Data Exercise

**Overview:**

The data exercise represents an example of the type of data work we complete. We estimate that the data exercise will take two to three hours to complete. Please use whatever statistical programming language, programming language, or data manipulation tool you are most comfortable with (SAS, R, SPSS, STATA, Python, SQL, etc).

This exercise will evaluate your ability to build a cohort of patients and calculate some metrics related to that cohort. You should have the following:

* 5 Datasets, all data you need is found within the datasets provided.
* A data dictionary listing the datasets and the fields contained in each dataset, along with a description of each field

**Part 1: Assembling the project cohort**

The project goal is to identify patients seen for drug overdose, determine if they were prescribed opioids at the time of the overdose, and if they had any readmissions for drug overdose .

Your task is to assemble the study cohort by identifying encounters that meet the following criteria:

1. The patient’s visit is an encounter for drug overdose
2. The hospital encounter occurs after July 15, 1999
3. The patient’s age at time of encounter is between 18 and 35

**Part 2: Creating Additional Fields**

With your drug overdose encounter, create the following indicators:

1. DEATH\_AT\_VISIT\_IND: 1 if patient died during the drug overdose encounter, 0 if the patient died at a different time, left as N/A if the patient has not died
2. COUNT\_CURRENT\_MEDS: count of active medications the patient was prescribed to at the time of the drug overdose encounter
3. CURRENT\_OPIOID\_IND: 1 if the patient was currently prescribed to at least one active medication on the Opioids List (provided) at the time of the drug overdose encounter
4. READMISSION\_180\_DAY\_IND: 1 if the patient was readmitted for drug overdose within 180 days of discharge from the origin drug overdose encounter
5. READMISSION\_90\_DAY\_IND: 1 if the patient was readmitted for drug overdose within 90 days of discharge from the origin drug overdose encounter
6. READMISSION\_30\_DAY\_IND: 1 if the patient was readmitted for drug overdose within 30 days of discharge from the origin drug overdose encounter,0 if nor
7. FIRST\_READMISSION\_DATE: The date of the first readmission for drug overdose. Field should be left as N/A if no readmission for drug overdose within 180 days

**Part 3: Export the data set into a csv file**

Export a dataset containing these required fields:

|  |  |  |
| --- | --- | --- |
| Field name | Field Description | Data Type |
| PATIENT\_ID | Patient identifier | Character String |
| ENCOUNTER\_ID | Visit identifier | Character string |
| HOSPITAL\_ENCOUNTER\_DATE | Beginning of hospital encounter date | Date/time |
| AGE\_AT\_VISIT | Patient age at admission | Num |
| DEATH\_AT\_VISIT\_IND | Indicator if the patient died during the drug overdose encounter. Leave N/A if patient has not died, | 0 /1 |
| COUNT\_CURRENT\_MEDS | Count of active medications the patient was perbscribed to at the time of the drug overdose encounter | Num |
| CURRENT\_OPIOID\_IND | Indicator if the patient was perscribed to an active medication on the Opioids List at the time of the drug overdose encounter | 0/1 |
| READMISSION\_180\_DAY\_IND | Indicator if the patient was readmitted for drug overdose within 180 days of discharge from the origin drug overdose encounter | 0/1 |
| READMISSION\_90\_DAY\_IND | Indicator if the patient was readmitted for drug overdose within 90 days of discharge from the origin drug overdose encounter | 0/1 |
| READMISSION\_30\_DAY\_IND | Indicator if the patient was readmitted for drug overdose within 30 days of discharge from the origin drug overdose encounter | 0/1 |
| FIRST\_READMISSION\_DATE | Date of the first readmission for drug overdose within 180 days. Leave N/A if no readmissions for drug overdose within 180 days. | Date/time |

**Opioids List:**

* Hydromorphone 325Ml
* Fentanyl – 100 MCG
* Oxycodone-acetaminophen 100 Ml

**Submission Guidelines**

Upon completion please email the following to DataRecruiting@email.chop.edu:

1. Data Exercise output dataset (.csv)

2. Data Exercise code (text file)

Good luck!