**Script Documentation: Dialysis Detection on First ICU Day**

* **Overview**: This SQL script identifies whether patients in an ICU received any form of dialysis treatment during the first day of their ICU stay. It checks for dialysis-related events across various sources, including CareVue and MetaVision systems, within the first 24 hours of ICU admission.
* **MIMIC Version**: [Insert MIMIC version]
* **Key References**:
  + The query references icustays, chartevents, inputevents\_mv, datetimeevents, and procedureevents\_mv tables from MIMIC.
* **Logic Summary**: The script combines information from multiple tables to determine whether dialysis was administered during the first day of ICU admission. Events from both the CareVue and MetaVision systems are checked using various item IDs related to dialysis.
* **Process Steps**:
  + **CareVue System (cv)**: This subquery checks for dialysis-related events in chartevents for patients within the CareVue system. If any relevant event is found within the first day, the patient's ICU stay is flagged as receiving renal replacement therapy (RRT).
  + **MetaVision Chart Events (mv\_ce)**: This subquery checks chartevents in MetaVision for dialysis-related items and flags the ICU stay if any are found.
  + **MetaVision Input Events (mv\_ie)**: This subquery checks the inputevents\_mv table for dialysis-related input events during the first day.
  + **MetaVision DateTime Events (mv\_de)**: This subquery checks the datetimeevents table for dialysis-related datetime entries.
  + **MetaVision Procedure Events (mv\_pe)**: This subquery looks for dialysis-related procedures in the procedureevents\_mv table.
  + **Final Selection**: The script aggregates the results from these subqueries and flags each ICU stay with a 1 if any dialysis event was detected; otherwise, the stay is flagged as 0.
* **Output**:
  + The final table rrt\_first\_day contains the following fields:
    - subject\_id: The ID of the patient.
    - hadm\_id: The hospital admission ID.
    - icustay\_id: The ICU stay ID.
    - rrt: A flag indicating whether the patient received dialysis on the first ICU day (1 for yes, 0 for no).

**Example Query**:  
sql  
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SELECT \* FROM rrt\_first\_day WHERE rrt = 1;

* **Important Notes**:
  + The script uses a specific set of item IDs relevant to dialysis. Ensure that these IDs are appropriate for your dataset version.
  + This script only checks events during the first 24 hours (ie.intime to ie.intime + INTERVAL '1 DAY').
* **Conclusion**: This script helps identify ICU patients who underwent dialysis on their first day, aiding in studies of early renal replacement therapy interventions.

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