

## Ideation Phase

### Define the Problem Statements

Date	30 October 2025
Team ID	F6ECDDC2BAA51CF97204E983A5BEFB35
Project Name	Medical Inventory Management
Maximum Marks	2 Marks

#### **Customer Problem Statement – Medical Inventory Management**

Healthcare facilities such as hospitals, clinics, and pharmacies face challenges in managing medical inventory effectively. Manual processes and outdated systems lead to difficulty tracking medicine availability, which results in stockouts during emergencies and overstocking of slow-moving items. Expired medicines often go unnoticed, causing wastage and risk to patient safety. Lack of timely alerts for low stock or expiry dates slows down decision-making and restocking. Human errors in updating inventory records further affect accuracy and operational efficiency.

Customers need an automated and accurate medical inventory management system that tracks stock levels in real time, flags expiry dates, sends low-stock alerts, and maintains correct supplier and purchase records. A smart, technology-driven solution will prevent shortages, reduce wastage, improve compliance, and ensure timely availability of essential medicines, ultimately supporting better patient care and operational reliability.

Problem	Description	Solution
<b>Stock Inaccuracy</b>	Manual updates lead to incorrect stock counts and missing items	Implement automated stock tracking with barcode/QR scanning and real-time updates
<b>Expired Medicine Waste</b>	Medicines expire unnoticed, leading to wastage and safety risks	Set automated expiry alerts, highlight near-expiry items, and enable batch tracking
<b>Shortage of Critical Medicines</b>	Lack of timely alerts leads to stockouts during emergencies	Create low-stock alerts and automated reorder triggers based on consumption trends
<b>Human Errors in Entry</b>	Staff may enter wrong quantities or miss updates, causing record issues	Use digital entry validation, scan-to-update system, and restrict manual edits
<b>Audit &amp; Compliance Issues</b>	Lack of proper tracking and logs affects regulatory compliance	Maintain audit logs, expiry records, purchase history, and disposal reports
<b>Supplier Management Challenges</b>	Difficulty managing multiple suppliers, pricing, and delivery delays	Enable auto-replenishment and vendor reminders based on usage patterns

**Example:**

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Which makes me feel
Pharmacist Manager	Track and update medicine stock accurately	The system doesn't reflect real-time inventory	Stocks are updated manually and prone to errors	confused and frustrated
a Pharmacist	Prevent expired medicines from being dispensed	I don't get alerts for near-expiry drugs	There's no alert or automated expiry notification	worried and stressed about compliance
Hospital Inventory Manager	Ensure essential medicines are always available	I only know stock is low when it's already finished	There are no low-stock alerts or auto-reorder features	helpless and terred
Medical Store Assistant	Update medicine entries quickly during busy hours	Manual entry takes time and leads to mistakes	There's no barcode/QR scan-to-update option	overwhelmed and tired
Auditor / Compliance Officer	Verify stock logs and expiry records	Tracking data takes too much manual work	The system lacks audit logs and automated reporting	anxious and delayed
Purchase Team Member	Manage suppliers and reorder medicines on time	I can't track delivery delays and price changes easily	Supplier data and purchase history are not centralized	confused and inefficient

**■ Problem Statement PS 1 (Admin Perspective)**

As a hospital inventory administrator, I am trying to remove expired or damaged medical stock from the system, but the system does not notify me if the item is still marked as "in use" or linked to current prescriptions/wards.

This creates confusion and prevents me from maintaining clean and accurate inventory records. It also delays the medical supply process since staff may still think items are available when they are not.

I need a clear alert system to identify dependencies (active prescriptions/allocated items) before removing inventory so that records and hospital operations remain accurate and uninterrupted.

**■ Problem Statement PS 2 (Pharmacy/Manager Perspective)**

As an inventory manager, I want to make sure that medical supplies are properly reassigned or restocked when an item runs out or expires. However, the system currently removes items without notifying or suggesting alternatives or reorder requirements.

This leads to shortages, unavailability of critical medicines, and delays in patient treatment, affecting service quality and care standards.

A built-in alert system or auto-reorder suggestion feature would help prevent such issues and ensure continuous supply availability while improving hospital efficiency.