

# BUSINESS REQUIREMENTS DOCUMENT (BRD)

## Clinic Management System (CMS)

**Project Name:** Revive Hospital CMS

**Architecture:** Web-based (Desktop / Tablet)

**Database:** Single Centralized Database

**Access Control:** Role-Based (RBAC)

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## 1. CORE SYSTEM PRINCIPLES

### 1.1 Visit-Centric Architecture

- Patient is a permanent entity
- Every interaction happens inside a **Visit**
- One Visit = one episode of care
- All charges must link to VisitID

Modules linked to Visit:

- Doctor consultation
  - Lab tests
  - Pharmacy sales
  - Casualty
  - Billing
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## **1.2 Identifiers & Data Integrity**

- Patient phone number = unique identifier
  - All tables use UUID as primary key
  - Soft delete (is\_deleted) mandatory
  - Full audit trail required
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## **1.3 Security**

- Role-based access to modules & actions
  - Roles:
    - Admin
    - Reception
    - Doctor
    - Lab
    - Pharmacy
    - Casualty
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## **2. USER AUTHENTICATION & AUTHORIZATION**

**Table: users**

<b>Field</b>	<b>Description</b>
u_id	UUID

<b>Field</b>	<b>Description</b>
username	Login name
password_hash	Encrypted
role	User role
is_active	Enable / Disable

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### **3. RECEPTION & PATIENT MODULE**

#### **3.1 Patient Registration**

- Search by phone number
- If exists → retrieve
- If not → create new patient

**Table: patients**

<b>Field</b>	<b>Description</b>
p_id	UUID
full_name	Name
age	Age
gender	M / F / O
phone	Unique
address	Address

<b>Field</b>	<b>Description</b>
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id_proof	ID
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### **3.2 Visit Management**

#### **Table: visits**

<b>Field</b>	<b>Description</b>
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v_id	UUID
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p_id	FK
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doctor_id	FK
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status	OPEN / IN_PROGRESS / CLOSED
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vitals	JSON (BP, Temp, etc.)
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## **4. DOCTOR MODULE**

### **Features**

- View assigned visits
- Enter diagnosis
- Prescribe medicines
- Order lab tests

#### **Table: doctor\_notes**

<b>Field</b>	<b>Description</b>
note_id	UUID
v_id	FK
diagnosis	Text
prescription	JSON
notes	Text

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## **5. LABORATORY MODULE**

### **Features**

- Test ordering from doctor
- Stock tracking (reagents)
- Auto billing

### **Tables**

#### **lab\_inventory**

<b>Field</b>	<b>Description</b>
item_id	UUID
item_name	Name
category	REAGENT / KIT
qty	Quantity

<b>Field</b>	<b>Description</b>
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reorder_level	Alert
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### **lab\_charges**

<b>Field</b>	<b>Description</b>
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lc_id	UUID
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v_id	FK
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test_name	Test
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amount	Charge
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## **6. PHARMACY MODULE (FULLY ENHANCED)**

### **6.1 Scope**

The Pharmacy module shall manage:

- Supplier management
  - Stock IN (bulk upload)
  - Stock OUT (barcode-based sales)
  - Batch & expiry tracking
  - Visit & walk-in sales
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## **7. SUPPLIER MANAGEMENT**

### **Table: pharma\_suppliers**

<b>Field</b>	<b>Description</b>
supplier_id	UUID
supplier_name	Supplier
phone	Contact
address	Address
gst_no	GST
is_active	Status

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## **8. STOCK IN – BULK UPLOAD (PURCHASE INVOICES)**

### **8.1 Requirement**

- Stock must enter system **only via supplier invoices**
- Manual stock creation is not allowed

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### **8.2 Purchase Invoice Upload**

### **Table: pharma\_purchase\_invoices**

<b>Field</b>	<b>Description</b>
purchase_id	UUID
supplier_id	FK

<b>Field</b>	<b>Description</b>
supplier_invoice_no	Invoice No
invoice_date	Date
credit_days	Credit
purchase_type	CASH / CREDIT
total_amount	Total
created_by	User
created_at	Timestamp

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### **Table: pharma\_purchase\_items**

<b>Field</b>	<b>Description</b>
item_id	UUID
purchase_id	FK
product_name	Medicine
barcode	Barcode (if available)
batch_no	Batch
expiry_date	Expiry
qty	Purchased qty

Field	Description
free_qty	Free qty
purchase_rate	Rate
mrp	MRP
ptr	PTR
manufacturer	Manufacturer
hsn	HSN

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### **8.3 Flexible Column Mapping (MANDATORY)**

- Excel/CSV field names may differ
  - System provides mapping UI
  - Mapping saved per supplier & format
  - Auto-applied on next upload
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### **8.4 Stock Update Logic**

- Match by: product\_name + batch\_no + expiry
  - If exists → increase qty
  - Else → create new stock record
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## **9. PHARMACY STOCK MASTER**

### **Table: pharmacy\_stock**

<b>Field</b>	<b>Description</b>
med_id	UUID
name	Medicine name
barcode	Barcode
batch_no	Batch
expiry_date	Expiry
mrp	MRP
selling_price	Price
qty_available	Qty
supplier_id	FK
is_deleted	Soft delete

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## **10. STOCK OUT – SALES (BARCODE BASED)**

### **10.1 Sales Modes**

- Patient sale (linked to Visit)
  - Walk-in sale (no Visit)
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## **10.2 Barcode Sales Flow**

1. Scan barcode
  2. System fetches medicine + batch
  3. Auto-select nearest expiry (FIFO)
  4. Reduce stock in real-time
  5. Push item to billing
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## **10.3 Pharmacy Sales Table**

**Table: pharmacy\_sales**

<b>Field</b>	<b>Description</b>
sale_id	UUID
v_id	FK / NULL
sale_date	Date
total_amount	Total
payment_status	PAID / PENDING

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**Table: pharmacy\_sale\_items**

<b>Field</b>	<b>Description</b>
item_id	UUID

<b>Field</b>	<b>Description</b>
sale_id	FK
med_id	FK
qty	Quantity
unit_price	Price
amount	Total

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## **11. CASUALTY MODULE**

### **Features**

- Minimal patient entry
- Emergency visit creation
- Movement tracking

### **Table: casualty\_logs**

<b>Field</b>	<b>Description</b>
log_id	UUID
v_id	FK
transfer_path	Path
treatment_notes	Notes

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## **12. BILLING & REPORTS MODULE**

### **12.1 Billing Logic**

- One invoice per Visit
  - Aggregates:
    - Doctor
    - Lab
    - Pharmacy
    - Casualty
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#### **Tables**

##### **invoices**

<b>Field</b>	<b>Description</b>
inv_id	UUID
v_id	FK / NULL
total_amount	Total
payment_status	PAID / PENDING
created_at	Timestamp

##### **invoice\_items**

<b>Field</b>	<b>Description</b>
item_id	UUID
inv_id	FK
dept	Source module
description	Item
amount	Charge

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## **13. REPORTS & AUDIT**

### **Reports**

- Stock IN / OUT
- Expiry report
- Supplier-wise purchase
- Sales by barcode
- Visit billing summary

### **Audit**

- User
  - Date/time
  - Action
  - Source file (for bulk uploads)
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## **14. FINAL SUMMARY**

**This BRD supports:**

- Bulk Stock IN (supplier invoices)
- Barcode-based Stock OUT (sales)
- Visit & walk-in sales
- Unlimited suppliers & formats
- Real-world pharmacy workflow
- Scalable hospital operations