Enclosed in this folder is a dataset that has been deidentified on MRN (medical record number), ENC\_NO, and ADT\_DTTM. Note that only masked identifiers are included for this exercise.

The attached data file contains information on cardiac intensive care unit (also known as CICU or CCU) admissions/discharges/transfers (ADT) since December 1, 2020 up until September 1, 2022. (Note: ICU = intensive care unit, which for this exercise can be considered the same as CCU which is a type of ICU)

For this assessment, the following is requested:

1. A new field called “FIRST\_ICU\_ADMISSION” that identifies the first ICU admission date per **encounter**
2. A new field called “FIRST\_ICU\_DISCHARGE” that identifies first ICU discharge date per **encounter**
3. A new field called “FIRST\_ICU\_LOS” that identifies length of stay (LOS) **in hours** of first ICU for the **encounter** above

Definitions:

1. MRN\_hidden = unique identifier for patient (duplication means same patient)
2. ENC\_NO\_hidden = unique identifier for encounter (duplication means same encounter)
3. ADT\_EVNT\_NM = Describes the event (row) as either ADMISSION, TRANSFER OUT, or DISCHARGE
   1. Admission = admission to the hospital, not necessarily the ICU.
   2. Transfer out = means the patient moved within the hospital
   3. Discharge = patient was discharged from the hospital entirely
4. FROM\_DEPT = the department the patient moved out of OR (operating room) if ADT\_EVNT\_NM is ADMISSION, this is the department the patient started
5. ADT\_DTTM\_hidden = datetime of the admission/discharge/transfer
6. TO\_DEPT = the department the patient is moving to.
   1. Admission and discharge will only have data in FROM\_DEPT

Notes:

1. If LOS is <= 1 hour AND both FROM\_DEPT and TO\_DEPT contain “ICU”, then continue as if they haven’t left the ICU.
2. For anyone that has been admitted to the ICU and is still there, use “10/3/2022” as the discharge date.
3. Some people have multiple ICU visits during the same hospitalization. I am only looking for the first.
4. You will have to group by MRN\_hidden and ENC\_NO\_hidden
5. For this project, ENC\_NO\_hidden is not an incremental number so do not sort by it.

To help guide, two examples are provided below from the data sheet that you can use as reference:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MRN\_hidden | ENC\_NO\_hidden | ADT\_EVNT\_NM | FROM\_DEPT | ADT\_DTTM\_hidden | TO\_DEPT |
| 203470 | 29204845127 | TRANSFER OUT | 7-OR | 5/19/22 11:54 | 4N-CICU |
| 203470 | 29204845127 | TRANSFER OUT | 4N-CICU | 5/22/22 13:25 | 6-SE |

* This person (203470) was admitted to the ICU (4N-CICU) at 11:54 on 5/19/22
* They were later discharged from the ICU at 13:25 on 5/22/22
* LOS would be 73 hours (rounding down is fine for this)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MRN\_hidden | ENC\_NO\_hidden | ADT\_EVNT\_NM | FROM\_DEPT | ADT\_DTTM\_hidden | TO\_DEPT |
| 51455895 | 29188820095 | TRANSFER OUT | 6-SE | 3/4/21 21:55 | 4N-CICU |
| 51455895 | 29188820095 | TRANSFER OUT | 4N-CICU | 3/5/21 21:24 | 6-SE |
| 51455895 | 29192933522 | TRANSFER OUT | 6-SE | 9/27/21 8:42 | 4N-CICU |
| 51455895 | 29192933522 | TRANSFER OUT | 4N-CICU | 9/27/21 14:47 | CARDIAC CATH LAB MAIN |
| 51455895 | 29192933522 | TRANSFER OUT | CARDIAC CATH LAB MAIN | 9/27/21 16:55 | 4N-CICU |
| 51455895 | 29192933522 | DISCHARGE | 4N-CICU | 10/1/21 19:50 | ? |

* This person (51455895) has two encounters
* For 29188820095 – The first admission is 3/4, the first discharge is 3/5, and the first LOS is 23 hours
* For 29192933522 – The first admission is 9/27/21 8:42, the first discharge is 9/27/21 14:47, and the first LOS is 6 hours
  + They are readmitted to the ICU after their procedure at 16:55, but because the timing is greater than an hour, we can omit all other ICU visits for this encounter.

The end product of this exercise should be one row per encounter as shown in the second attached file named “Template”.