



HOSPITAL INVENTORY MANAGEMENT

Group 9
Songa Pradeepthi
Tejas
Dhaanush
Rutu
Devesh

ABOUT

"It's a database system designed to manage medical inventory in healthcare facilities. It provides real-time tracking, manages patients and prescriptions, and monitors inventory levels. The system ensures efficient storage, distribution, and timely patient care."



Data Collection and Management:

Collect and manage data on medication stock levels, expiry dates, supplier details, and patient prescriptions for seamless inventory management.

1

Design and Implementation:

To design and implement a centralized system for accurate inventory and prescription management.

2

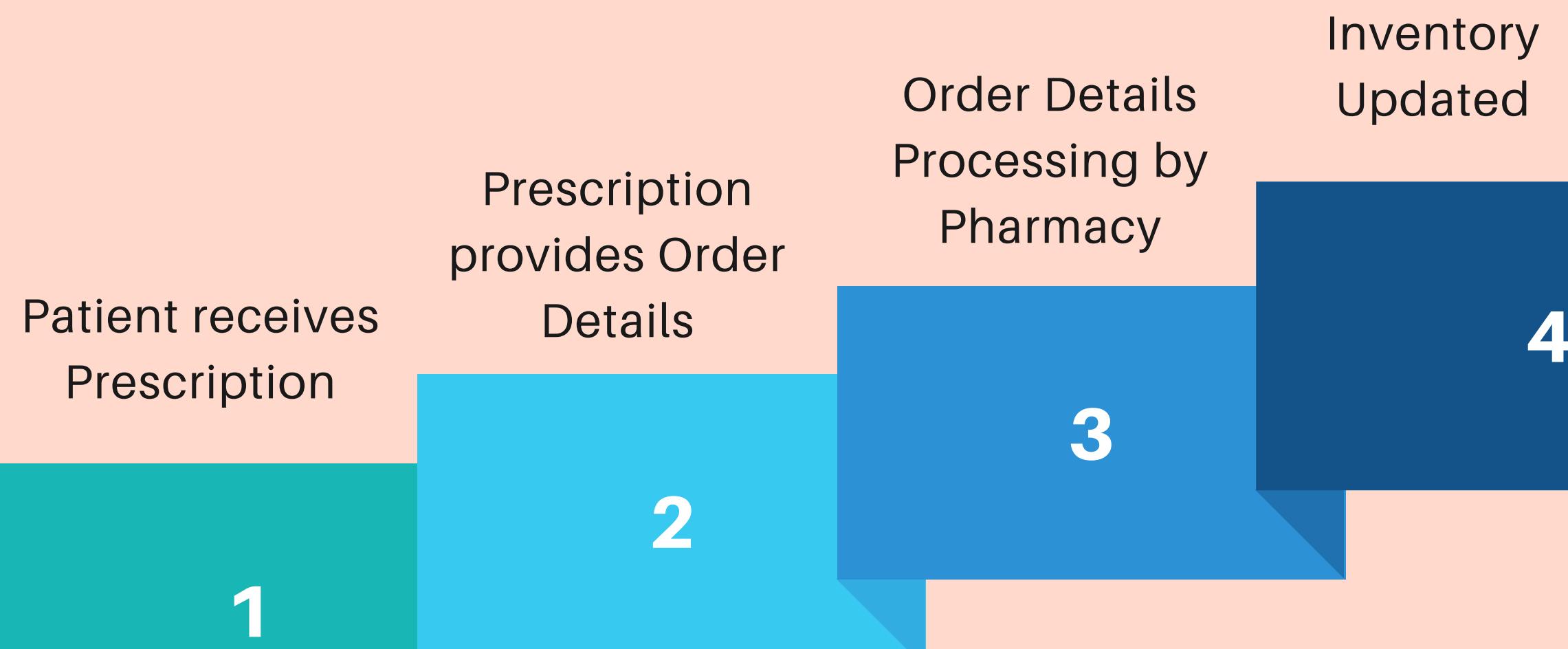
Enhance Safety and Efficiency:



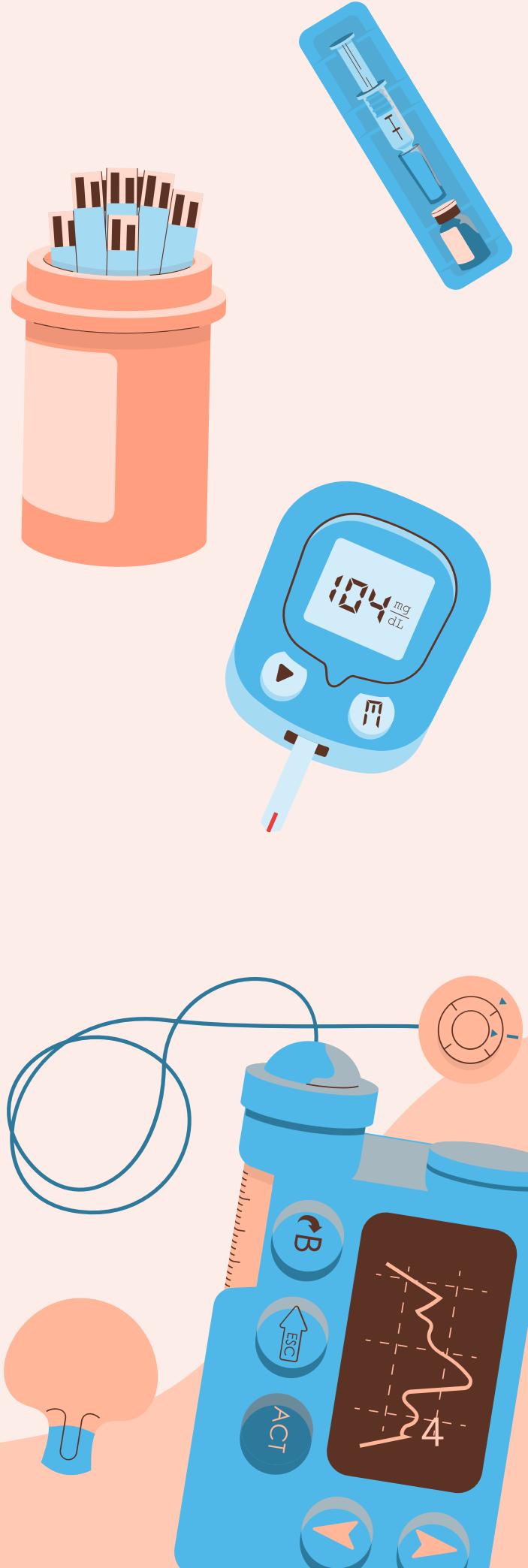
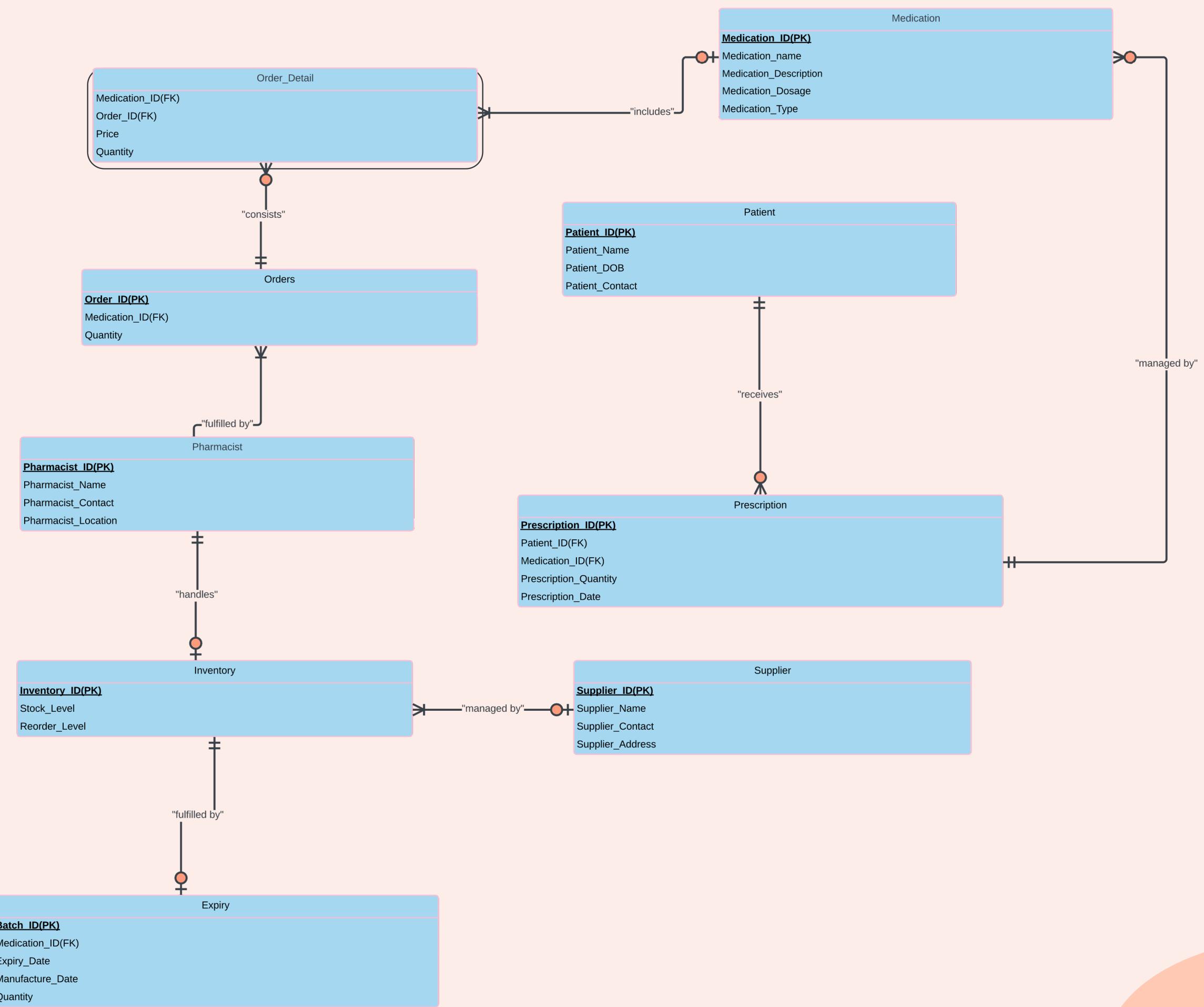
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Improve medication safety, reduce waste, and enhance operational efficiency with automated alerts, streamlined processes, and optimized workflows.

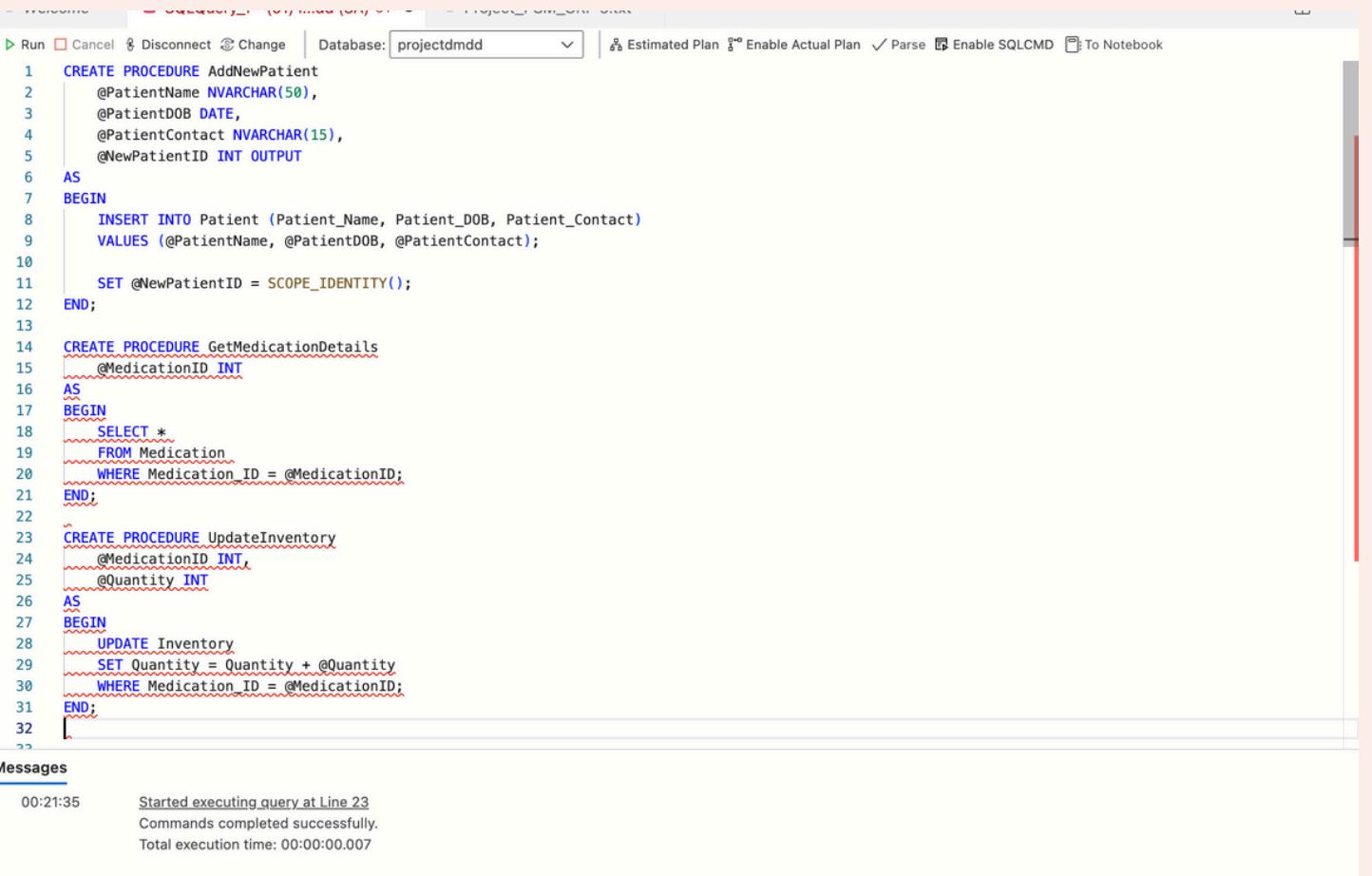
DESIGN FLOW



Entity Relationship Diagram (ERD)



STORED PROCEDURES



```
1 CREATE PROCEDURE AddNewPatient
2     @PatientName NVARCHAR(50),
3     @PatientDOB DATE,
4     @PatientContact NVARCHAR(15),
5     @NewPatientID INT OUTPUT
6 AS
7 BEGIN
8     INSERT INTO Patient (Patient_Name, Patient_DOB, Patient_Contact)
9     VALUES (@PatientName, @PatientDOB, @PatientContact);
10
11     SET @NewPatientID = SCOPE_IDENTITY();
12 END;
13
14 CREATE PROCEDURE GetMedicationDetails
15     @MedicationID INT
16 AS
17 BEGIN
18     SELECT *
19     FROM Medication
20     WHERE Medication_ID = @MedicationID;
21 END;
22
23 CREATE PROCEDURE UpdateInventory
24     @MedicationID INT,
25     @Quantity INT
26 AS
27 BEGIN
28     UPDATE Inventory
29     SET Quantity = Quantity + @Quantity
30     WHERE Medication_ID = @MedicationID;
31 END;
32
```

Messages

```
00:21:35 Started executing query at Line 23
Commands completed successfully.
Total execution time: 00:00:00.007
```

FUNCTION



```
64
65 CREATE FUNCTION GetPatientAge (@PatientDOB DATE)
66 RETURNS INT
67 AS
68 BEGIN
69     RETURN DATEDIFF(YEAR, @PatientDOB, GETDATE());
70 END;
71
72 CREATE FUNCTION CalculateCost (@UnitPrice DECIMAL(10, 2), @Quantity INT)
73 RETURNS DECIMAL(10, 2)
74 AS
75 BEGIN
76     RETURN @UnitPrice * @Quantity;
77 END;
78
79 CREATE FUNCTION IsPrescriptionValid (@ExpiryDate DATE)
80 RETURNS BIT
81 AS
82 BEGIN
83     RETURN CASE WHEN @ExpiryDate > GETDATE() THEN 1 ELSE 0 END;
84 END;
```

Messages

```
02:22:33 Started executing query at Line 65
Commands completed successfully.
Total execution time: 00:00:00.053
```

VIEW

```
33
34 CREATE VIEW TopPrescribedMedications AS
35     SELECT Medication_Name, COUNT(Prescription_ID) AS PrescriptionCount
36     FROM Prescription
37     JOIN Medication ON Prescription.Medication_ID = Medication.Medication_ID
38     GROUP BY Medication_Name
39     ORDER BY PrescriptionCount DESC;
40
41 CREATE VIEW ActivePatients AS
42     SELECT DISTINCT P.Patient_Name, P.Patient_Contact
43     FROM Patient P
44     JOIN Prescription PR ON P.Patient_ID = PR.Patient_ID
45     WHERE PR.Expiry_Date > GETDATE();
46
47 CREATE VIEW LowStockInventory AS
48     SELECT Medication_Name, Quantity
49     FROM Inventory
50     WHERE Quantity < 10;
51
```

TRIGGER

```
72
73 CREATE TRIGGER PatientContactUpdateLog
74 ON Patient
75 AFTER UPDATE
76 AS
77 BEGIN
78     INSERT INTO PatientLog (Patient_ID, OldContact, NewContact, ChangeDate)
79     SELECT
80         d.Patient_ID,
81         d.Patient_Contact AS OldContact,
82         i.Patient_Contact AS NewContact,
83         GETDATE() AS ChangeDate
84     FROM Inserted i
85     JOIN Deleted d ON i.Patient_ID = d.Patient_ID
86     WHERE d.Patient_Contact <> i.Patient_Contact;
87 END;
88
```



ENCRYPTION

```
10  -- Drop the existing master key if it exists
11  IF EXISTS (SELECT * FROM sys.symmetric_keys WHERE name = '##MS_DatabaseMasterKey##')
12  BEGIN
13      DROP MASTER KEY;
14      PRINT 'Existing master key dropped successfully.';
15  END;
16
17  ALTER TABLE EmployeeData
18      ADD Username NVARCHAR(50),
19          [Password] VARBINARY(400);
20
21
22  -- Create a master key
23  CREATE MASTER KEY 
24  ENCRYPTION BY PASSWORD = 'StrongMasterKeyPassword123!';
25
26
27  -- Create a certificate
28  CREATE CERTIFICATE EmployeeCert
29  WITH SUBJECT = 'Employee Data Encryption';
30
31
32  -- Create a symmetric key
33  CREATE SYMMETRIC KEY EmployeeSymKey
34  WITH ALGORITHM = AES_256
35  ENCRYPTION BY CERTIFICATE EmployeeCert;
36
37
38  OPEN SYMMETRIC KEY EmployeeSymKey
39  DECRYPTION BY CERTIFICATE EmployeeCert;
40
41
42  UPDATE EmployeeData
43  SET Username = LastName, -- Replace LastName with the appropriate column
44      [Password] = EncryptByKey(
45          Key_Guid('EmployeeSymKey'),
46          CONVERT(VARBINARY, 'SamplePassword123') -- Replace with actual data
47      );
48
49
50
51  CLOSE SYMMETRIC KEY EmployeeSymKey;
```

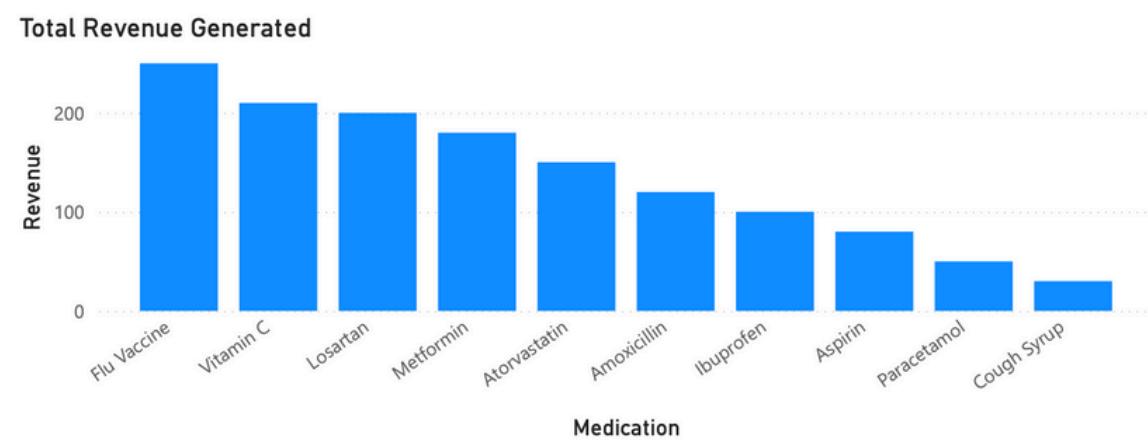
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28  -- Create a certificate
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```

DATA VISUALIZATION

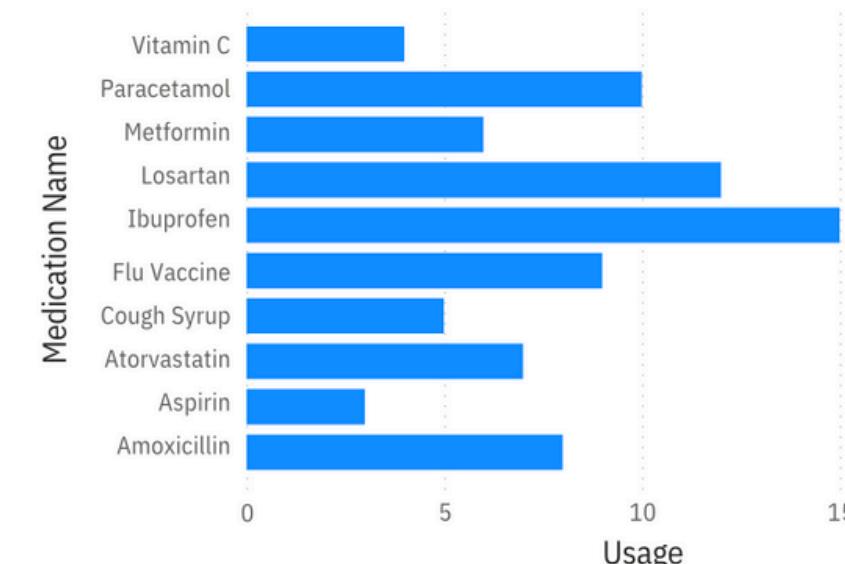
Total Orders Places by Each Patient



Total Revenue Generated



Analyze Medication Usage Trends



Medication_Name Expiry_Date

Medication_Name	Expiry_Date
Amoxicillin	01 March 2025
Aspirin	10 October 2023
Atorvastatin	20 June 2024
Cough Syrup	15 September 2023
Flu Vaccine	31 August 2025
Ibuprofen	30 November 2024
Losartan	01 January 2025
Metformin	15 July 2024
Paracetamol	31 December 2024
Vitamin C	31 December 2023

Stock Level In Each of The Pharmacist Locations

