.id as string) AS id
                    FROM
                        `cb_criteria` cr
                    WHERE
                        concept_id IN (317009)
                        AND full_text LIKE '%_rank1]%'        ) a
                        ON (c.path LIKE CONCAT('%.', a.id, '.%')
                        OR c.path LIKE CONCAT('%.', a.id)
                        OR c.path LIKE CONCAT(a.id, '.%')
                        OR c.path = a.id)
                WHERE
                    is_standard = 1
                    AND is_selectable = 1)
            )
            AND (
                c_occurrence.PERSON_ID IN (SELECT
                    distinct person_id
                FROM
                    `cb_search_person` cb_search_person
                WHERE
                    cb_search_person.person_id IN (SELECT
                        person_id
                    FROM
                        `cb_search_person` p
                    WHERE
                        has_whole_genome_variant = 1 )
                    AND cb_search_person.person_id IN (SELECT
                        person_id
                    FROM
                        `cb_search_person` p
                    WHERE
                        has_ehr_data = 1 ) )
            )) c_occurrence
    LEFT JOIN
        `concept` c_standard_concept
            ON c_occurrence.condition_concept_id =
c_standard_concept.concept_id", sep="")

# Formulate a Cloud Storage destination path for the data exported
from BigQuery.
# NOTE: By default data exported multiple times on the same day will
overwrite older copies.
```

```r
#         But data exported on a different days will write to a new location so that historical
#         copies can be kept as the dataset definition is changed.
condition_27096384_path <- file.path(
  Sys.getenv("WORKSPACE_BUCKET"),
  "bq_exports",
  Sys.getenv("OWNER_EMAIL"),
  strftime(lubridate::now(), "%Y%m%d"),  # Comment out this line if you want the export to always overwrite.
  "condition_27096384",
  "condition_27096384_*.csv")
message(str_glue('The data will be written to {condition_27096384_path}. Use this path when reading ',
                 'the data into your notebooks in the future.'))

# Perform the query and export the dataset to Cloud Storage as CSV files.
# NOTE: You only need to run `bq_table_save` once. After that, you can
#       just read data from the CSVs in Cloud Storage.
bq_table_save(
  bq_dataset_query(Sys.getenv("WORKSPACE_CDR"),
dataset_27096384_condition_sql, billing =
Sys.getenv("GOOGLE_PROJECT")),
  condition_27096384_path,
  destination_format = "CSV")


# Read the data directly from Cloud Storage into memory.
# NOTE: Alternatively you can `gsutil -m cp {condition_27096384_path}`
to copy these files
#       to the Jupyter disk.
read_bq_export_from_workspace_bucket <- function(export_path) {
  col_types <- cols(standard_concept_name = col_character(),
standard_concept_code = col_character(), standard_vocabulary =
col_character())
  bind_rows(
    map(system2('gsutil', args = c('ls', export_path), stdout = TRUE,
stderr = TRUE),
        function(csv) {
          message(str_glue('Loading {csv}.'))
          chunk <- read_csv(pipe(str_glue('gsutil cat {csv}')),
col_types = col_types, show_col_types = FALSE)
          if (is.null(col_types)) {
            col_types <- spec(chunk)
          }
          chunk
        }))
}
asthma_condition_df <-
read_bq_export_from_workspace_bucket(condition_27096384_path)
```

```r
unique(asthma_condition_df$standard_concept_name)
```

The data will be written to gs://fc-secure-672eeb92-4859-4ed9-9f59-d4349f3534a0/bq_exports/micah_hysong@researchallofus.org/20250825/condition_27096384/condition_27096384_*.csv. Use this path when reading the data into your notebooks in the future.

Loading gs://fc-secure-672eeb92-4859-4ed9-9f59-d4349f3534a0/bq_exports/micah_hysong@researchallofus.org/20250825/condition_27096384/condition_27096384_000000000000.csv.

```
 [1] "Acute exacerbation of chronic obstructive airways disease with asthma"
 [2] "Aspirin exacerbated respiratory disease"

 [3] "Cough variant asthma"

 [4] "Aspirin-induced asthma"

 [5] "Intermittent asthma"

 [6] "Acute severe exacerbation of moderate persistent allergic asthma"
 [7] "Uncomplicated allergic asthma"

 [8] "Persistent asthma, well controlled"

 [9] "Chronic asthmatic bronchitis"

[10] "Late onset asthma"

[11] "Exacerbation of allergic asthma due to infection"

[12] "Acute exacerbation of intrinsic asthma"

[13] "Acute severe exacerbation of asthma"

[14] "Asthma in pregnancy"

[15] "Exacerbation of intermittent asthma"

[16] "Moderate persistent asthma"

[17] "Acute severe exacerbation of immunoglobin E-mediated allergic asthma"
[18] "IgE-mediated allergic asthma"

[19] "Intrinsic asthma"
```

[20] "Allergic bronchopulmonary aspergillosis"

[21] "Severe persistent asthma"

[22] "Asthma without status asthmaticus"

[23] "Acute severe exacerbation of severe persistent asthma"

[24] "Acute exacerbation of chronic asthmatic bronchitis"

[25] "Severe asthma"

[26] "Hay fever with asthma"

[27] "Uncomplicated severe persistent asthma"

[28] "Acute severe refractory exacerbation of asthma"

[29] "Non-IgE mediated allergic asthma"

[30] "Intermittent allergic asthma"

[31] "Intermittent asthma co-occurrent with allergic rhinitis"

[32] "Asthma-chronic obstructive pulmonary disease overlap syndrome"

[33] "Brittle asthma"

[34] "Mild persistent allergic asthma"

[35] "Childhood asthma"

[36] "Moderate persistent allergic asthma"

[37] "Exacerbation of mild persistent asthma"

[38] "Asthmatic bronchitis"

[39] "Seasonal asthma"

[40] "Acute severe exacerbation of mild persistent asthma"

[41] "Severe persistent allergic asthma"

[42] "Exacerbation of moderate persistent asthma"

[43] "Steroid dependent asthma"

[44] "Exacerbation of severe persistent asthma"

[45] "Intermittent asthma uncontrolled"

[46] "Uncomplicated mild persistent asthma"

[47] "Allergic asthma due to Dermatophagoides farinae"

[48] "Mild asthma"

[49] "Exercise-induced asthma"

[50] "Mild persistent asthma co-occurrent with allergic rhinitis"

[51] "Chronic obstructive asthma co-occurrent with acute exacerbation of asthma"

[52] "Severe uncontrolled persistent asthma"

[53] "Persistent asthma"

[54] "Acute severe exacerbation of intrinsic asthma"

[55] "Chemical-induced asthma"

[56] "Acute exacerbation of allergic asthma"

[57] "Intrinsic asthma without status asthmaticus"

[58] "Allergic asthma without status asthmaticus"

[59] "Moderate acute exacerbation of asthma"

[60] "Moderate asthma"

[61] "Moderate persistent asthma co-occurrent with allergic rhinitis"

[62] "Severe persistent asthma co-occurrent with allergic rhinitis"

[63] "Inhaled steroid-dependent asthma"

[64] "Mild persistent asthma"

[65] "Acute severe exacerbation of moderate persistent asthma"

[66] "Acute asthma"

[67] "Uncomplicated moderate persistent asthma"

[68] "Mild intermittent asthma"

[69] "Acute exacerbation of asthma co-occurrent with allergic rhinitis"

[70] "Uncomplicated asthma"

```
[71] "Allergic asthma"

[72] "Asthma"

# Count unique condition_start_datetime for each person_id
number_condition_entries <- asthma_condition_df %>%
  group_by(person_id) %>%
  summarise(unique_conditions = n_distinct(condition_start_datetime))

# Only those with at least two entries are cases
condition_entries_cases <-
number_condition_entries[number_condition_entries$unique_conditions>=2
, ]
nrow(condition_entries_cases)

[1] 40537

#Get cases before exclusion criteria
asthma_preliminary_cases <- intersect(asthma_drug_cases,
condition_entries_cases$person_id)
length(asthma_preliminary_cases)

[1] 36908
```

Case exclusion

```
library(tidyverse)
library(bigrquery)

# This query represents dataset "asthma_case_exclusion_1" for domain
"condition" and was generated for All of Us Controlled Tier Dataset v7
dataset_22769885_condition_sql <- paste("
    SELECT
        c_occurrence.person_id,
        c_occurrence.condition_concept_id,
        c_standard_concept.concept_name as standard_concept_name,
        c_standard_concept.concept_code as standard_concept_code,
        c_standard_concept.vocabulary_id as standard_vocabulary,
        c_occurrence.condition_start_datetime
    FROM
        ( SELECT
            *
        FROM
            `condition_occurrence` c_occurrence
        WHERE
            (
                condition_concept_id IN (SELECT
                    DISTINCT c.concept_id
                FROM
```

```sql
                    `cb_criteria` c
            JOIN
                (SELECT
                    CAST(cr.id as string) AS id
                FROM
                    `cb_criteria` cr
                WHERE
                    concept_id IN (192275, 255573, 261325, 315831,
4046868, 4151240, 4195694, 4284110, 4309320, 435514, 441267, 444084,
80809)
                    AND full_text LIKE '%_rank1]%'        ) a
                ON (c.path LIKE CONCAT('%.', a.id, '.%')
                OR c.path LIKE CONCAT('%.', a.id)
                OR c.path LIKE CONCAT(a.id, '.%')
                OR c.path = a.id)
            WHERE
                is_standard = 1
                AND is_selectable = 1)
            OR  condition_source_concept_id IN (SELECT
                DISTINCT c.concept_id
            FROM
                `cb_criteria` c
            JOIN
                (SELECT
                    CAST(cr.id as string) AS id
                FROM
                    `cb_criteria` cr
                WHERE
                    concept_id IN (44828100, 44830110)
                    AND full_text LIKE '%_rank1]%'        ) a
                ON (c.path LIKE CONCAT('%.', a.id, '.%')
                OR c.path LIKE CONCAT('%.', a.id)
                OR c.path LIKE CONCAT(a.id, '.%')
                OR c.path = a.id)
            WHERE
                is_standard = 0
                AND is_selectable = 1)
        )
        AND (
            c_occurrence.PERSON_ID IN (SELECT
                distinct person_id
            FROM
                `cb_search_person` cb_search_person
            WHERE
                cb_search_person.person_id IN (SELECT
                    person_id
                FROM
                    `cb_search_person` p
                WHERE
```

```r
                        has_whole_genome_variant = 1 )
                    AND cb_search_person.person_id IN (SELECT
                        person_id
                    FROM
                        `cb_search_person` p
                    WHERE
                        has_ehr_data = 1 ) )
            )) c_occurrence
    LEFT JOIN
        `concept` c_standard_concept
            ON c_occurrence.condition_concept_id =
c_standard_concept.concept_id", sep="")

# Formulate a Cloud Storage destination path for the data exported
from BigQuery.
# NOTE: By default data exported multiple times on the same day will
overwrite older copies.
#       But data exported on a different days will write to a new
location so that historical
#       copies can be kept as the dataset definition is changed.
condition_22769885_path <- file.path(
  Sys.getenv("WORKSPACE_BUCKET"),
  "bq_exports",
  Sys.getenv("OWNER_EMAIL"),
  strftime(lubridate::now(), "%Y%m%d"),  # Comment out this line if
you want the export to always overwrite.
  "condition_22769885",
  "condition_22769885_*.csv")
message(str_glue('The data will be written to
{condition_22769885_path}. Use this path when reading ',
                 'the data into your notebooks in the future.'))

# Perform the query and export the dataset to Cloud Storage as CSV
files.
# NOTE: You only need to run `bq_table_save` once. After that, you can
#       just read data from the CSVs in Cloud Storage.
bq_table_save(
  bq_dataset_query(Sys.getenv("WORKSPACE_CDR"),
dataset_22769885_condition_sql, billing =
Sys.getenv("GOOGLE_PROJECT")),
  condition_22769885_path,
  destination_format = "CSV")


# Read the data directly from Cloud Storage into memory.
# NOTE: Alternatively you can `gsutil -m cp {condition_22769885_path}`
to copy these files
#       to the Jupyter disk.
read_bq_export_from_workspace_bucket <- function(export_path) {
  col_types <- cols(standard_concept_name = col_character(),
```

```
standard_concept_code = col_character(), standard_vocabulary =
col_character())
  bind_rows(
    map(system2('gsutil', args = c('ls', export_path), stdout = TRUE,
stderr = TRUE),
        function(csv) {
          message(str_glue('Loading {csv}.'))
          chunk <- read_csv(pipe(str_glue('gsutil cat {csv}')),
col_types = col_types, show_col_types = FALSE)
          if (is.null(col_types)) {
            col_types <- spec(chunk)
          }
          chunk
        }))
}
case_exclusion_1 <-
read_bq_export_from_workspace_bucket(condition_22769885_path)

unique(case_exclusion_1$standard_concept_name)
```

The data will be written to gs://fc-secure-672eeb92-4859-4ed9-9f59-
d4349f3534a0/bq_exports/micah_hysong@researchallofus.org/20250825/
condition_22769885/condition_22769885_*.csv. Use this path when
reading the data into your notebooks in the future.

Loading
gs://fc-secure-672eeb92-4859-4ed9-9f59-d4349f3534a0/bq_exports/micah_h
ysong@researchallofus.org/20250825/condition_22769885/
condition_22769885_000000000000.csv.

  [1] "Rheumatoid arthritis of left hand"

  [2] "Rheumatoid arthritis of right shoulder"

  [3] "Rheumatoid aortitis"

  [4] "Maple-bark strippers' lung"

  [5] "Pulmonary insufficiency following surgery"

  [6] "Compensatory emphysema"

  [7] "Rheumatoid arthritis of elbow"

  [8] "Transplant rejection of cornea of left eye"

  [9] "Juvenile seropositive polyarthritis"

 [10] "Diabetes mellitus associated with cystic fibrosis"

[11] "Rheumatoid arthritis of left hip"

[12] "Vocal cord dysfunction"

[13] "Bird-fanciers' lung"

[14] "Rheumatoid arteritis"

[15] "Acute exacerbation of chronic obstructive airways disease with asthma"

[16] "Chronic bullous emphysema"

[17] "Chronic obstructive lung disease co-occurrent with acute bronchitis"

[18] "Chronic obliterative bronchiolitis"

[19] "Rheumatoid arthritis - hand joint"

[20] "Transplant failure of cornea of right eye"

[21] "Rheumatoid arthritis of cervical spine"

[22] "Acute rejection of lung transplant"

[23] "Bone marrow transplant rejection"

[24] "Chronic rejection of renal transplant"

[25] "Seropositive rheumatoid arthritis of multiple joints"

[26] "Subcutaneous rheumatoid nodule"

[27] "Bilateral rheumatoid arthritis of knees"

[28] "Sick building syndrome"

[29] "Centriacinar emphysema"

[30] "Lymphoproliferative disorder following transplantation"

[31] "Suberosis"

[32] "Transplant failure of cornea of left eye"

[33] "Rheumatoid osteoperiostitis"

[34] "Acute rejection of liver transplant"

[35] "Rheumatoid arthritis of distal radioulnar joint"

[36] "Rheumatoid arthritis of shoulder"

[37] "Rheumatoid arthritis of right knee"

[38] "Cardiac transplant failure"

[39] "Interstitial emphysema of lung"

[40] "Rheumatoid arthritis of right foot"

[41] "Cystic fibrosis without meconium ileus"

[42] "Farmers' lung"

[43] "Chronic rejection of liver transplant"

[44] "Acute rejection of pancreas transplant"

[45] "Bagassosis"

[46] "Rheumatoid arthritis of wrist"

[47] "Bone marrow transplant failure"

[48] "Asthma-chronic obstructive pulmonary disease overlap syndrome"

[49] "Alpha-1-antitrypsin deficiency"

[50] "Disorder of vocal cord"

[51] "Rheumatoid arthritis of left shoulder"

[52] "Rheumatoid arthritis of bilateral ankles"

[53] "Cystic fibrosis of the lung"

[54] "Emphysematous bleb of lung"

[55] "Chronic obstructive pulmonary disease with acute lower respiratory infection"
[56] "Congenital anomaly of lung"

[57] "Rheumatoid nodule of subcutaneous tissue of right hand"

[58] "Bilateral rheumatoid arthritis of feet"

[59] "Rheumatoid nodulosis"

[60] "Seronegative rheumatoid arthritis"

[61] "Acute respiratory distress syndrome"

[62] "Flare of rheumatoid arthritis"

[63] "Rheumatoid arthritis of bilateral wrists"

[64] "Bilateral rheumatoid arthritis of hands"

[65] "Moderate chronic obstructive pulmonary disease"

[66] "Rheumatoid factor positive rheumatoid arthritis of the shoulder"

[67] "Extra-articular rheumatoid process"

[68] "Rheumatoid arthritis of left foot"

[69] "Acute rejection of renal transplant - grade I"

[70] "Acute rejection of cardiac transplant"

[71] "Granuloma of vocal cords"

[72] "Transplanted organ failure"

[73] "Extrinsic allergic alveolitis"

[74] "Rheumatoid arthritis of foot"

[75] "Mushroom workers' lung"

[76] "Rheumatoid arthritis of right hand"

[77] "Acute rejection of renal transplant"

[78] "Lesion of vocal cord"

[79] "Renal transplant rejection"

[80] "Rheumatoid arthritis of hip"

[81] "Bronchial atresia with segmental pulmonary emphysema"

[82] "Rejection of pancreas transplant"

[83] "Rheumatoid carditis"

[84] "Cardiac transplant rejection"

[85] "Paraseptal emphysema"

[86] "Rheumatoid factor positive rheumatoid arthritis"

[87] "Lung transplant rejection"

[88] "Transplanted organ rejection"

[89] "End stage chronic obstructive airways disease"

[90] "Severe chronic obstructive pulmonary disease"

[91] "Heart-lung transplant failure and rejection"

[92] "Cystic fibrosis"

[93] "Felty's syndrome"

[94] "Liver transplant rejection"

[95] "Rheumatoid arthritis of left knee"

[96] "Acute infective exacerbation of chronic obstructive airways disease"

[97] "Atrophy of vocal cord"

[98] "Rheumatoid arthritis of knee"

[99] "Rheumatoid vasculitis"

[100] "Lymphoproliferative disorder following kidney transplant"

[101] "Mild chronic obstructive pulmonary disease"

[102] "Seronegative rheumatoid arthritis of multiple joints"

[103] "Panacinar emphysema"

[104] "Rheumatoid arthritis - ankle and/or foot"

[105] "Pulmonary insufficiency following trauma"

[106] "Exocrine pancreatic manifestation co-occurrent and due to cystic fibrosis"

[107] "Rheumatoid arthritis of multiple joints"

[108] "Transplant rejection of cornea of right eye"

[109] "Rheumatoid lung disease"

[110] "Rheumatoid arthritis of ankle"

[111] "Rheumatoid arthritis of right wrist"

[112] "Liver transplant failure"

[113] "Pulmonary emphysema"

[114] "Rheumatoid arthritis of left wrist"

[115] "Rheumatoid arthritis of first metatarsophalangeal joint"

[116] "Seropositive rheumatoid arthritis"

[117] "Acute exacerbation of chronic obstructive airways disease"

[118] "Rheumatoid arthritis of right hip"

[119] "Rheumatoid arthritis"

[120] "Failed renal transplant"

[121] "Chronic obstructive lung disease"

```r
library(tidyverse)
library(bigrquery)

# This query represents dataset "asthma_case_exclusion_1" for domain
"procedure" and was generated for All of Us Controlled Tier Dataset v7
dataset_15254378_procedure_sql <- paste("
    SELECT
        procedure.person_id,
        procedure.procedure_concept_id,
        p_standard_concept.concept_name as standard_concept_name,
        p_standard_concept.concept_code as standard_concept_code,
        p_standard_concept.vocabulary_id as standard_vocabulary,
        procedure.procedure_datetime
    FROM
        ( SELECT
            *
        FROM
            `procedure_occurrence` procedure
        WHERE
            (
                procedure_concept_id IN (SELECT
                    DISTINCT c.concept_id
                FROM
                    `cb_criteria` c
                JOIN
                    (SELECT
                        CAST(cr.id as string) AS id
                    FROM
                        `cb_criteria` cr
                    WHERE
                        concept_id IN (4208341)
                        AND full_text LIKE '%_rank1]%'        ) a
                        ON (c.path LIKE CONCAT('%.', a.id, '.%')
                        OR c.path LIKE CONCAT('%.', a.id)
```

```
                            OR c.path LIKE CONCAT(a.id, '.%')
                            OR c.path = a.id)
                    WHERE
                        is_standard = 1
                        AND is_selectable = 1)
                )
                AND (
                    procedure.PERSON_ID IN (SELECT
                        distinct person_id
                    FROM
                        `cb_search_person` cb_search_person
                    WHERE
                        cb_search_person.person_id IN (SELECT
                            person_id
                        FROM
                            `cb_search_person` p
                        WHERE
                            has_whole_genome_variant = 1 )
                        AND cb_search_person.person_id IN (SELECT
                            person_id
                        FROM
                            `cb_search_person` p
                        WHERE
                            has_ehr_data = 1 ) )
                )) procedure
        LEFT JOIN
            `concept` p_standard_concept
                ON procedure.procedure_concept_id =
p_standard_concept.concept_id", sep="")

# Formulate a Cloud Storage destination path for the data exported
from BigQuery.
# NOTE: By default data exported multiple times on the same day will
overwrite older copies.
#       But data exported on a different days will write to a new
location so that historical
#       copies can be kept as the dataset definition is changed.
procedure_15254378_path <- file.path(
  Sys.getenv("WORKSPACE_BUCKET"),
  "bq_exports",
  Sys.getenv("OWNER_EMAIL"),
  strftime(lubridate::now(), "%Y%m%d"),  # Comment out this line if
you want the export to always overwrite.
  "procedure_15254378",
  "procedure_15254378_*.csv")
message(str_glue('The data will be written to
{procedure_15254378_path}. Use this path when reading ',
                 'the data into your notebooks in the future.'))
```

```r
# Perform the query and export the dataset to Cloud Storage as CSV
files.
# NOTE: You only need to run `bq_table_save` once. After that, you can
#       just read data from the CSVs in Cloud Storage.
bq_table_save(
  bq_dataset_query(Sys.getenv("WORKSPACE_CDR"),
dataset_15254378_procedure_sql, billing =
Sys.getenv("GOOGLE_PROJECT")),
  procedure_15254378_path,
  destination_format = "CSV")


# Read the data directly from Cloud Storage into memory.
# NOTE: Alternatively you can `gsutil -m cp {procedure_15254378_path}`
to copy these files
#       to the Jupyter disk.
read_bq_export_from_workspace_bucket <- function(export_path) {
  col_types <- cols(standard_concept_name = col_character(),
standard_concept_code = col_character(), standard_vocabulary =
col_character())
  bind_rows(
    map(system2('gsutil', args = c('ls', export_path), stdout = TRUE,
stderr = TRUE),
        function(csv) {
          message(str_glue('Loading {csv}.'))
          chunk <- read_csv(pipe(str_glue('gsutil cat {csv}')),
col_types = col_types, show_col_types = FALSE)
          if (is.null(col_types)) {
            col_types <- spec(chunk)
          }
          chunk
        }))
}
case_exclusion_2 <-
read_bq_export_from_workspace_bucket(procedure_15254378_path)

unique(case_exclusion_2$standard_concept_name)

The data will be written to gs://fc-secure-672eeb92-4859-4ed9-9f59-
d4349f3534a0/bq_exports/micah_hysong@researchallofus.org/20250825/
procedure_15254378/procedure_15254378_*.csv. Use this path when
reading the data into your notebooks in the future.

Loading
gs://fc-secure-672eeb92-4859-4ed9-9f59-d4349f3534a0/bq_exports/micah_h
ysong@researchallofus.org/20250825/procedure_15254378/
procedure_15254378_000000000000.csv.
```

```
 [1] "Donor renal transplantation"    "Orthotopic liver transplant"
 [3] "Cadaveric renal transplant"      "Autotransplantation of kidney"
 [5] "Transplantation of pancreas"     "Transplantation of heart"
 [7] "Single lung transplant"          "Double lung transplant"
 [9] "Homotransplant of pancreas"      "Transplantation of liver"
[11] "Transplant of lung"              "Live donor renal transplant"
[13] "Transplant of kidney"            "Heterotopic liver transplant"
```

```r
asthma_case_exclusion <- unique(c(case_exclusion_1$person_id,
case_exclusion_2$person_id))
length(asthma_case_exclusion)
```

```
[1] 36228
```

```r
asthma_cases<-setdiff(asthma_preliminary_cases, asthma_case_exclusion)
length(asthma_cases)
```

```
[1] 25296
```

Get Controls

```r
# This snippet assumes that you run setup first

# This code copies a file from your Google Bucket into a dataframe

# replace 'test.csv' with the name of the file in your google bucket
(don't delete the quotation marks)
name_of_file_in_bucket <- 'Demographic_and_ancestry_covariates.csv'

##################################################################
##
##
################# DON'T CHANGE FROM HERE
############################
##
##################################################################
##

# Get the bucket name
my_bucket <- Sys.getenv('WORKSPACE_BUCKET')

# Copy the file from current workspace to the bucket
system(paste0("gsutil cp ", my_bucket, "/data/",
name_of_file_in_bucket, " ."), intern=T)

# Load the file into a dataframe
demographics  <- read_csv(name_of_file_in_bucket)
```

```
character(0)
```

```
Rows: 162193 Columns: 28
— Column specification
━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
Delimiter: ","
chr  (8): SexGender, income, education, where_born, military,
healthcare, di...
dbl  (9): person_id, race_unknown, age_today, LGBTQIA, ehr_length,
relative_...
lgl  (8): AIAN, Asian, Black, Mid, Multiple, PI, White, His
date (3): date_of_birth, min_date, max_date

ℹ Use `spec()` to retrieve the full column specification for this data.
ℹ Specify the column types or set `show_col_types = FALSE` to quiet
this message.

library(tidyverse)
library(bigrquery)

# This query represents dataset "asthma_survey" for domain "survey"
and was generated for All of Us Controlled Tier Dataset v8
dataset_39470085_survey_sql <- paste("
    SELECT
        answer.person_id,
        answer.survey_datetime,
        answer.survey,
        answer.question_concept_id,
        answer.question,
        answer.answer_concept_id,
        answer.answer,
        answer.survey_version_concept_id,
        answer.survey_version_name
    FROM
        `ds_survey` answer
    WHERE
        (
            question_concept_id IN (836815)
        )
        AND (
            answer.PERSON_ID IN (SELECT
                distinct person_id
            FROM
                `cb_search_person` cb_search_person
            WHERE
                cb_search_person.person_id IN (SELECT
                    person_id
                FROM
                    `cb_search_person` p
                WHERE
                    has_whole_genome_variant = 1 )
                AND cb_search_person.person_id IN (SELECT
```

```r
                    person_id
                FROM
                    `cb_search_person` p
                WHERE
                    has_ehr_data = 1 ) )
        )", sep="")

# Formulate a Cloud Storage destination path for the data exported
from BigQuery.
# NOTE: By default data exported multiple times on the same day will
overwrite older copies.
#       But data exported on a different days will write to a new
location so that historical
#       copies can be kept as the dataset definition is changed.
survey_39470085_path <- file.path(
  Sys.getenv("WORKSPACE_BUCKET"),
  "bq_exports",
  Sys.getenv("OWNER_EMAIL"),
  strftime(lubridate::now(), "%Y%m%d"),  # Comment out this line if
you want the export to always overwrite.
  "survey_39470085",
  "survey_39470085_*.csv")
message(str_glue('The data will be written to {survey_39470085_path}.
Use this path when reading ',
                 'the data into your notebooks in the future.'))

# Perform the query and export the dataset to Cloud Storage as CSV
files.
# NOTE: You only need to run `bq_table_save` once. After that, you can
#       just read data from the CSVs in Cloud Storage.
bq_table_save(
  bq_dataset_query(Sys.getenv("WORKSPACE_CDR"),
dataset_39470085_survey_sql, billing = Sys.getenv("GOOGLE_PROJECT")),
  survey_39470085_path,
  destination_format = "CSV")


# Read the data directly from Cloud Storage into memory.
# NOTE: Alternatively you can `gsutil -m cp {survey_39470085_path}` to
copy these files
#       to the Jupyter disk.
read_bq_export_from_workspace_bucket <- function(export_path) {
  col_types <- cols(survey = col_character(), question =
col_character(), answer = col_character(), survey_version_name =
col_character())
  bind_rows(
    map(system2('gsutil', args = c('ls', export_path), stdout = TRUE,
stderr = TRUE),
        function(csv) {
          message(str_glue('Loading {csv}.'))
```

```
        chunk <- read_csv(pipe(str_glue('gsutil cat {csv}')),
col_types = col_types, show_col_types = FALSE)
        if (is.null(col_types)) {
            col_types <- spec(chunk)
        }
        chunk
    }))
}
survey_df <-
read_bq_export_from_workspace_bucket(survey_39470085_path)

unique(survey_df$answer)
```

The data will be written to gs://fc-secure-672eeb92-4859-4ed9-9f59-d4349f3534a0/bq_exports/micah_hysong@researchallofus.org/20250825/survey_39470085/survey_39470085_*.csv. Use this path when reading the data into your notebooks in the future.

```
asthma_survey<-survey_df[survey_df$answer == "Including yourself, who
in your family has had asthma? - Self",]
asthma_survey<-unique(asthma_survey$person_id)
length(asthma_survey)

exclude<- unique(c(number_condition_entries$person_id,
asthma_drug_cases, asthma_case_exclusion, asthma_survey))
length(exclude)

controls<-setdiff(demographics$person_id, exclude)
length(controls)
```

Make Case Control DF

```
df_cases <- data.frame(
  person_id = asthma_cases,
  status = 1
)

df_controls <- data.frame(
  person_id = controls,
  status = 0
)

final_df <- rbind(df_cases, df_controls)
nrow(final_df)
n_distinct(final_df$person_id)

# This snippet assumes that you run setup first
```

```r
# This code saves your dataframe into a csv file in a "data" folder in
Google Bucket

# Replace df with THE NAME OF YOUR DATAFRAME
my_dataframe <- final_df

# Replace 'test.csv' with THE NAME of the file you're going to store
in the bucket (don't delete the quotation marks)
destination_filename <- 'eMERGE_asthma_case_control_df.csv'

###############################################################################
##
##
################ DON'T CHANGE FROM HERE
###############################
##
###############################################################################
##

# store the dataframe in current workspace
write_excel_csv(my_dataframe, destination_filename)

# Get the bucket name
my_bucket <- Sys.getenv('WORKSPACE_BUCKET')

# Copy the file from current workspace to the bucket
system(paste0("gsutil cp ./", destination_filename, " ", my_bucket,
"/data/"), intern=T)

# Check if file is in the bucket
system(paste0("gsutil ls ", my_bucket, "/data/*.csv"), intern=T)
```