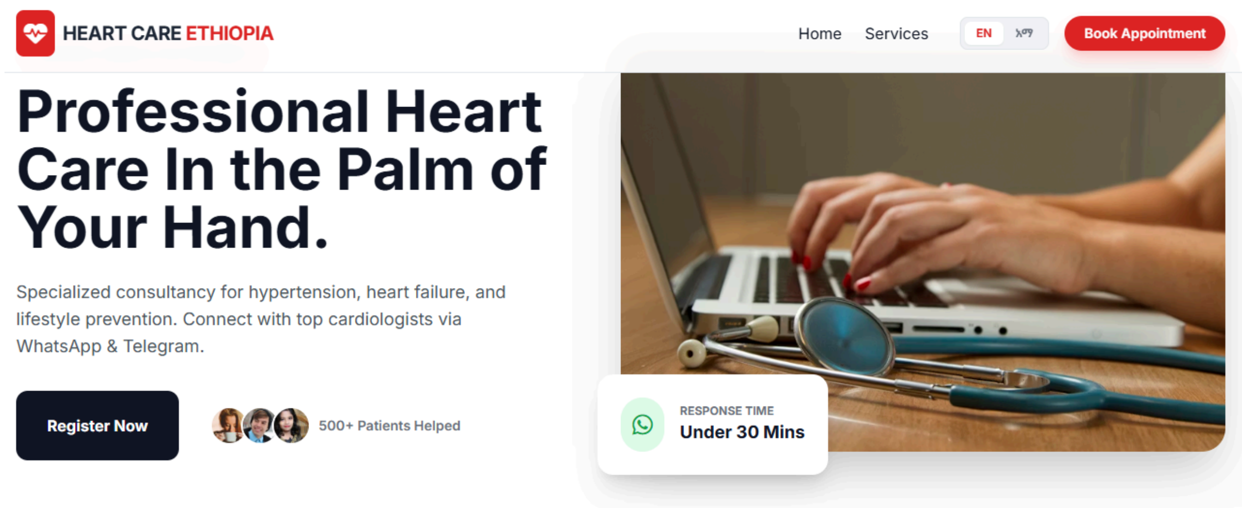

Heart Care Ethiopia: System Workflow Documentation

This document outlines the comprehensive end-to-end functional workflow for the Heart Care Ethiopia consultancy platform. It details the administrative, clinical, and technical layers of the Patient Journey and the Doctor's Management Interface.

1. Patient Journey: From Registration to Follow-up

Phase A: Registration & Triage

The initial entry point is designed to capture high-priority clinical data to assist in preliminary triage.

1. **Identity & Demographic Entry**: Patients provide their **Full Name, Age, and Gender**. This ensures that age-related cardiac risk factors are immediately visible to the consultant.
2. **Clinical Status & Primary Complaint**: The patient provides a brief summary of their **Condition**.
   - *Examples*: Chronic Hypertension management, acute Chest Pain, Shortness of Breath, or Post-Surgical heart valve monitoring.
3. **Communication Preference (Multimodal)**: Patients select their preferred secure digital platform for the virtual consultation to ensure they are comfortable with the technology:
   - **WhatsApp**: Ideal for low-bandwidth video/audio calls.
   - **Telegram**: Preferred for high-security file sharing and messaging.
   - **Google Meet**: Professional standard for high-definition video and medical screen sharing (reviewing scans).
   - **Direct Phone Call**: A fallback for areas with unstable internet connectivity.

4. **Automated Scheduling**: The patient interacts with a real-time calendar to select an **Appointment Date and Time**. The system prevents double-booking by syncing with the doctor's master availability.

Phase B: Payment & Verification

To ensure the sustainability of the service, the appointment is only finalized upon financial confirmation.

- **Option 1: Integrated Digital Payment**: Direct API integration with **Telebirr, CBE Birr, and Chapa**. Verification is instantaneous, and the appointment status shifts to "Confirmed" immediately.
- **Option 2: Receipt Attachment Workflow**: For patients using traditional bank transfers or third-party agents, the system provides a secure portal to upload a photo or PDF of the **Transaction Receipt**.
- **Verification Logic**: These manual uploads trigger an administrative notification. The appointment remains "Pending Verification" until an admin approves the receipt, at which point the patient receives an automated SMS/Notification.

Phase C: Comprehensive Pre-Consultation Data

This phase allows the doctor to review the case *before* the call starts, increasing the efficiency of the actual visit.

- **Detailed Symptom Narrative**: Patients can flesh out their primary complaint, describing the frequency, duration, and intensity of symptoms.
- **Medical Document Repository**: A secure upload zone for **Laboratory Results (Lipid profiles, Kidney function tests), ECG strips, Echocardiogram reports**, and previous discharge summaries.
- **Medication & Allergy Profile**: Patients list all current medications, including dosage and frequency, and any known drug allergies to prevent adverse prescriptions.

2. Doctor's Interface: Management & Clinical Closure

Phase D: Strategic Appointment Dashboard

The doctor's portal is optimized for clinical focus, reducing administrative overhead through organized views.

1. **Today's High-Priority Schedule**: A focused, chronological list of the day's patients. Each entry includes:
   - Direct "Join" links for **Google Meet, WhatsApp, or Telegram**.
   - A "Quick-View" icon for attached Lab Results and Patient History.
   - Status indicators (e.g., Paid, Pending Lab Upload, Recurring Patient).
2. **Monthly Strategic Overview**: A broader calendar view allowing the doctor to track patient volume, manage vacation days, and identify trends in patient return rates. This view helps in balancing the workload across the month.

Phase E: Consultation, Documentation & Follow-up

The conclusion of a visit is as critical as the start. The system ensures every encounter is documented for legal and clinical continuity.

1. **Visit Comments & Clinical Notes**: A dedicated section for the doctor to record:
    - **Observations**: Physical signs reported by the patient.
    - **Assessment**: The doctor's professional opinion/diagnosis based on the call and labs.
    - **Plan**: Recommended lifestyle changes, diet, or emergency referrals.
2. **Follow-up Scheduling Logic**:
    - If the condition requires monitoring (e.g., titrating blood pressure meds), the doctor registers a **Follow-up Appointment** within the interface.
    - The system generates a new "Priority Link" for the patient to confirm their next date without re-entering basic demographic data.
3. **Case Closure & Archive**: If the specific issue is resolved, the doctor marks the case as **"Closed."** This moves the patient record into a secure archive that remains searchable for future reference should the patient return months or years later.

3. System Data Flow & Responsibility Matrix

Workflow Stage	Input Data Elements	Primary Responsibility	Technical Outcome
Registration	Identity, Condition, Contact, Date	Patient	Record Created
Payment	Digital Token or Receipt Image	Patient / Admin	Appointment Validated
Clinical Prep	Labs, ECGs, Symptom Detail	Patient	Case File Enriched
Clinical Review	Dashboard Filtering (Today/Month)	Doctor	Triage Efficiency
Documentation	Visit Comments, Med Advice	Doctor	Medico-legal Record
Follow-up	Next Date/Time or Status: Closed	Doctor	Continuity of Care

Document Version: 1.3 Status: Enhanced for Enterprise-Grade Implementation and Clinical Safety