# IST 659 Database Management Systems Prof. Hernando Hoyos

Healthcare on the Go

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# Implementation Report

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# **Project Summary**

#### **Business Description:**

These days billions are invested in the healthcare sector to keep the research up-to-date. To keep the patients up-to-date, the organization **Healthcare on The Go** lets patient understand the medical condition by inputting their symptoms sitting anywhere in the world. The organization is a government-funded Not for Profit (NGO), registered under FCRA. Our mission is to digitize healthcare for the wellbeing of the society. The organization partners with doctors and knowledge experts from all specializations ranging from private as well government organizations.

#### **Problem Statement:**

The project aims at creating an inventory management system for the organization. At present, the patients must take an appointment (which at times is not available in next two weeks). The next step is traveling to the hospital or the medical center where there is some waiting time after which the patient finally meets the doctor. The final step is the medical prescription by the doctor after successful diagnosis. All these steps take a lot of time from taking an appointment to finally get a prescription which at times cause distress among the patients.

## **Proposed Solution:**

Create a database of all the data related to the medical issues and symptoms, patients and doctors. The database will contain information of all the medical issues mapping it with the different symptoms one might be facing. The database will also maintain a table for the list of doctors and knowledge experts partnered with the organization. Once the patient has a holistic idea of what he/she may be suffering from, they may select all the symptoms and further choose to contact the doctor from the doctor's contact information that is available to the patient. In addition, after successful diagnosis, a prescription with relevant medicines can be generated from the doctor's side, this prescription will be sent via the email (Restricted medicines will require an in-person meeting). To secure the patient's identity, the doctor only receives a patient ID with relevant symptoms (This patient ID is nothing but a counter given to each individual when they use the application). We are not interested in keeping a record of any individual patients, instead we are interested In understanding the general trend, so that in the future we can reach out directly to people of similar portfolio.

#### Users:

The primary users of the system are the patients suffering from a medical issue. They will use the system to figure out their medical condition based on different symptoms. The secondary users will be members from the administration department or the doctors themselves, who will enter the

data related any new symptoms or diseases after discussion with the partnered doctors, medicines and so on. Doctors will also have access to the patient data in order to accurately prescribe medicines to a particular patient.

## **Entities And Attributes**

## **Patient Entity**

# • Patient Entity contains detailed information about each patient

ENTITY	ATTRIBUTE	FIELD TYPE	EXPLANATION	
NAME: <b>Patient</b>	NAME			
Primary Key	Patient ID	Integer	NOT NULL	Patient Unique ID
	First Name	Varchar(40)	NOT NULL	First Name of the
				Patient
	Last Name	Varchar(40)	NOT NULL	Last Name of the
				Patient
	House Number	Integer	NOT NULL	House Number
				where the Patient
				lives
	DOB		NOT NULL	Date of Birth of
				Patient
	Street Name	Varchar(30)	NOT NULL	Street Name where
				Patient lives
	City	Varchar(30)	NOT NULL	City in which
		, ,		patient lives
	State	Varchar(30)	NOT NULL	State in which
				patient lives
	Phone Number	Varchar(20)	NOT NULL	Patient's Phone
				Number
	Email Address	Varchar(20)	NOT NULL	Patient's Email
				Address

## **Symptoms Entity**

# • Symptoms Entity contains the details of the different symptoms in the database.

ENTITY NAME:	ATTRIBUTE	FIELD TYPE	NULL / NOT NULL	EXPLANATION
Symptoms	NAME			
Primary Key	Symptom ID	Integer	NOT NULL	Symptom Unique ID
	Name	Varchar(255)	NOT NULL	Name of all the
				Symptoms

# **Doctor Entity**

# • Doctor Entity contains detailed information about each doctor

ENTITY	ATTRIBUTE	FIELD TYPE	NULL / NOT NULL	EXPLANATION
NAME: <b>Doctor</b>	NAME			
Primary Key	Doctor ID	Integer	NOT NULL	Unique Doctor ID
	First Name	Varchar(40)	NOT NULL	First Name of the
				Doctor
	Last Name	Varchar(40)	NOT NULL	Last Name of the
				Doctor
	House Number	Varchar(255)	NOT NULL	House Number
				where the Doctor
				lives
	Street Name	Varchar(20)	NOT NULL	Street Name where
				Doctor lives
	City	Varchar(30)	NOT NULL	City in which Doctor
				lives
	State	Varchar(30)	NOT NULL	State in which
				Doctor lives
	Phone Number	Varchar(30)	NOT NULL	Doctor's Phone
				Number
	Email Address	Varchar(10)	NOT NULL	Doctor's Email
				Address

# **Medical Condition Entity**

# • Medical Condition Entity contains information about medical conditions like its name, severity and time to recover from the condition.

ENTITY	ATTRIBUTE	FIELD TYPE	NULL / NOT NULL	EXPLANATION
NAME:	NAME			
Medical				
Condition				
Primary Key	Medical	Integer	NOT NULL	Unique Medical
	Condition ID			Condition ID
	Name	Varchar(255)	NOT NULL	Name of the Medical
				Condition
	Severity	Varchar(255)	NOT NULL	Severity of the
				Medical Condition
	Time to recover	Varchar(255)	NOT NULL	Time to recover from
				the medical
				condition

## **Medicine Entity**

• Medicine Entity contains information about the medicine, nmely its name, company and its status as far as public sale is concerned.

ENTITY	ATTRIBUTE	FIELD TYPE	NULL / NOT NULL	EXPLANATION
NAME:	NAME			
Medicine				
Primary Key	Medicine ID	Integer	NOT NULL	Unique Medicine ID
	Name	Varchar(255)	NOT NULL	Medicine Name
	Company Make	Varchar(255)	NOT NULL	Manufacturer of the
				medicine
	Restricted Status	Varchar(255)	NOT NULL	Restriction Status of
				the medicine

## Patient Symptoms Entity

• Patient Symptoms Entity is an associative entity that has foreign keys from Patient Entity and Symptom Entity.

ENTITY	ATTRIBUTE	FIELD TYPE	NULL / NOT	EXPLANATION
NAME: Patient	NAME		NULL	
<b>Symptoms</b>				
Primary Key	Patient Symptom ID	Integer	NOT NULL	Unique patient symptom ID
Foreign Key	Patient ID	Integer	NOT NULL	Patient Unique ID
Foreign Key	Symptom ID	Integer	NOT NULL	Symptom Unique ID

# **Medical Symptoms Entity**

• Medical Symptoms Entity is an associative entity that has foreign keys from Medical Conditions Entity and Symptom Entity.

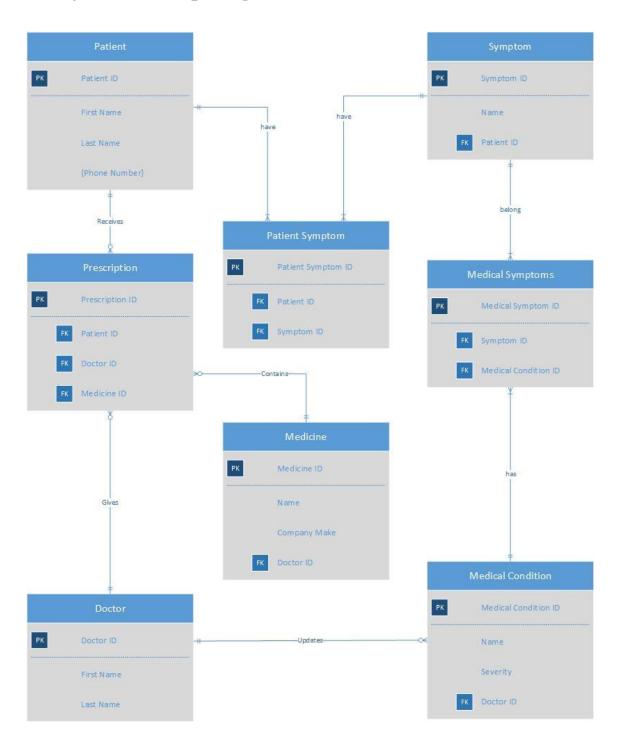
ENTITY	ATTRIBUTE	FIELD TYPE	NULL / NOT	EXPLANATION
NAME: <b>Medical</b>	NAME		NULL	
Symptoms				
Primary Key	Medical	Integer	NOT NULL	Unique Medical
	Symptoms ID			Symptoms ID
Foreign Key	Symptoms ID	Integer	NOT NULL	Symptom Unique
				ID
Foreign Key	Medical	Integer	NOT NULL	Unique Medical
	Conditions ID			Condition ID

# **Prescription Entity**

• Prescription Entity has the details of the prescribed medicine and the doctor who prescribed these medicines and to which patient. This is also an associative entity.

ENTITY	ATTRIBUTE	FIELD TYPE	NULL / NOT	EXPLANATION	
NAME:	NAME		NULL		
Prescription					
Primary Key	Prescription ID	Integer	NOT NULL	Unique	
				Prescription ID	
Foreign Key	Patient ID ID	Integer	NOT NULL	Symptom Unique	
				ID	
Foreign Key	Doctor ID	Integer	NOT NULL	Unique Medical	
				Condition ID	
Foreign Key	Medicine ID	Integer	NOT NULL	Unique Medicine	
				ID	

# **Entity Relationship Diagram**



#### **CREATING TABLES**

CREATE TABLE Patient( Patient\_ID INTEGER NOT NULL PRIMARY KEY, PFName VARCHAR(40) NOT NULL, PLName VARCHAR(40) NOT NULL, Age INTEGER NOT NULL, PPhone VARCHAR(20) NOT NULL, PStreetNumber VARCHAR(30) NOT NULL, PStreetName VARCHAR(30) NOT NULL, PCity Varchar(30) NOT NULL, PState Varchar(30) NOT NULL, PZip Varchar(10) NOT NULL, ); CREATE TABLE Doctor( Doctor\_ID INTEGER NOT NULL PRIMARY KEY, DFName VARCHAR(40) NOT NULL, DLName VARCHAR(40) NOT NULL, Hospital VARCHAR(255) NOT NULL, DPhone VARCHAR(20) NOT NULL, DStreetNumber VARCHAR(30) NOT NULL, DStreetName VARCHAR(30) NOT NULL, DCity Varchar(30) NOT NULL, DState Varchar(30) NOT NULL, DZip Varchar(10) NOT NULL, ); CREATE TABLE Symptom( Symptom ID INTEGER NOT NULL PRIMARY KEY, SName VARCHAR(255) NOT NULL, ); CREATE TABLE Patient\_Symptoms( Patient\_Symptom\_ID INTEGER NOT NULL PRIMARY KEY, Patient ID INTEGER NOT NULL FOREIGN KEY REFERENCES Patient (Patient ID), Symptom ID INTEGER NOT NULL FOREIGN KEY REFERENCES Symptom (Symptom ID), ); CREATE TABLE Medical\_Condition( Medical Condition ID INTEGER NOT NULL PRIMARY KEY, MName VARCHAR(255) NOT NULL, Severity VARCHAR(255) NOT NULL, DOCTOR\_ID INTEGER FOREIGN KEY REFERENCES Doctor(Doctor\_ID), ); CREATE TABLE Medical\_Symptoms( Medical Symptom ID INTEGER NOT NULL PRIMARY KEY, Symptom\_ID INTEGER NOT NULL FOREIGN KEY REFERENCES Symptom(Symptom\_ID),

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Medical_Condition_ID INTEGER FOREIGN KEY REFERENCES Medical_Condition (Medical_Condition_ID),
CREATE TABLE Medicine(
Medicine ID INTEGER NOT NULL PRIMARY KEY,
MeName VARCHAR(255) NOT NULL,
Company_Make VARCHAR(255) NOT NULL,
Doctor_ID INTEGER FOREIGN KEY REFERENCES Doctor(Doctor_ID),
CREATE TABLE Prescription(
Prescription ID INTEGER NOT NULL PRIMARY KEY,
Patient_ID INTEGER FOREIGN KEY REFERENCES Patient(Patient_ID),
Doctor ID INTEGER FOREIGN KEY REFERENCES Doctor(Doctor ID),
Medicine_ID INTEGER FOREIGN KEY REFERENCES Medicine(Medicine_ID),
INSERTING VALUES INTO TABLES
INSERT INTO Patient(Patient_ID, PFName, PLName, Age, PPhone, PStreetNumber,
PStreetName, PCity, PState, PZip)
VALUES (1, 'Nathan', 'Kerr', 19,'315-555-5555', '112', 'Lafayette Rd',
'Syracuse', 'New York', '13205')
INSERT INTO Patient(Patient ID, PFName, PLName, Age, PPhone, PStreetNumber,
PStreetName, PCity, PState, PZip)
VALUES (2, 'Sebastian', 'Chapman', 21,'315-555-6666', '17', 'James St',
'Syracuse', 'New York', '13210')
INSERT INTO Patient (Patient ID, PFName, PLName, Age, PPhone, PStreetNumber,
PStreetName, PCity, PState, PZip)
VALUES (3, 'Heather', 'Cameron', 15, '315-555-7777', '410', 'Comstock Ave',
'Syracuse', 'New York', '13210')
INSERT INTO Patient (Patient ID, PFName, PLName, Age, PPhone, PStreetNumber,
PStreetName, PCity, PState, PZip)
VALUES (4, 'Olivia', 'Wallace', 20, '315-555-8888', '4248', 'Nottingham Rd',
'Syracuse', 'New York', '13244')
INSERT INTO Patient(Patient_ID, PFName, PLName, Age, PPhone, PStreetNumber,
PStreetName, PCity, PState, PZip)
VALUES (5, 'Lily', 'Turner', 30, '315-556-9999', '3', 'Ostrom Ave', 'Syracuse',
'New York', '13225')
INSERT INTO Patient(Patient_ID, PFName, PLName, Age, PPhone, PStreetNumber,
PStreetName, PCity, PState, PZip)
VALUES (6, 'Robinson', 'Curt', 25, '315-555-6666', '12', 'Ostrom Ave', 'Los
Angeles', 'CA', '90205')
INSERT INTO Patient(Patient_ID, PFName, PLName, Age, PPhone, PStreetNumber,
PStreetName, PCity, PState, PZip)
VALUES (7, 'Austin', 'Byron', 29, '805-280-2018', '54', 'Skyline Blvd',
'Oakland', 'CA', '94620')
INSERT INTO Patient(Patient_ID, PFName, PLName, Age, PPhone, PStreetNumber,
PStreetName, PCity, PState, PZip)
VALUES (8, 'Tin', 'Chung', 23, '315-685-8898', '69', 'Comstock Ave', 'Paperwork
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City', 'CA', '94645')

INSERT INTO Patient(Patient\_ID, PFName, PLName, Age, PPhone, PStreetNumber,

PStreetName, PCity, PState, PZip)

VALUES (9, 'Cassandra', 'Alvarado', 15,'315-555-8888', '1348', 'Elm St.',

'Denver', 'CO', '80012')

INSERT INTO Patient(Patient\_ID, PFName, PLName, Age, PPhone, PStreetNumber,

PStreetName, PCity, PState, PZip)

VALUES (10, 'Beverly', 'Baker', 17, '315-556-9999', '4387', 'College Drive',

'Dayton', 'OH', '45404')

INSERT INTO Doctor(Doctor\_ID, DFName, DLName, Hospital, DPhone, DStreetNumber,

DStreetName, DCity, DState, DZip)

VALUES (1, 'Dorothy', 'Paige', 'St. Francis Hospital', '315-555-0126',

'137', 'Sumner Ave', 'Syracuse', 'New York', '13210')

INSERT INTO Doctor(Doctor\_ID, DFName, DLName, Hospital, DPhone, DStreetNumber,

DStreetName, DCity, DState, DZip)

VALUES (2, 'Amy', 'May', 'Clevaland Clinic', '315-5555', '777', 'Ackerman

Ave', 'Syracuse', 'New York', '13210')

INSERT INTO Doctor(Doctor ID, DFName, DLName, Hospital, DPhone, DStreetNumber,

DStreetName, DCity, DState, DZip)

VALUES (3, 'Charles', 'Duncan', 'Mount Sinai Hospital', '315-444-5555',

'345', 'Lancaster Ave', 'Syracuse', 'New York', '13210')

INSERT INTO Doctor(Doctor\_ID, DFName, DLName, Hospital, DPhone, DStreetNumber,

DStreetName, DCity, DState, DZip)

VALUES (4, 'Victor', 'Miller', 'NYU Winthrop Hospital', '315-333-5565',

'7116', 'Lafayette Rd', 'Syracuse', 'New York', '13205')

INSERT INTO Doctor(Doctor\_ID, DFName, DLName, Hospital, DPhone, DStreetNumber,

DStreetName, DCity, DState, DZip)

VALUES (5, 'Ray', 'Mysterio', 'Bellevue Hospital', '315-129-5677', '234',

'Lafayette Rd', 'Syracuse', 'New York', '13205')

INSERT INTO Symptom(Symptom\_ID, SName)

VALUES(1, 'Dry Cough')

INSERT INTO Symptom(Symptom\_ID, SName)

VALUES(2, 'Intense Abdominal Pain')

INSERT INTO Symptom (Symptom ID, SName)

VALUES(3, 'Recurrent Constipation')

INSERT INTO Symptom(Symptom\_ID, SName)

VALUES(4, 'Intense Headaches')

INSERT INTO Symptom(Symptom\_ID, SName)

VALUES(5, 'Sudden Knee Pain')

INSERT INTO Symptom(Symptom\_ID, SName)

VALUES(6, 'Sudden Neck Pain')

INSERT INTO Symptom(Symptom\_ID, SName)

VALUES(7, 'Blisters Skin Rashes')

INSERT INTO Symptom(Symptom\_ID, SName)

VALUES(8, 'Dry and Itchy Eye')

INSERT INTO Symptom(Symptom\_ID, SName) VALUES(9, 'Dull and Achy Hip Pain')

INSERT INTO Symptom(Symptom\_ID, SName) VALUES(10, 'Nausea and Vomiting')

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity,DOCTOR\_ID) VALUES(1, 'Common Cold', 'Medium',1)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity,DOCTOR\_ID) VALUES(2, 'Hay Fever', 'Low',1)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity,DOCTOR\_ID) VALUES(3, 'Influenza', 'Medium',3)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity,DOCTOR\_ID) VALUES(4, 'Pneumonia', 'Medium',5)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(5, 'Appendicitis', 'Medium',1)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(6, 'Gall Stones', 'Medium',2)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(7, 'Kidney Stones', 'Medium', 3)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(8, 'Encropresis', 'Low', 5)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(9, 'Intussusception', 'High', 4)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(10, 'Cluster Headache', 'Medium', 2)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(11, 'Migrane', 'High', 3)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(12, 'ACL Injury','Medium', 3)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(13, 'Sprains and Strains','Low', 5)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(14, 'Torn Meniscus','Medium', 4)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(15, 'Herniated Disk','Medium', 2)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(16, 'Sprain and Strains','Medium', 5)

 $INSERT\ INTO\ Medical\_Condition(Medical\_Condition\_ID,\ MName,\ Severity,\ DOCTOR\_ID)$ 

VALUES(17, 'Tension Headache', 'Low', 2)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(18, 'Hand-Foot and Mouth Disease', 'Medium', 1)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(19, 'Impetigo','Low', 4)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(20, 'Poison Ivy Rash','Low', 2)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(21, 'Hay Fever','Medium', 5)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(22, 'Keratitis','High', 2)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(23, 'Conjuctivitis','Medium', 3)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(24, 'Bursitis','Medium', 4)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(25, 'Hip Labral Tear', 'High', 5)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(26, 'Tendinitis','Low', 1)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(27, 'Food Allergy', 'Low', 3)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(28, 'Food Poisning','Medium', 2)

INSERT INTO Medical\_Condition(Medical\_Condition\_ID, MName, Severity, DOCTOR\_ID) VALUES(29, 'Stomach Flu', 'High', 5)

 $INSERT\ INTO\ Medical\_Condition(Medical\_Condition\_ID,\ MName,\ Severity,\ DOCTOR\_ID)\ VALUES(30,\ 'Motion\ Sickness', 'Low',\ 4)$ 

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(1, 1, 10)

 $INSERT\ INTO\ Patient\_Symptoms(Patient\_Symptom\_ID,\ Patient\_ID,\ Symptom\_ID)\ VALUES(2,\ 1,\ 5)$ 

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(3, 2, 3)

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(4, 3, 9)

 $INSERT\ INTO\ Patient\_Symptoms(Patient\_Symptom\_ID,\ Patient\_ID,\ Symptom\_ID)$  VALUES(5,4,8)

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(6, 5, 7)

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(7, 6, 1)

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(8, 7, 2)

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(9, 8, 4)

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(10, 9, 6)

INSERT INTO Patient\_Symptoms(Patient\_Symptom\_ID, Patient\_ID, Symptom\_ID) VALUES(11, 10, 3)

SELECT \* FROM Symptom SELECT \* FROM Medical\_Condition

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(1, 1, 1)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(2, 1, 2)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(3, 1, 3)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(4, 1, 4)

 $INSERT\ INTO\ Medical\_Symptoms (Medical\_Symptom\_ID,\ Symptom\_ID,\ Medical\_Condition\_ID)\ VALUES (5,2,5)$ 

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(6, 2, 6)

 $INSERT\ INTO\ Medical\_Symptoms (Medical\_Symptom\_ID,\ Symptom\_ID,\ Medical\_Condition\_ID)\ VALUES (7,2,7)$ 

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(8, 4, 10)

 $INSERT\ INTO\ Medical\_Symptoms (Medical\_Symptom\_ID,\ Symptom\_ID,\ Medical\_Condition\_ID)\ VALUES (9,4,11)$ 

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(10, 3, 8)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(11, 3, 9)

 $INSERT\ INTO\ Medical\_Symptoms (Medical\_Symptom\_ID,\ Symptom\_ID,\ Medical\_Condition\_ID)\ VALUES (12,3,9)$ 

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(13, 5, 12)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(14, 5, 13)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(15, 5, 14)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(16, 6, 15)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(17, 6, 16)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(18, 6, 17)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(19, 7, 18)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(20, 7, 19)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(21, 7, 20)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(22, 8, 21)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(23, 8, 22)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(24, 8, 23)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(25, 9, 24)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(26, 9, 25)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(27, 9, 26)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(28, 10, 27)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(29, 10, 28)

INSERT INTO Medical\_Symptoms(Medical\_Symptom\_ID, Symptom\_ID, Medical\_Condition\_ID) VALUES(30, 10, 29)

 $INSERT\ INTO\ Medical\_Symptoms (Medical\_Symptom\_ID,\ Symptom\_ID,\ Medical\_Condition\_ID)\ VALUES (31,\ 10,\ 30)$ 

SELECT \* FROM Medicine SELECT \* FROM Medical Condition

INSERT INTO Medicine(Medicine\_ID, MeName, Company\_Make, Doctor\_ID) VALUES(1,'Aspirin','Alcon',1)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(2,'Antihistamines','Allergan',1)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(3,'Dilantin','Acatvis',3)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(4,'Haldol','Advaxis',5)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(5,'Nexium','Alcon',1)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(6,'Minocin','Almirall',2)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(7,'Valium','Anfantis',3)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(8,'Atgam','Tylenol',5)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(9,'Boniva','Bial',4)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(10,'Biolex','Grifolos',2)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(11,'Antihistamines','Allergan',3)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(12,'Ligament Restore','Orexo',3)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(13,'OrgaNext','Renovo',5)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(14,'Sanofi','Perdue Pharma',4)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(15, 'Zentiva', 'UCB',2)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(16,'Shire','Solvay',5)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(17,'Shionogi','Rubicon',2)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(18,'Astepro','Revovo',1)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(19,'Azor','Allergan',4)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(20,'Orexo','Noxxon',2)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID)

VALUES(21,'Antihistamines','Allergan',5)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(22,'Menarini','Grindeks',2)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(23,'Lundbeck','Merck&Co',3)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(24,'Noxxon','Mylan',4)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(25,'OrgaNext','Allergan',5)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(26,'Sinarest','UCB',1)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(27,'Cantapill','Dabur',3)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(28,'Octacid','Dixicon',2)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(29,'O2','Neemaplan',5)

INSERT INTO Medicine(Medicine\_ID,MeName, Company\_Make, Doctor\_ID) VALUES(30,'Hajmola','Dabur',4)

SELECT \* FROM Medicine

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(1,1,1,5)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(2,2,2,15)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(3,3,2,10)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(4,4,2,20)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(5,5,3,23)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(6,6,5,16)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(7,7,4,19)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(8,8,4,30)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(9,9,3,7)

INSERT INTO Prescription(Prescription\_ID, Patient\_ID, Doctor\_ID, Medicine\_ID) VALUES(10,10,5,8)

# **OUTPUT TABLES**

#### **Patient Table**

	Patient_ID	PFName	PLName	Age	PPhone	PStreetNumber	PStreet Name	PCity	PState	PZip
1	1	Nathan	Kerr	19	315-555-5555	112	Lafayette Rd	Syracuse	New York	13205
2	2	Sebastian	Chapman	21	315-555-6666	17	James St	Syracuse	New York	13210
3	3	Heather	Cameron	15	315-555-7777	410	Comstock Ave	Syracuse	New York	13210
4	4	Olivia	Wallace	20	315-555-8888	4248	Nottingham Rd	Syracuse	New York	13244
5	5	Lily	Tumer	30	315-556-9999	3	Ostrom Ave	Syracuse	New York	13225
6	6	Robinson	Curt	25	315-555-6666	12	Ostrom Ave	Los Angeles	CA	90205
7	7	Austin	Byron	29	805-280-2018	54	Skyline Blvd	Oakland	CA	94620
8	8	Tin	Chung	23	315-685-8898	69	Comstock Ave	Paperwork City	CA	94645
9	9	Cassandra	Alvarado	15	315-555-8888	1348	Elm St.	Denver	CO	80012
10	10	Beverly	Baker	17	315-556-9999	4387	College Drive	Dayton	ОН	45404

Query executed successfully.

ist-s-students.syr.edu (12.... | AD\advernek (69) | IST659\_M004\_advernek | 00:00:00 | 10 rows

#### **Doctor Table**

	Doctor_ID	DFName	DLName	Hospital	DPhone	DStreetNumber	DStreet Name	DCity	DState	DZip
1	1	Dorothy	Paige	St. Francis Hospital	315-555-0126	137	Sumner Ave	Syracuse	New York	13210
2	2	Amy	May	Clevaland Clinic	315-5555	777	Ackeman Ave	Syracuse	New York	13210
3	3	Charles	Duncan	Mount Sinai Hospital	315-444-5555	345	Lancaster Ave	Syracuse	New York	13210
4	4	Victor	Miller	NYU Winthrop Hospital	315-333-5565	7116	Lafayette Rd	Syracuse	New York	13205
5	5	Ray	Mysterio	Bellevue Hospital	315-129-5677	234	Lafavette Rd	Syracuse	New York	13205

Query executed successfully.

ist-s-students.syr.edu (12.... | AD\advernek (69) | IST659\_M004\_advernek | 00:00:00 | 5 rows

## **Symptom Table**

	Symptom_ID	SName
1	1	Dry Cough
2	2	Intense Abdominal Pain
3	3	Recurrent Constipation
4	4	Intense Headaches
5	5	Sudden Knee Pain
6	6	Sudden Neck Pain
7	7	Blisters Skin Rashes
8	8	Dry and Itchy Eye
9	9	Dull and Achy Hip Pain
10	10	Nausea and Vomiting

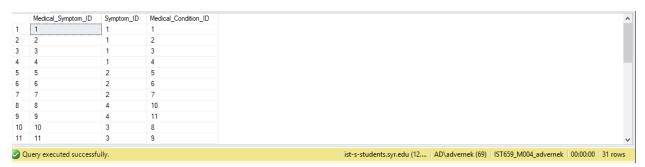
Query executed successfully.

ist-s-students.syr.edu (12.... | AD\advernek (69) | IST659\_M004\_advernek | 00:00:00 | 10 rows

#### **Patient Symptoms Table**

	Patient_Symptom_ID	Patient_ID	Symptom_ID
1	1	1	10
2	2	1	5
3	3	2	3
4	4	3	9
5	5	4	8
6	6	5	7
7	7	6	1
8	8	7	2
9	9	8	4
10	10	9	6
11	11	10	3
<b>Q</b> Q	uery executed successf	ully.	

#### **Medical Symptoms Table**



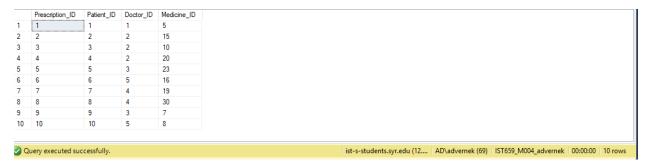
#### **Medical Condition Table**



#### **Medicine Table**

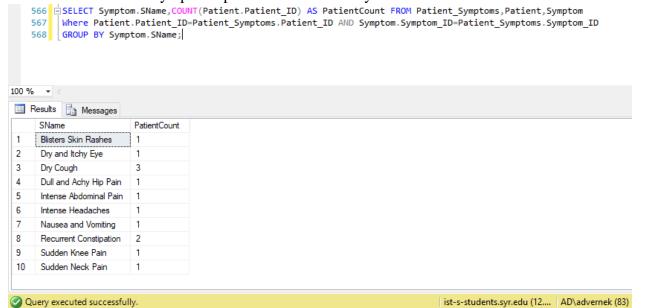


#### **Prescription Table**

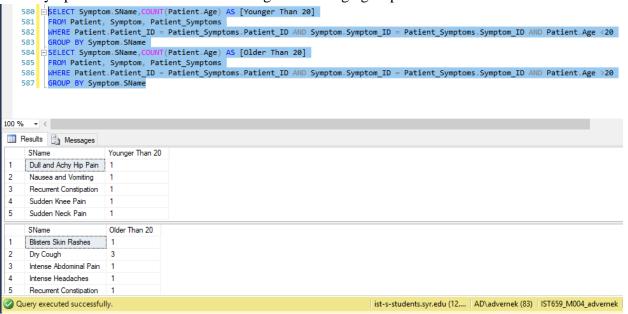


# **MAJOR DATA QUESTIONS**

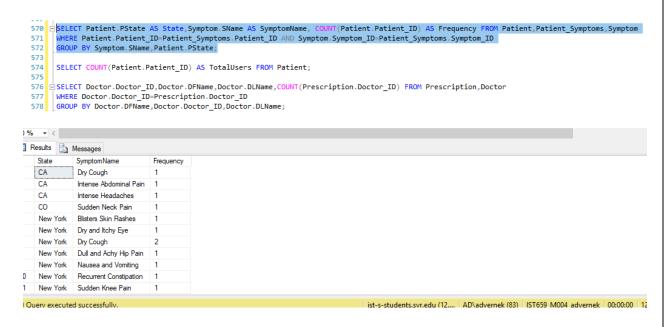
1. What are the common symptoms prevalent in the society?



2. What symptoms are more common among different age groups?



3. Is there any specific region that has some common symptoms?



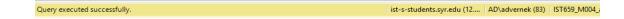
4. How many patients used the service?



5. Which are the most preferred doctors?







#### **INTERFACE**

• Begin Form



# **Doctor Login**



• Doctor may choose from these three actions

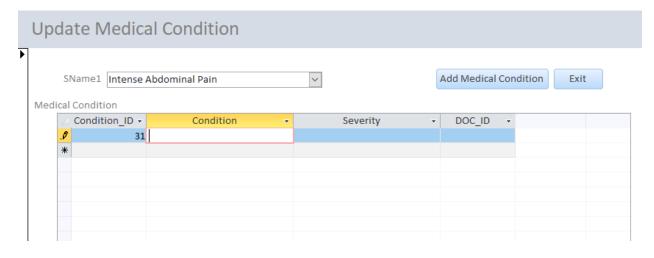
# **Choose Your Action**

Add Medical Condition

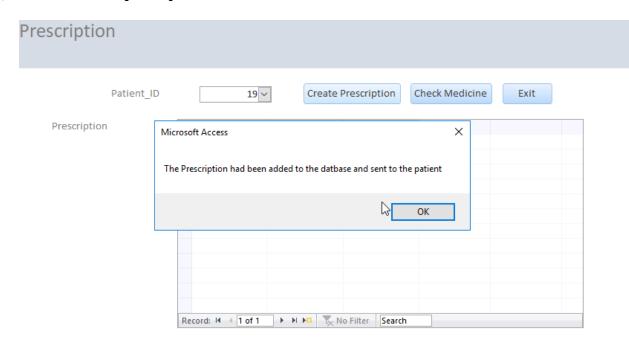
Create Prescription

Patient Symptoms

1) Doctor adds medical condition



#### 2) Doctor creates a prescription



# Doctor Checks Medicine ID before putting it in

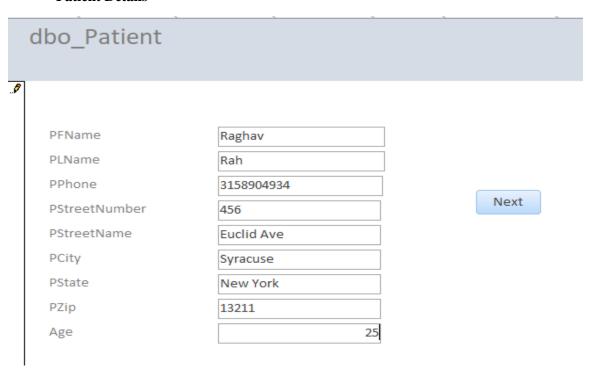
dbo_Medicine				
Medicine_ID	MeName	Company_Make		
1	Aspirin	Alcon		
2	Antihistamines	Allergan		
3	Dilantin	Acatvis		
4	Haldol	Advaxis		
5	Nexium	Alcon		
6	Minocin	Almirall		
7	Valium	Anfantis		
8	Atgam	Tylenol		
9	Boniva	Bial		
10	Biolex	Grifolos		
11	Antihistamines	Allergan		
12	Ligament Restore	Orexo		

# 3) Doctor checks patient symptoms

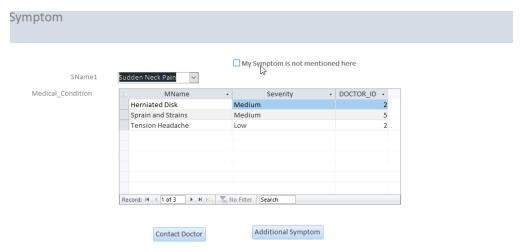
Patient Sy	mptoms
Patient_ID	SName
11	Dry Cough
11	Dry Cough
10	Recurrent Constipation
9	Sudden Neck Pain
8	Intense Headaches
7	Intense Abdominal Pain
6	Dry Cough
5	Blisters Skin Rashes
4	Dry and Itchy Eye
3	Dull and Achy Hip Pain
2	Recurrent Constipation
1	Nausea and Vomiting
1	Sudden Knee Pain

#### **Patient**

#### • Patient Details



#### • Patient selects symptoms



#### • Contact Doctor



#### **Reports**

We decided upon answering the data questions and presenting them as reports to the user so as to add functionality to the system and provide more control to the user along with a better ability to take informed decisions while using the system. Now the user can not only access and use the system but now he can also optimize his search and results based on these reports.

Common Symptoms Prevalent in the society

Patient Syr	mptoms
	₩
Patient_II	D SName
1	Nausea and Vomiting
1	Sudden Knee Pain
2	Recurrent Constipation
3	Dull and Achy Hip Pain
4	Dry and Itchy Eye
5	Blisters Skin Rashes
6	Dry Cough
7	Intense Abdominal Pain
8	Intense Headaches
9	Sudden Neck Pain
10	Recurrent Constipation
14	Recurrent Constipation
16	Dry Cough
17	Intense Headaches

# Symptoms Common in Different Age Group

Patient Symptoms (Age)				
Age	SName			
19	Nausea and Vomiting			
19	Sudden Knee Pain			
21	Recurrent Constipation			
15	Dull and Achy Hip Pain			
20	Dry and Itchy Eye			
30	Blisters Skin Rashes			
25	Dry Cough			
29	Intense Abdominal Pain			
23	Intense Headaches			
15	Sudden Neck Pain			
17	Recurrent Constipation			
24	Recurrent Constipation			
34	Dry Cough			
0.4				

# Specific region with Common Symptoms

Region-wise Symptoms				
PState	SName			
New York	Nausea and Vomiting			
New York	Sudden Knee Pain			
New York	Recurrent Constipation			
New York	Dull and Achy Hip Pain			
New York	Dry and Itchy Eye			
New York	Blisters Skin Rashes			
CA	Dry Cough			
CA	Intense Abdominal Pain			
CA	Intense Headaches			
СО	Sudden Neck Pain			
ОН	Recurrent Constipation			

## How many Patients used the service?

Patient_Details					
PFName	PPhone	PCity	PState	PZip	
Nathan	315-555-5555	Syracuse	New York	13205	
Sebastian	315-555-6666	Syracuse	New York	13210	
Heather	315-555-7777	Syracuse	New York	13210	
Olivia	315-555-8888	Syracuse	New York	13244	
Lily	315-556-9999	Syracuse	New York	13225	
Robinson	315-555-6666	Los	CA	90205	
Austin	805-280-2018	Oakland	CA	94620	
Tin	315-685-8898	Paperwork	CA	94645	
Cassandra	315-555-8888	Denver	со	80012	
Beverly	315-556-9999	Dayton	ОН	45404	

# Preferred Doctors

Preferred_Doctor				
Patient First Name	Patient Last Name	Doctor First Name	Doctor Last Name	
Nathan	Kerr	Dorothy	Paige	
Sebastian	Chapman	Amy	May	
Heather	Cameron	Amy	May	
Olivia	Wallace	Amy	May	
Lily	Turner	Charles	Duncan	
Robinson	Curt	Ray	Mysterio	
Austin	Byron	Victor	Miller	
Tin	Chung	Victor	Miller	
Cassandra	Alvarado	Charles	Duncan	
Beverly	Baker	Ray	Mysterio	
Raghav	Raheja	Amy	May	
Tanya	Maheshwari	Amy	May	
John	L	Amy	May	
Raghav	Raheia	Amv	Mav	