Disease Management System

A Modern Integrated Healthcare Platform

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Agenda

Project Overview

Goal

Design an end-to-end **Disease Management System** that connects patients, doctors, labs, pharmacies, insurance, NGOs, and authorities on a single digital platform.

- Centralizes clinical and financial data.
- Provides role-based dashboards for each stakeholder.
- Enables better planning with real-time health analytics.

Motivation

Why do we need this system?

- Medical data is scattered across hospitals, labs and insurers.
- Patients struggle to track their full treatment history.
- Manual processes slow down insurance and NGO approvals.
- Authorities lack a unified view of city-wide disease trends.

Problem Definition

Key Pain Points

- **Fragmented Data**: records scattered and incomplete.
- **Poor Visibility**: doctors lack full patient history.
- **Slow Processes**: claims and sponsorships are manual.
- **Weak Analytics**: no single source of truth for reports.

Solution Overview

Centralized Digital Platform

- One system that stores all patient encounters, lab tests, prescriptions and payments.
- Dashboards for patients, doctors, insurance admins, NGO admins, labs, pharmacies and reporting authorities.
- Automated workflows for insurance claims and NGO sponsorships.
- Real-time reporting on diseases, capacity and financial flows.

Key Stakeholders (Clinical Side)

Patients

- Search nearby hospitals and specialists.
- View medical history, prescriptions and lab results.
- Manage wallet, insurance and NGO requests.

Doctors

- Access complete patient records and encounter history.
- Record diagnoses, medications and follow-up plans.

Key Stakeholders (Financial & Admin)

System & Reporting Admins

- System Admin creates hospitals, doctors and patient accounts.
- Reporting Authority tracks active patients, disease patterns and capacity.

Insurance, NGO, Lab & Pharmacy

- Insurance Admin: reviews and approves claims.
- NGO Admin: evaluates and sponsors eligible cases.
- Lab Admin: records tests and results.
- Pharmacy: manages medicines, pricing and billing.

Use Case: Patient Journey

1. Patient registers and searches for a specialist by city and ailment.
2. Doctor encounters the patient and records diagnosis and medications.
3. Lab tests are ordered; results are attached to the patient record.
4. Patient submits an insurance claim and/or NGO sponsorship request.
5. Authorities use reporting views to track outcomes and trends.

System Design (High Level)

Architecture

- Role-based access control for all dashboards.
- Central patient record store linked to encounters, labs and payments.
- Separate services for clinical, financial and reporting workflows.

Outcome & Impact

Operational Benefits

- Reduced manual effort and paperwork.
- Faster insurance and NGO processing.
- Better coordination between doctors, labs and pharmacy.

Patient & Policy Impact

- More transparent and predictable care journeys.
- Single view of medical and financial history for patients.
- Data-driven planning for health authorities.

Thank You

Questions?