

DMDD P1 Topic and Objectives

GROUP 4 – Shivali Godkhindi Shruthi Jakkala

Topic – Pharmaceutical Supply Chain Management Database

MISSION STATEMENT

This project focuses on the design and implementation of a relational database system to manage the pharmaceutical supply chain efficiently and securely.

The database will store, organize, and retrieve critical information related to medications, manufacturers, distributors, pharmacies, inventory, orders, shipments, and regulatory compliance.

The system is designed to support **operational activities** such as inventory tracking, order fulfillment, and batch traceability, while also enabling **analytical insights** into demand patterns, supply efficiency, and regulatory monitoring.

OBJECTIVES:

1. Stakeholder & Partner Management

Maintain records of manufacturers, distributors, and pharmacies, including licensing status and operational details.

2. Medication & Product Management

Store comprehensive details of pharmaceutical products, including composition, dosage form, storage requirements, and regulatory approval status.

3. Batch-Level Traceability

Track medication batches with manufacturing and expiry dates to enable end-to-end traceability and support recall management.

4. Inventory Management

Monitor inventory levels across warehouses and pharmacies, tracking stock movement, expiry, and shortages.

5. Order & Shipment Management

Manage procurement orders and shipments between supply chain entities, tracking order status, delivery progress, and fulfillment history.

6. Billing & Payment Tracking

Generate invoices and track payments for fulfilled orders, including payment methods, status, and due dates.

7. Regulatory Compliance & Recall Support

Maintain compliance records and enable efficient identification of affected batches during regulatory audits or product recalls.

8. Operational & Analytical Reporting

Provide reports on inventory turnover, demand trends, expired stock, supplier performance, and overall supply chain efficiency.

Reference:

1. [Reference used](#)

GitHub Link:

[GitHub](#)