**Script Documentation: rbc\_transfusion**

* **Overview**: This script generates a table that captures instances of red blood cell transfusions for patients, utilizing data from various input event tables. It computes the total amount of transfusions and incorporates logic for handling missing values.
* **Key References**: The script references ITEMIDs associated with red blood cell transfusions from the CareVue and Metavision systems.
* **Logic Summary**: The script first retrieves raw transfusion data, imputes amounts for missing values, and sums the transfusions pre-ICU. It then calculates cumulative transfusions and ensures that any transfusions started within one hour of the last one are considered part of the same event.
* **Process Steps**:
  + **Data Preparation**:
    - The raw\_rbc CTE retrieves transfusion data from both inputevents\_cv and inputevents\_mv, applying logic to handle missing amounts.
  + **Pre-ICU Transfusion Calculation**:
    - The pre\_icu\_rbc CTE sums the amounts of transfusions occurring before ICU admission for specific ITEMIDs.
  + **Cumulative Calculation**:
    - The cumulative CTE computes the total transfusions per ICU stay while tracking the time differences between events.
  + **Final Selection**:
    - The final SELECT statement retrieves the necessary details, including amounts and total transfusions, filtering by time conditions.
* **Output**: The script produces a table containing:
  + ICU stay identifier (icustay\_id).
  + Time of transfusion (charttime).
  + The amount of transfusion administered.
  + The total amount of transfusions received.
  + The unit of measurement for the amount.

**Example Query**:  
sql  
Copy code  
SELECT \* FROM rbc\_transfusion;

* **Important Notes**:
  + The script uses COALESCE to handle potential null values in amount calculations, ensuring robust data integrity.
  + It applies explicit type casting to prevent errors related to data types, especially for rounding operations.
* **Conclusion**: This script effectively compiles and calculates red blood cell transfusion data for ICU patients, integrating multiple data sources and ensuring accurate assessments despite potential data gaps.