1. Merging the two tables i.e. procedure\_occurence and concept

SELECT

  quantity,

  provider\_id,

  person\_id,

  procedure\_dat,

  procedure\_concept\_id,

  concept\_name,

  domain\_id

FROM

  `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.procedure\_occurrence`

JOIN

  `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.concept`

ON

  concept\_id = procedure\_concept\_id

LIMIT

  1000

1. Finding the number of patients from the concept table who have undergone knee replacement.

SELECT concept\_id, concept\_name, domain\_id FROM `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.concept`

WHERE REGEXP\_CONTAINS(concept\_name, '(?i).\*knee replacement\*')

LIMIT 1000

1. Validating the concept id of the patients whether it’s a knee replacement surgery concept or not.

SELECT concept\_id, concept\_name, domain\_id FROM `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.concept`

WHERE concept\_id = 2005904

LIMIT 1000

1. Using concatenation for finding the birth date of the patients to find out their age.

SELECT

cast(CONCAT(year\_of\_birth,'-', month\_of\_birth, '-', day\_of\_birth) as date) as birth\_date

FROM `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.person`

LIMIT 1000

1. Joining the column birth date in the procedure occurrence table.

With b as

(SELECT

person\_id,

cast(CONCAT(year\_of\_birth,'-', month\_of\_birth, '-', day\_of\_birth) as date) as birth\_date,

FROM `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.person` )

Select

o.person\_id,

procedure\_concept\_id,

birth\_date,

procedure\_dat

FROM `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.procedure\_occurrence` as o

JOIN

b

ON b.person\_id = o.person\_id

LIMIT 1000

1. Finding out the average age of patients undergoing the total knee replacement.

With b as

(SELECT

person\_id,

cast(CONCAT(year\_of\_birth,'-', month\_of\_birth, '-', day\_of\_birth) as date) as birth\_date,

FROM `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.person` )

Select

o.person\_id,

procedure\_concept\_id,

birth\_date,

procedure\_dat,

DATE\_DIFF(o.procedure\_dat, b.birth\_date, year) as age\_at\_procedure

FROM `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.procedure\_occurrence` as o

JOIN

b

ON b.person\_id = o.person\_id

WHERE procedure\_concept\_id = 2005904

LIMIT 1000

/\*Creating a sub query transforming the raw healthcare claims data to an aggregated table \*/

With Performance\_Year\_quarter as

( SELECT p.provider\_id, CAST(CONCAT(EXTRACT(year FROM p.procedure\_dat),"-",EXTRACT(quarter FROM p.procedure\_dat)) as string) AS Year\_quarter,

SUM(c.total\_paid) as Actual\_performance

/\* The SUM function is used to aggregate the total amount paid \*/

FROM `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.procedure\_occurrence` AS p

/\* This is our first data source, containing the raw healthcare claims data \*/

JOIN `bigquery-public-data.cms\_synthetic\_patient\_data\_omop.cost` AS c

/\* In our source dataset, the costs are stored in a separate fact table, so we need to join with that table in order to retrieve the costs \*/

ON p.visit\_occurrence\_id = c.cost\_event\_id

where p.provider\_id in (174686, 91039, 103261, 89349)

/\*We are going to limit the query to only these four providers, as our target dataset only contains these four providers. We filter them based on their unique provider\_id \*/

GROUP BY p.provider\_id, Year\_quarter

/\* The group by function is required to aggregate our data by provider\_id and Year\_quarter \*/

order by Year\_quarter asc, p.provider\_id asc

/\* This is where the sub query ends and the actual query begins \*/

Select p.provider\_id, p.Year\_quarter, p.Actual\_performance, t.Target, Round(( p.Actual\_performance / t.Target),2) as Percentage\_realized

/\*We select the relevant columns from two different sources. Notice that there is a new column calculating the realized percentage \*/

from Performance\_Year\_quarter as p Join `NAME\_OF\_YOUR\_PROJECT.NAME\_OF\_YOUR\_DATASET.Quarterly\_targets` as t

on p.provider\_id = t.provider\_id and p.Year\_quarter = t.Year\_quarter

/\*We use two join keys to perfectly align our data \*/