**SQL Scripts**

CREATE TABLE Patients (

PatientID INT PRIMARY KEY,

Name VARCHAR(100),

Age INT,

Gender VARCHAR(10),

RegionID INT,

FOREIGN KEY (RegionID) REFERENCES Regions(RegionID)

);

CREATE TABLE Hospitals (

HospitalID INT PRIMARY KEY,

HospitalName VARCHAR(100),

RegionID INT,

FOREIGN KEY (RegionID) REFERENCES Regions(RegionID)

);

CREATE TABLE Treatments (

TreatmentID INT PRIMARY KEY,

TreatmentName VARCHAR(100)

);

CREATE TABLE Diseases (

DiseaseID INT PRIMARY KEY,

DiseaseName VARCHAR(100)

);

CREATE TABLE Regions (

RegionID INT PRIMARY KEY,

RegionName VARCHAR(100)

);

CREATE TABLE PatientDiseases (

PatientID INT,

DiseaseID INT,

TreatmentID INT,

HospitalID INT,

FOREIGN KEY (PatientID) REFERENCES Patients(PatientID),

FOREIGN KEY (DiseaseID) REFERENCES Diseases(DiseaseID),

FOREIGN KEY (TreatmentID) REFERENCES Treatments(TreatmentID),

FOREIGN KEY (HospitalID) REFERENCES Hospitals(HospitalID)

);

**Sample data**

INSERT INTO Regions (RegionID, RegionName) VALUES (1, 'Region A'), (2, 'Region B');

INSERT INTO Patients (PatientID, Name, Age, Gender, RegionID) VALUES

(1, 'Dionysius Ogero', 21, 'Male', 1),

(2, 'Wayne Rooney', 45, 'Female', 2);

INSERT INTO Hospitals (HospitalID, HospitalName, RegionID) VALUES

(1, 'Hospital A', 1),

(2, 'Hospital B', 2);

INSERT INTO Treatments (TreatmentID, TreatmentName) VALUES

(1, 'Treatment A'),

(2, 'Treatment B');

INSERT INTO Diseases (DiseaseID, DiseaseName) VALUES

(1, 'Malaria'),

(2, 'Covid');

INSERT INTO PatientDiseases (PatientID, DiseaseID, TreatmentID, HospitalID) VALUES

(1, 1, 1, 1),

(2, 2, 2, 2);

**Data Retrival**

SELECT Patients.Name, Diseases.DiseaseName, Treatments.TreatmentName, Hospitals.HospitalName

FROM Patients

JOIN PatientDiseases ON Patients.PatientID = PatientDiseases.PatientID

JOIN Diseases ON PatientDiseases.DiseaseID = Diseases.DiseaseID

JOIN Treatments ON PatientDiseases.TreatmentID = Treatments.TreatmentID

JOIN Hospitals ON PatientDiseases.HospitalID = Hospitals.HospitalID;

**Data Analysis**

-- Find the most common diseases

SELECT DiseaseName, COUNT(\*) AS Occurrences

FROM PatientDiseases

JOIN Diseases ON PatientDiseases.DiseaseID = Diseases.DiseaseID

GROUP BY DiseaseName

ORDER BY Occurrences DESC;

-- Effectiveness of treatments

SELECT TreatmentName, COUNT(\*) AS UsageCount

FROM PatientDiseases

JOIN Treatments ON PatientDiseases.TreatmentID = Treatments.TreatmentID

GROUP BY TreatmentName

ORDER BY UsageCount DESC;