**Identifying Diagnosis Concepts in OMOP**

1. Given the ICD-10-CM code I48.91 (Unspecified Atrial Fibrillation), find the OMOP standard concept equivalent. Provide the concept ID of the standard concept and the SQL queries you used to arrive at your answer.
2. Concept ID 36713111 is the standard concept for “Osteoarthritis of the right knee joint.” I would like to use this code in a concept set for osteoarthritis in general—but the right knee joint code is too specific. Use the CONCEPT and CONCEPT\_ANCESTOR tables to find the standard code for Osteoarthritis, starting from concept ID 36713111. Provide the standard concept ID for Osteoarthritis and the SQL queries you used to arrive at your answer.
3. Now that we know the code for Osteoarthritis, write a SQL query to pull back the root Osteoarthritis concept and all of its descendants from the CONCEPT table. Provide the number of descendants and the SQL queries you used to arrive at your answer.

**Identifying Medication Concepts in OMOP**

1. Concept ID 37499833 is the standard concept for the branded drug Trijardy XR, a type II diabetes drug. Write a SQL query to identify the three active ingredients of Trijardy XR. (Hint: remember that drug ingredients are ancestors to the drugs that contain them.) Provide the names of the three ingredients and the SQL queries you used to get your answer.
2. Linagliptin is an ingredient in Trijardy, but it is used as an ingredient in other drugs as well. Write a SQL query to pull back all *branded*drugs in which linagliptin is an ingredient. (Hint: You can filter the CONCEPT table to branded drugs only by looking for CONCEPT\_CLASS\_ID = ‘Branded Drug’). Provide the SQL query you used to get your answer.

**Running Analytical Queries in OMOP**

1. Using the CONCEPT and CONDITION\_OCCURRENCE tables, how many unique patients had a diagnosis for COVID-19 (ICD-10-CM U07.1) in March of 2020? Write the number of patients and show the code that you used. (Hint: remember to convert that ICD-10 code to its OMOP standard equivalent as your first step.)
2. There are lots of different LOINC codes for COVID tests, but for this example let’s pretend there is only one: 94531-1 (standard OMOP concept ID = 706158). Using the MEASUREMENT table, how many unique patients had at least one COVID test using this code in March of 2020? Write the number of patients and show the code that you used.
3. Adapting the query from the prior question, how many unique patients had at least one COVID test in 2020 with a result of “Detected”? (Hint: Check the VALUE\_SOURCE\_VALUE field for the result.) Write the number of patients and show the code that you used.