

Hospital Operations Streamlining Initiative

Solution Design and Technology Assessment Document



Prepared For: Hospital Management

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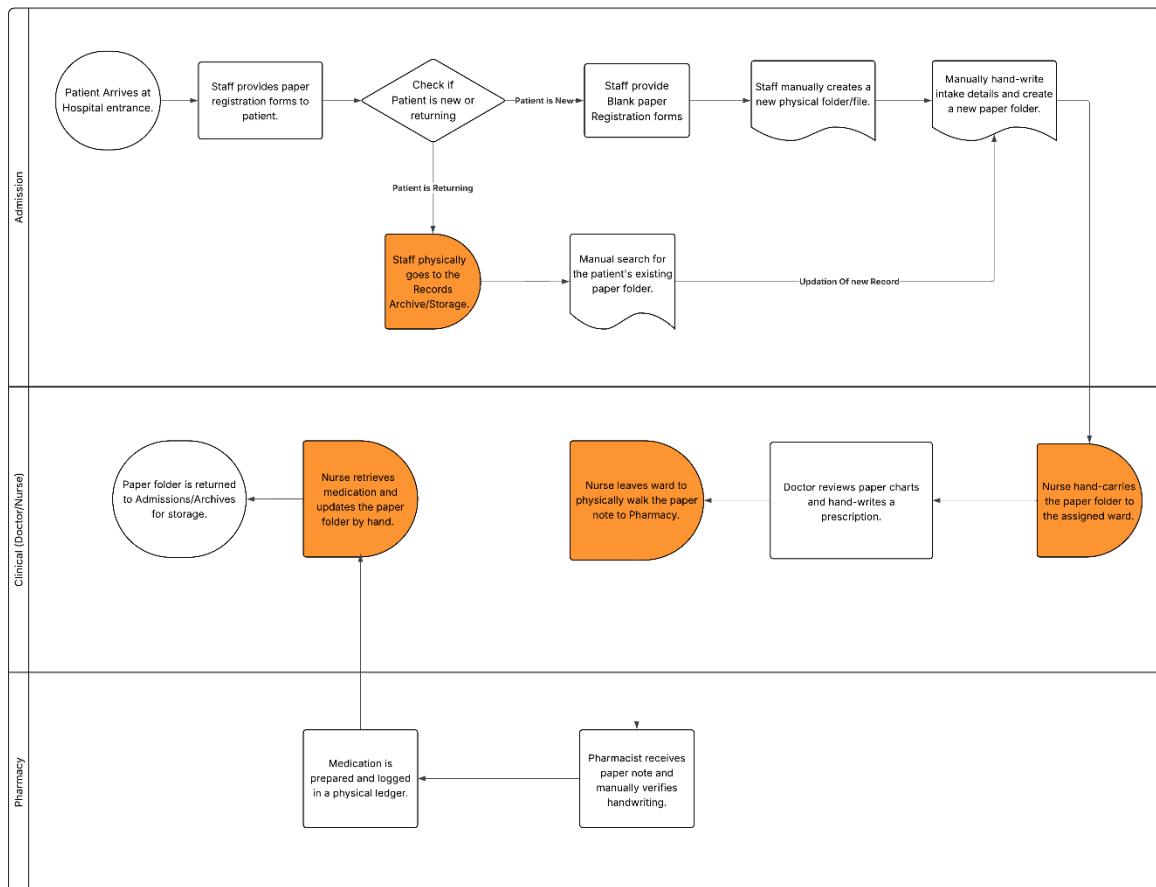
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4.0 Solution Design Phase Documentation:

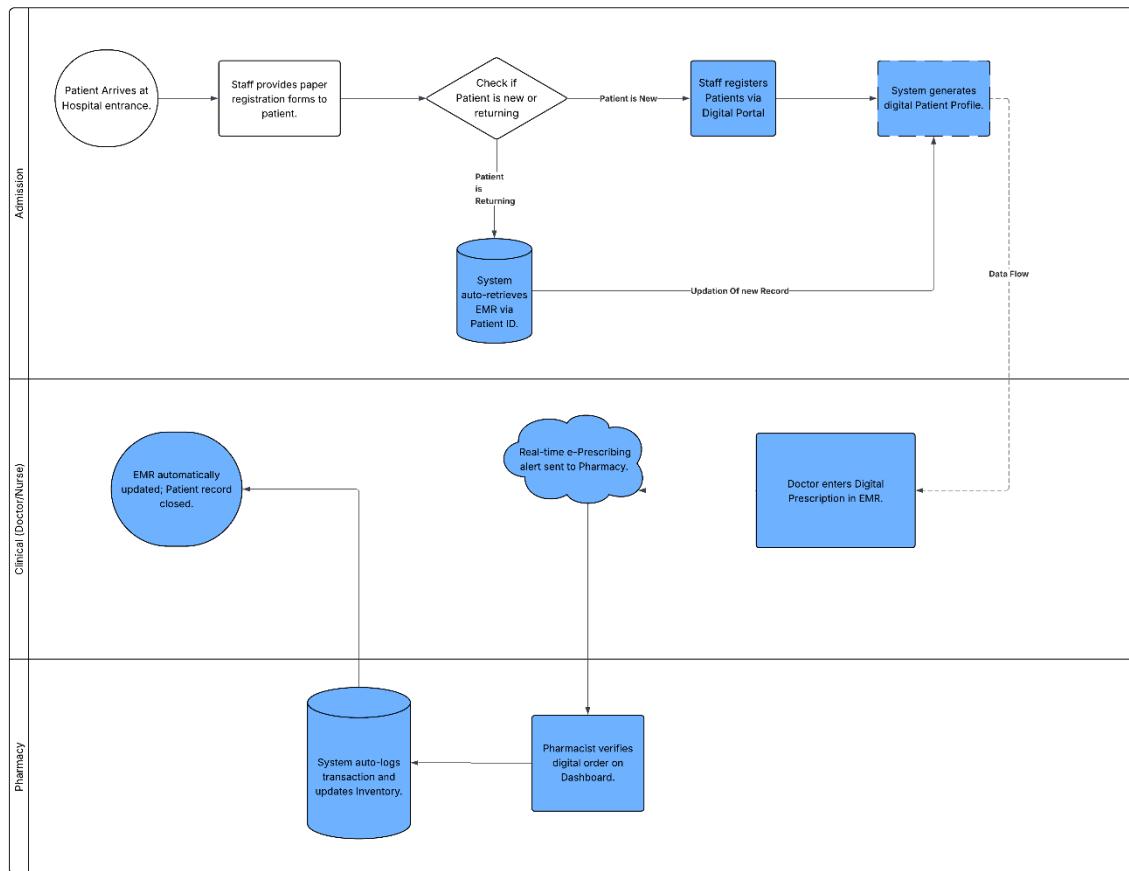
4.1 Business Process Flow Analysis:

Objective: To visually map the transition from fragmented, paper-based workflows to a synchronized digital environment, highlighting specific operational bottlenecks and the technological solutions required to eliminate them.

4.1.1 Current State Business Flow Diagram (As-Is process flow):



4.1.2 Future State Business Flow Diagram (To-Be Process flow):



4.2 Technology Assessment:

Objective: To evaluate the hospital's current hardware and networking capabilities and define the technical roadmap required to host a centralized EMR system.

4.2.1 Technical Capability Table:

Objective: To conduct a side-by-side evaluation of our current IT infrastructure against the requirements of a modern EMR system. This table identifies the specific hardware and software upgrades needed to bridge our operational gaps, ensuring the new digital workflow is supported by a robust, secure, and scalable technical foundation.

Category	Existing Infrastructure (Current)	Required Upgrade (Future State)	Gap/Recommendation
Data Storage	Physical file cabinets and local PC storage.	Centralized On-Premise Server or Secure Cloud Hosting.	Migrate all paper records to a HIPAA-compliant digital database.
Networking	Limited Wi-Fi; departments connected via phone/internal lines.	High-speed, hospital-wide Fiber/Mesh Wi-Fi network.	Ensure stable connectivity for mobile tablets in wards and pharmacy.
Hardware	Desktop PCs at registration; paper charts in wards.	Handheld tablets for nurses; barcode scanners for pharmacy.	Procure mobile devices to allow real-time bedside data entry.
Software	Basic administrative tools; no integrated EMR.	Integrated EMR System with e-Prescribing and HL7 messaging.	Deploy a modular EMR that connects Admissions, Clinical, and Pharmacy.

4.2.2 EMR Adoption and Integration Strategy:

To ensure the new Electronic Medical Records (EMR) system integrates seamlessly with existing hospital operations, the following strategies are proposed:

- **Phased Rollout:** Implement the core EMR in Admissions first, followed by Clinical and Pharmacy modules to minimize operational downtime.
 - **Interoperability Standards:** Adhere to **HL7/FHIR protocols** to ensure the EMR can communicate with existing third-party lab or billing software.
 - **API Integration:** Use Application Programming Interfaces (APIs) to sync the Pharmacy's current inventory data with new digital prescriptions automatically.
 - **Data Migration:** Establish a secure "Back-scanning" protocol to digitize high-priority patient history from the last 12 months into the new EMR database.
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