TCS MediConnect – AI-Powered Patient & Hospital Management CRM Portal
Project Implementation Phases Documentation

Phase 1: Problem Understanding & Industry Analysis

Industry: Healthcare / Hospital Management

Project Type: Salesforce CRM Implementation (Admin + Developer)

Target Users: Patients, Doctors, Hospital Staff, Admins/Managers, Insurance Providers

Problem Statement

Hospitals face challenges in managing patient scheduling, monitoring doctor availability, handling billing and insurance, and analyzing patient feedback efficiently. Manual processes and fragmented systems lead to overlapping appointments, longer patient wait times, billing errors, and limited insights into patient satisfaction. A Salesforce AI-powered CRM solution like TCS MediConnect can automate these processes, provide real-time updates, and improve both hospital operations and patient experience.

Project Goal

Develop a Salesforce-based TCS MediConnect CRM Portal that:

- Automates patient appointment scheduling and slot validation.
- Tracks doctor availability and predicts peak patient hours using AI.
- Handles billing and insurance via payment gateway and insurance API integrations.
- Collects and analyzes patient feedback using NLP sentiment analysis.
- Provides a chatbot as a virtual health assistant for FAQs related to medicines, appointments, and reports.

- Generates dashboards for hospital admins to monitor performance, revenue, and patient satisfaction.

Requirement Gathering

Business Needs

- Unified system for appointments, doctor schedules, billing, patient feedback, and chatbot interactions.

- Automated workflows for appointment scheduling, notifications, and billing.

- AI-driven insights for doctor workload and patient feedback.

- Dashboards for hospital admins to track operations, revenue, and patient experience metrics.

Functional Requirements

- **Patient Object:** Name, Contact Info, Medical History, Appointment Status.

- **Doctor Object:** Name, Specialization, Availability, Shift Schedule.

- **Appointment Object:** Patient ↔ Doctor mapping, Status (Booked, Completed, Cancelled).

- **Billing Object:** Payment Status, Insurance Details, QR/Payment Gateway integration.

- **Feedback Object:** Patient reviews, NLP sentiment score.

- **Chatbot Module:** Handles FAQs, guides patients on appointments, medicines, and report retrieval.

- **Automation Rules:** Slot validation, reminders, status updates.

- **Notifications:** SMS/Email/Push for appointments, billing, and reports.

Non-Functional Requirements

- Mobile-friendly interface for patients, doctors, and staff.

- Role-based access (Patient, Doctor, Staff, Admin).

- Scalable to handle multiple hospitals and patients.

- Secure storage for patient data and payment/insurance information.

Stakeholder Analysis

- **Patients:**
  - Book, reschedule, or cancel appointments.
  - Receive reminders via SMS/Email/Push notifications.
  - Provide feedback for consultations.
  - Interact with the chatbot for FAQs related to appointments, medicines, and reports.

- **Doctors:**
  - View assigned appointments and schedules.
  - Update consultation notes and availability.
  - Monitor patient feedback and workload insights.

- **Hospital Staff:**
  - Manage patient registration and appointment scheduling.
  - Assist with billing and insurance claims.
  - Support doctors and patient communication.
  - Notify patients about appointments, rescheduling, or reports.

- **Admins:**
  - Configure Salesforce objects, workflows, and dashboards.
  - Manage user roles and access permissions.
  - Monitor overall system performance and compliance.

- **Managers:**
  - Generate reports and dashboards for strategic decisions.
  - Monitor hospital : doctor utilization, revenue, patient satisfaction.
  - Approve workflows or exceptions in scheduling and billing.

- **Insurance Providers:**
  - Validate and process claims via API integration.

- o Ensure timely reimbursements and compliance with policies.

Business Process Mapping

Current Manual Process:

- Patient calls or visits hospital → Staff manually records appointment → Doctor may be unavailable → No reminders sent → Billing processed manually → Feedback and patient satisfaction rarely tracked → No chatbot support.

Proposed Salesforce Process (TCS MediConnect CRM):

1. Patient books appointment online or via staff entry.
2. System validates slot → assigns doctor → AI predicts peak hours.
3. Automated SMS/Email/Push notifications sent to patient.
4. Doctor consults patient → updates consultation notes.
5. Billing processed via payment gateway or insurance API.
6. Patient provides feedback → NLP analyzes sentiment for dashboards.
7. Chatbot assists patients with FAQs related to appointments, medicines, and reports.
8. Dashboards update automatically for admins and managers to track KPIs.

Industry-Specific Use Cases

- **Patient Scheduling:** AI recommends optimal slots based on doctor workload.
- **Doctor Availability:** Calendar and AI predict peak hours to optimize scheduling.
- **Billing & Insurance:** Streamlined payments and claims via integrated gateways/APIs.
- **Patient Feedback:** NLP sentiment analysis improves hospital services.
- **Chatbot:** Virtual assistant for patient FAQs and guidance.

AppExchange Exploration

- **Health Cloud:** Base Salesforce platform for hospital CRM.

- **Notification Apps:** SMS/Email/Push reminders.

- **Payment & Insurance APIs:** Automate billing and claims.

- **Einstein AI:** NLP for patient feedback sentiment analysis.

- **LWC/Visualforce Pages:** Patient portal, doctor dashboard, and chatbot module.

Phase 1 Summary

By completing Phase 1, I will be able to:

- Identified hospital pain points in patient scheduling, doctor availability, billing, feedback, and chatbot assistance.

- Defined stakeholders (Patients, Doctors, Staff, Admins, Insurance Providers).

- Documented current manual vs proposed Salesforce workflow.

- Listed functional and non-functional requirements.

- Explored AppExchange solutions and integration options for the CRM.