

Algorithm:

1. Staff asks for patient's information(full name, address, and age).
2. Staff checks if information is in the database or not.
3. If not, the new patient needs to fill in a form for the staff to input in the database. If existing, go to step 5.
4. Staff asks basic questions in order to determine which specialist should he/she be sent to. Data gathered will be saved in the database as well.
5. Staff assigns a number to the patient.
6. Staff sends data to the specialist for review.
7. Patient goes to the queue for the specialist's check up to wait for turn.
8. Alert the patient(via big LED screen with their full name) for his/her turn.
9. Patient is now with the specialist for consultation.

Pseudocode:

```
BEGIN
  INPUT patient data: [fullName, address, age]
  SEARCH database for match
    IF database match THEN add fullName to checkup queue
    ELSE save patient info to database
  ENDIF
  Assign num(positive int) to fullName
  Send patient's data to target specialist
  IF fullName queue index == 0, THEN alert: play sound and show
  assigned num
  ENDIF
END
```

