

# Queue Management Workflow

ACE-TECH

Bole in front of Mega

building

Addis Ababa

Ethiopia

## Step 1: Patient Arrival & Ticket Generation

- Patient arrives at the **Touchscreen Kiosk**.
  - Patient selects service type (**Doctor Consultation**, **Refraction**, or **VIP Service**).
  - **VIP option** requires receptionist/nurse authentication or special access code.
  - **Ticket generated** displaying:
    - Queue number
    - Service type
    - VIP priority status (if applicable)
    - Arrival time
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## Step 2: Patient Check-In & Verification

- Patient waits comfortably in the seating area.
  - **Receptionist** scans ticket barcode to confirm patient arrival.
  - Receptionist verifies patient data, ensuring accurate queue positioning.
  - For **VIP Patients**:
    - Automatic prioritization to top of queue.
    - Visual indicator on queue dashboard for immediate recognition.
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## Step 3: Queue Monitoring & Real-Time Management

- Queue status visible on large 43" displays, powered by **Raspberry Pi devices**.
- **Receptionist/Nurse Interface**:
  - Monitors real-time patient flow on central Flask dashboard.
  - Adjusts queue dynamically when necessary (human intervention).
- **Nurses** handle queue intervention for:
  - Patient medical emergencies or discomfort.
  - VIP management ensuring expedited service without compromising fairness.

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## Step 4: Patient Call & VIP Prioritization

- Receptionist or nurse triggers patient calls through the Flask system.
- Queue screens display patient numbers prominently, accompanied by clear audio announcements.
- **VIP patients:**
  - Clearly identified visually (highlighted and distinct).
  - Immediate announcement overrides normal queue calls.

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## Step 5: Patient Service Completion & Status Update

- Upon completing patient service, **doctors or technicians** update patient status ("**Service Completed**").
- System automatically refreshes, updating queue positions.
- Nurse or receptionist confirms any additional patient needs before queue completion.

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## Step 6: Queue Exceptions & Nurse Intervention Workflow

- **Nurse Intervention** scenarios:
  - Patient feeling unwell during waiting.
  - Urgent medical concerns arising spontaneously.
  - Queue rearrangements due to clinical judgments.
- Nurses authorized to manually adjust patient position directly via the dashboard, documenting reason clearly.
- Dashboard logs and timestamps every manual intervention for accountability.

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## Step 7: Daily Queue Closure & Reporting

- **Admin/Receptionist/Nurse** reviews day's queue performance:
    - Number of patients (VIP and regular) served.
    - Average wait time, especially tracking VIP prioritization efficiency.
    - Any interventions by nurses.
  - Reports generated and reviewed for continuous workflow improvements.
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## **Roles and Controls:**

### **Receptionist:**

- Issue tickets and manage initial patient check-ins.
- Identify and mark VIP patients.
- Trigger queue announcements and handle general queue management.

### **Nurses:**

- Monitor queue for necessary human intervention.
- Authority to prioritize urgent or special-need patients manually.
- Directly responsible for managing VIP patient flow.
- Document interventions, providing clear explanations in the system.

### **Technicians:**

- Hardware and display system monitoring.
- Respond to technical issues with kiosks, screens, or Raspberry Pis.

### **Admin:**

- Complete oversight and control of queue system.
- Management of user roles, permissions, and queue logic.
- Review analytics and generate comprehensive queue reports.
- Security and data management oversight.