# 1. Macros and Loops

There is a dataset called CLAIMS with columns PTID (patient ID), CLMID (claim ID), and STATE (USA state). There is a function called *state\_report(state=)* that takes a USA state as input. Create a variable with all the distinct states from the dataset. Loop through the variable, running *state­\_report()* on each state from the variable.

# 2. Feasibility Request

## Data Contents

**Diagnosis Table Contents**

**Data set name: dx**

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Description** | **Format** | **Examples** |
| patid | Patient ID (unique for each patient) | Character | BC4584024 |
| clmid | Claim ID | Numeric | 8745541 |
| dx\_ver | ICD Diagnosis Version | Numeric | 9, 10 |
| diag | ICD Diagnosis Code (no periods) | Character | 54101, C415 |
| dos | Date of Service | Numeric (Date) | 2020/12/14 |

**Procedure Table Contents**

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Description** | **Format** | **Examples** |
| patid | Patient ID (unique for each patient) | Character | BC4584024 |
| clmid | Claim ID | Numeric | 8745541 |
| prx\_ver | ICD Diagnosis Version | Numeric | 9, 10 |
| prx1 | ICD Procedure Code 1 (no periods) | Character | 54101, C415 |
| prx2 | ICD Procedure Code 2 (no periods) | Character | 54101, C415 |
| prx3 | ICD Procedure Code 3 (no periods) | Character | 54101, C415 |
| prx4 | ICD Procedure Code 4 (no periods) | Character | 54101, C415 |
| prx5 | ICD Procedure Code 5 (no periods) | Character | 54101, C415 |
| dos | Date of Service | Numeric (Date) | 2020/12/14 |

**Data set name: prx**

**Pharmacy Claims Contents**

**Data set name: rx**

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Description** | **Format** | **Examples** |
| patid | Patient ID (unique for each patient) | Character | BC4584024 |
| clmid | Claim ID | Numeric | 8745541 |
| ndc | NDC (11 digits, no hyphens or spaces) | Character | 48756985231 |
| days | Number of days for the prescription | Numeric | 30 |
| qty | Number of pills prescribed | Numeric | 60 |
| strength | Strength of the medication | Character | 25 MG |
| dos | Date the prescription was filled | Numeric (Date) | 2020/10/14 |

## Request

We are looking for diabetic patients who then subsequently had heart surgery. We do not want to include patients who had cancer. The study period is from 2009 to 2019.

We want to see what diabetes treatments the patients were taking from index to heart surgery. Do not exclude diabetes treatments that began after index and continued after heart surgery.

Inclusion criteria:

* Patients with 2 diagnosis of diabetes at least 60 days apart. The later diagnosis would be considered the index date.
  + For example, if the patient has 3 diagnosis with the second 20 days after the first and the third 80 days after the first, include this patient. The first and the third diagnosis were at least 60 days apart. The third diagnosis would be the index date.
* Patients with heart surgery at least 1 year (365 days) after index date.

Exclusion Criteria:

* Remove patients that had cancer before index date.

**Code List**

|  |  |  |
| --- | --- | --- |
| **Diagnosis/ Procedure** | **ICD9 Code** | **ICD10 Code** |
| Diabetes | 250 | E08, E09, E10, E11, E13 |
| Heart Surgery | 1641 | C380, C452 |
| Cancer | 140 – 239 | C00 – D49 |

**NDC List**

|  |  |
| --- | --- |
| **Generic Name** | **NDC** |
| Glipizide | 71335003905, 71335159201, 7133515922 |
| Metformin | 64764310007, 64764155060 |
| Acarbose | 47781342001, 72789013260 |

Create a table showing the number of patients who took diabetes treatments. Do not worry about table formatting.

**Table 1: Patient Treatment**

|  |  |  |
| --- | --- | --- |
| Treatment | N | Percent |
| Glipizide |  |  |
| Metformin |  |  |
| Acarbose |  |  |