**Healthcare Insurance Management System**

**Database Specification: Purpose, Business Problems Addressed and Business Rules**

**Database Purpose:**

* The purpose of the database is to maintain the data used to generate and support patient's (customer) insurance based on the treatment received
* Its mission is to promote an easier way to manage policy details,policy holder details,agent ,claimant details and other payment details
* It will be used by administrative staff only with no duplication

**Business Problem Addressed**

The main objective is to automate the Health Care Insurance System which in turn

* Reduces data redundancy
* Eliminates delay in report generation
* Facilitates faster search operations

Thereby giving assurance to the policy holders with regards to data privacy and security.

**Business Rules**

* Each Customer may have one or more claims
* Each Agents may have zero or more customers
* Each Doctor may have zero or more customers
* Each Customer may have one or more transactions
* Each User will have one Customer or one Doctor or one Admin
* A disease will have any number of customers
* Each Customer can have zero or more doctors and vice versa
* Each Customer can have zero or more disease and vice versa

**Design Decisions**

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| **Entity Name** | **Why Entity Included** | **How is this entity related to other entities** |
| **Users** | This entity has information about the users (doctors, patients/customers, agents and the admin) – which primarily consists of their basic identity like First Name, Last Name etc.. | The primary key of this entity “user\_id” has one to one relationship with customer, doctor,agent and the admin entities |
| **Customer** | This is the primary entity in our database design which allows customers to claim an insurance, book an appointment with the doctor, track their payment, insurance type and their claim status | This entity is directly related to the User entity and an associative entity to disease, transactions due to many-to many relationships. Also, it has one to one relationship with the Agent and Premiums. One-to-many relationship with the medical records, transactions |
| **Doctor** | This entity has one-to-one relationship with the master “Users” entity and helps in tracking the customers and the medical records associated with the doctor | This entity has one to one relationship with the Users entity. And many-to-many relationship with Customers. And one-to-one relation with Hospital Entity |
| **Agent Details** | This entity helps track the customers associated with the agent and has access to both the claims and the claim status | The agent entity has one-to-one relationship with the Users and many - to – many relationships with the Customers |
| **Payment** | This entity helps track the payments done by the customers | Has many-to-many associative relationship with the Customer. Many payments can be made by the customer |
| **Insurance Type** | This provides information about what insurance the customer falls into | Has one-to-one relationship with the Premium entity |
| **Disease** | Information about the disease say – the disease name and an ID to identify the type of disease | Has many-to-many relationship with the Customer entity |
| **Claims** | Captures details regarding the claims done by the customer and tracks the claim status | It has direct relation with the customer through an associative entity due to one-to-many relationship. Many claims can be done by the customer. Also, it is related to the claim status with one-to-one relationship |
| **Claim Status** | Tracks the claims done by the customer with the flag – approved, rejected and the under progress | Directly associated with the claims entity |
| **Medical Records** | Consists of the medical history of the customers/patients.Helps in retrieving the patient’s history given the customerID | Has one-to-one relationship with the Customer Entity |
| **Premiums** | Helps in recording the categories the customer falls into – like Silver, Bronze, Platinum plans | One-to-one relationship with the Customer entity |
| **Admin** | Master role given to the Admin entity which takes care of the entire application say – CRUD operations on customer,doctor entities | One-to-one relationship with the User entity |
| **Immunization Records** | Why we have this entity? | Directly associated with the Immunization Entity and Customer Entity |
| **Hospitals** | Information about the hospitals - doctor is part of. | Associated with the Doctor Entity as a one-to-many relationship |