Algorithm:

1. A patient walks in a clinic for a checkup.
2. Staff asks for patient's information(full name, address, and age).
3. Staff checks if information is in the database or not.
4. 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.
5. 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.
6. Staff assigns a number to the patient.
7. Staff sends data to the specialist for review.
8. Patient goes to the queue for the specialist's check up to wait for turn.
9. Alert the patient(via big LED screen with their full name) for his/her turn.
10. 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
```

```
START
  │
  ▼
[fullName, address, age]
  │
  ▼
Search database for match ───▶ Database
                          ◀───
  │
  ▼
Info has MATCH?
  │ Yes                    │ No
  ▼                        ▼
Assign fullName to positive    Save info to database
int and send to queue.     ◀───
  │
  ▼
fullName queue index == 0
  │ Yes
  ▼
Alert: play sound, show
assigned num on screen
  │
  ▼
STOP
```