## Step 3.1: Entities and their associated attributes

#### 1. Ward

- Ward Number (Primary Key)
- Ward Name
- Ward Location
- Total Number of Beds
- Telephone Extension Numbers

### 2. Patient

- Patient Number (Primary Key)
- Patient Name
- Age
- Address
- Contact Number

### 3. Medication

- Medication Number (Primary Key)
- Medication Name
- Dosage
- Method of Administration
- Start Date
- Finish Date

## 4. Supply Item

- Item Number (Primary Key)
- Item Name
- Item Description
- Quantity in Stock
- Reorder Level
- Cost per Unit

## 5. Pharmaceutical Supply

- Drug Number (Primary Key)
- Drug Name
- Description
- Dosage
- Stock Levels

# 6. Requisition

- Requisition Number (Primary Key)
- Staff Details (e.g., Staff Number, Staff Name)
- Ward Information (e.g., Ward Number, Ward Name)
- Item/Drug Details (e.g., Item Number, Drug Number, Item Name, Drug Name)
- Cost
- Quantity Required

• Date of Order

### 7. Staff

- Staff Number (Primary Key)
- Staff Name
- Qualifications
- Previous Work Experience

## 8. Supplier

- Supplier Number (Primary Key)
- Supplier Name
- Address
- Email Contacts
- Telephone Number
- Fax Number

## Step 3.2: Relationships and descriptive attributes

- 1. Ward-Patient (1:N)
  - Admission Date (Descriptive attribute)
- 2. Ward-Medication (M:N)
  - Prescription Date (Descriptive attribute)
- 3. Ward-Supply Item (M:N)
  - Stock Update Date (Descriptive attribute)
- 4. Ward-Pharmaceutical Supply (M:N)
  - Stock Update Date (Descriptive attribute)
- 5. Ward-Requisition (1:N)
  - Delivery Date (Descriptive attribute)
  - Charge Nurse's Signature (Descriptive attribute)
- 6. Staff-Ward (M:N)
  - Role in the Ward (Descriptive attribute)
- 7. Supplier-Supply Item (M:N)
  - Contract Start Date (Descriptive attribute)
  - Contract End Date (Descriptive attribute)

Ward Ward\_Number INT Ward\_Name VARCHAR(45) Ward\_Location VARCHAR(45) Quantity Required INT Date\_Of\_Order DATE Extension Number VARCHAR(45) Delivery\_Date DATE ○ Charge\_Nurse\_Signature VARCHAR(45) Ward Number INT Patient\_Number INT P Drug\_Number INT Patient\_Name VARCHAR(45) Age INT Supply\_Item Address VARCHAR(45) Item Number INT Contact\_Number VARCHAR(45) ↓ Item\_Description VARCHAR(255) Ward\_Number INT Quantity In Stock INT Staff Reorder\_Level INT Staff\_Number INT ○ Cost\_Per\_Unit FLOAT Staff Name VARCHAR(45) P Supplier Number INT Drug Number INT Patient\_has\_Me Drug\_Name VARCHAR(45) Patient Number INT Description VARCHAR(255) Medication Number INT Opsage VARCHAR(45) Stock Levels INT Supplier\_Number INT Supplier Name VARCHAR(45) Address VARCHAR(45) Medication Number INT Medication\_Name VARCHAR(45) Telephone\_Number VARCHAR(45) ODosage VARCHAR(45) Fax\_Number VARCHAR(45) Method Of Administration VARCHAR(45) State\_Date DATE End\_Date DATE

Step 3.3: E-R diagram representation

# **Step 3.4: Data Dictionary and Assumptions**

- Assumption 1: Each patient is assigned to only one ward at a time.
- Assumption 2: Each medication is prescribed to multiple patients, and each patient can have multiple medications prescribed.
- Assumption 3: Each supply item and pharmaceutical supply can be used in multiple wards, and each ward can use multiple supply items and pharmaceutical supplies.
- Assumption 4: Each staff member can work in multiple wards, and each ward can have multiple staff members.
- Assumption 5: Each supplier can provide multiple supply items, and each supply item can be provided by multiple suppliers.

- Ward (ward\_number (PK), ward\_name, ward\_location, beds\_count, ext\_numbers)
- Patient (patient\_number (PK), patient\_name, age, address, contact\_number)
- Medication (medication\_number (PK), medication\_name, dosage, method\_of\_admin, start\_date, finish\_date)
- Supply\_Item (item\_number (PK), item\_name, item\_description, quantity\_in\_stock, reorder\_level, cost\_per\_unit)
- Pharmaceutical\_Supply (drug\_number (PK), drug\_name, description, dosage, stock\_levels)
- Requisition (requisition\_number (PK), staff\_details, ward\_information, item\_drug\_details, cost, quantity\_required, date\_of\_order, delivery\_date, charge\_nurse\_signature)
- Staff (staff\_number (PK), staff\_name, qualifications, prev\_work\_experience)
- Supplier (supplier\_number (PK), supplier\_name, address, email\_contacts, telephone\_number, fax\_number)