**Team Name: DataTitans**

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**Introduction**

The scope of this document is to provide an overview of the health insurance database design. In doing so this document will capture and convey the infrastructure and high-level database design which forms the basis for the key health insurance system components. The key objective of this Database Design Document is to provide a high-level overview of the data models to support the database design.

**Business Rules**

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| **Area** | **Number** | **Rule** |
| member\_id | ISO1 | Unique identification ID for each member |
| insurance\_status | ISO2 | This is required to see if the insurance is active or expired. |
| policy\_id | ISO3 | The policy the member has subscribed to. It must be captured. |
| relation | ISO4 | This describes the relation of the member with its subscriber/group. |
| policy\_premium | ISO5 | This contains the policy premium to be paid by the member. |
| policy\_start\_date | ISO6 | This date denotes the day the policy begins to be valid. |
| policy\_end\_date | ISO6 | This date denotes the day the policy becomes void. |
| number\_of\_members | ISO7 | This denotes the number of members present in a group. |
| primary\_doctor | ISO8 | It is compulsory to denote a primary doctor to every member having an active policy. |
| group\_id | ISO9 | Unique group ID of each group. |
| group\_name | ISO10 | Group name of each group |
| number\_of\_members | ISO11 | This stores the number of members in a group |
| sub\_id | ISO12 | Unique identification ID for each subscriber |
| policy\_type | ISO13 | This defines the type of policy, such as, Platinum, Gold, Student, etc. |
| policy\_coverage | ISO14 | Maximum yield of the policy. |
| addiction | ISO15 | Any addictions that a member has must be recorded. |
| disability | ISO16 | Any disability that a member has must be recorded. |
| disease\_id | ISO17 | Any disease that a member has must be recorded using ICD10 code.. |
| member\_address | ISO18 | Address of the member must be recorded and a member could have more than 1 address. |
| member\_phone | ISO19 | Phone number of the member must be recorded and a member could have more than 1 number. |
| ssn | OSO1 | SSN not required to be captured if the member doesn’t have an SSN. |
| profession | OSO2 | Profession must be tracked, but not required strictly. |
| provider\_id | ISO01 | Unique identification ID for each provider, including doctors and facilities. |
| provider\_type | ISO02 | Captures the provider type for that particular provider\_id. Eg. ‘Doctor’, ‘Facility’ |
| facility\_id | ISO03 | It is a unique identifier for a facility |
| facility\_name | ISO04 | It stores the facility's name |
| facility\_innetwork | ISO05 | It is compulsory to denote whether a facility is in-network or not. |
| doctor\_id | ISO06 | It contains the unique identification for each doctor |
| doctor\_fname | ISO07 | Stores the doctor’s first name |
| doctor\_lname | ISO08 | Stores the doctor’s last name |
| facility\_id | ISO09 | Every doctor must be connected to a facility. Hence using faciity\_id as FK for doctor table. |
| facility\_desc | ISO10 | It is necessary to capture data regarding the services provided by a facility. |
| doctor\_innetwork | ISO11 | It is compulsory to denote whether a doctor is in-network or not. |
| facility\_start\_time | ISO12 | It stores the facility’s start time |
| facility\_end\_time | ISO13 | It stores the facility’s closing time |
| specialty\_id | ISO14 | It is mandatory to store data regarding a doctor’s specialties. |
| doctor\_phone | OSO01 | It is preferred, but not compulsory to store a doctor’s phone number as it is difficult to capture data of out-network doctors. |
| doctor\_email | OSO02 | It is preferred, but not compulsory to store a doctor’s email id as it is difficult to capture data of out-network doctors. |
| plan\_id | ISO01 | This ID uniquely identifies a plan |
| plan\_type | ISO02 | This attribute stores the type of the plan the plan\_id points to |
| plan\_coverage | ISO03 | This stores the maximum yield of the policy. |
| plan\_facility\_id | ISO04 | This links the facility to the plan to check whether the facility is covered under the plan |
| plan\_disease\_id | ISO06 | This links the disease to the plan to check whether the disease is covered under the plan |
| policy\_id | ISO07 | This ID uniquely identifies a policy. All policies must have a unique identifier. |
| policy\_premium | ISO08 | Premium payable for every policy must be stored. |
| policy\_start\_date | ISO09 | The date of activation of the policy must be captured. |
| policy\_end\_date | ISO10 | The date of deactivation of the policy must be captured. |
| primary\_doctor | ISO11 | Primary doctor must be listed for every policy. |
| relation | ISO12 | Relation of the policyholder and their subscriber/group must be captured. |
| claim\_id | ISO13 | Unique identifier for every claim |
| claim\_date | ISO14 | Captures the date when the claim was filed |
| claim\_amount | ISO15 | Captures the total amount claimed |
| policy\_id | ISO16 | Links the policy\_id for which the claim is being filed for. |
| provider\_id | ISO17 | Captures the provider who has filed the claim |
| disease\_id | ISO18 | Causative disease for the claim must be stored. This could be used for analysis and/or to check whether a claim is valid under the active policy/plan (as a plan may or may not cater to some disease). |
| claim\_status | ISO19 | The status as in, ‘Passed’, ‘On hold’, ‘Rejected’, must be stored for a claim. |
| sub\_id | OSO01 | Subscriber ID must be stored for a policy if the member is not part of a group. Otherwise, it must not be collected. |
| group\_id | OSO01 | Group ID must be stored for a policy if the member is part of a group. Otherwise, it must not be collected. |

**Member Definition**

A member is anyone covered under a health insurance plan under the company policies; and is eligible for benefits during the tenure of the insurance plan.

**Provider Definition**

Health professionals who provide health care services; such as doctors, hospitals, chiropractors, physical therapists, and others offering specialized health care services.

**Plan Definition**

Health insurance plan is a type of insurance coverage that pays for medical and surgical expenses incurred by the insured. The plan can reimburse the insured for expenses incurred from illness or injury, or pay the care provider directly.

**Tables:**

**member:** This table has data of people who are insured by the company or have an insurance of the company. These people may or may not be the payer of their insurance and have a subscriber who pays for their insurance. Contains a unique member id, first name and last name of the member, insurance status stating whether the member is insured by the company, a policy id stating the policy under which the member is insured, SSN of the member, and the profession of the member.

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| **member** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| member\_id | char(6) | not null | Y | N | Contains each member’s unique id. It follows the format of ‘MEMXXX’ where XXX stands for numeric code, eg: MEM001, MEM002, etc |
| member\_fname | varchar(20) | not null | N | N | Stores member’s first name with the first character as capital, eg: ‘Akshul’,’Vincent’ |
| member\_lname | varchar(20) | not null | N | N | Stores member’s first name with the first character as capital, eg: ‘Patel’,’Walker’ |
| member\_insurance\_status | bit | not null | N | N | Specifies the insurance status of a member, where ‘1’ signifies currently active and ‘0’ signifies currently inactive. |

**groups:** Groups are a set of members who come together to avail some special offer or plan (they may or may not have a special plan), for example groups could have a family or another business organization who has taken a plan to provide insurance for its employees/family members. This table contains information of groups and their unique ID using which the group is called.

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| **groups** | | | | | |
| **Attribute Name** | **Data Type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| group\_id | char(6) | not null | Y | N | Contains each group’s unique id. It follows the format of ‘GRPXXX’ where XXX stands for numeric code, eg: ‘GRP001’, ‘GRP002’, etc |
| group\_name | varchar(40) | not null | N | N | Stores the group’s name with the first character as capital. eg:’ Data Titans’ |
| sub\_id | char(6) | null | N | Y | Specifies the subscriber for that group. It will contain data like, ‘SUB001’, ‘SUB002’, etc. |
| number\_of\_members | int | not null | N | N | Stores the number of members in the group. For eg: 10, 49, etc. |

**subscriber:** Subscriber is the person or a company who pays for a member’s/group’s insurance. This subscriber may or may not be a member himself. This table contains the subscriber’s unique ID, name and the group ID (if they are a subscriber for a group).

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| **subscriber** | | | | | |
| **Attribute Name** | **Data Type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| sub\_id | char(6) | not null | Y | N | Contains the unique subscriber id |
| sub\_fullname | vachar(40) | not null | N | N | Contains the full name of the subscriber which is a derived attribute from sub\_fname and sub\_lname such as: ‘sub\_fname’+’ ‘+’sub\_lname’.  OR  It is the name of a company as a subscriber; to do so, the fname and lname are kept null. |
| sub\_fname | varchar(20) | null | N | N | Contains the first name of the subscriber who is an individual. Null if the subscriber is a company. |
| sub\_lname | varchar(20) | null | N | N | Contains the last name of the subscriber who is an individual. Null if the subscriber is a company. |

**personal\_Info:** Contains personal information of the member such as; member id from the Member table, and SSN, date of birth, address, phone number and gender of the member.

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| **personal\_info** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| member\_id | char(6) | not null | Y | Y | Specifies the ID of the member from the member table. Contains data in the format: ‘MEMXXX’, where X is a single digit number. |
| ssn | char(11) | null | N | N | Stores the SSN of a member who has an SSN. |
| dob | date | not null | N | N | Contains the member’s date of birth. |
| member\_profession | varchar(30) | null | N | N | Stores the profession of a member. This profession is not limited by their career and could store data like, ‘Student’, ‘Homemaker’, ‘Unemployed’, etc. |
| gender | char(1) | not null | N | N | Stores the member’s gender. Possible values could be ‘M’,’F’,’U’ |

**medical\_history:** Contains records of present medical conditions of a member such as disease or addictions. This table lists the member id from the member table, any pre-existing disease, disability and addiction.

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| **medical\_history** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| member\_id | char(6) | not null | Y | Y | Specifies the ID of the member from the member table. Contains data in the format: ‘MEMXXX’, where X is a single digit number. |
| disease\_id | varchar(7) | null | N | Y | Refers to the disease\_id in the disease table to point to the disease suffered by the member. |
| disability | varchar(40) | null | N | N | This contains information regarding any kind of disability suffered by the member. |
| addiction | varchar(40) | null | N | N | This contains information regarding any kind of addiction a member suffers from. |

**disease:** This table contains the disease ID and the name of that disease and ICD 10 codes for that disease.

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| **disease** | | | | | |
| **Attribute Name** | **Data Type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| disease\_id | varchar(7) | not null | Y | N | Stores the IDC10 code for that disease. It follows the format of ‘AXXXXXX’ where A stands for an alphabet and X stands for single digit, eg: **A09**, **Z272130**, etc. |
| disease\_name | varchar(35) | not null | N | N | Stores the disease name. |

**member\_address:** This table contains the information of a member’s address and allows for listing multiple addresses for a member such as ‘Home address’, ‘Office/Work address’, etc. This table includes the Address type, Building number, Street Name, Zip Code linked by the member\_ID.

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| **member\_address** | | | | | |
| **Attribute Name** | **Data Type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| member\_id | varchar(10) | not null | N | Y | Specifies the ID of the member from the member table. Contains data in the format: ‘MEMXXX’, where X is a single digit number. |
| address\_type | varchar(20) | not Null | N | N | Stores the address type of a member. It could contain values such as: ‘home’, ‘office’, etc. |
| building\_no | int | not Null | N | N | Stores the building number of a member |
| street\_name | varchar(30) | not Null | N | N | Stores the street name |
| zip | char(5) | not Null | N | Y | Contains the zip of a member’s address |

**city:** City table contains the city and the zip code attributes linked to member\_address via zip code.

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| **city** | | | | | |
| **Attribute Name** | **Data Type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| city\_zip | char(5) | not null | Y | N | Contains the zip of the address |
| city | varchar(30) | not null | N | N | Stores the city name for a particular zip |

**member\_phone:** This table contains the information of a member’s phone numbers and allows for listing multiple numbers for a member such as ‘Home phone’, ‘Office/Work phone’, etc.Contains the phone type and phone details of a member linked by the member\_id.

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| **member\_phone** | | | | | |
| **Attribute Name** | **Data Type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| member\_id | char(6) | not null | N | Y | Specifies the ID of the member from the member table. Contains data in the format: ‘MEMXXX’, where X is a single digit number. |
| phone\_type | varchar(10) | not null | N | N | Store the phone type of the member. It could be ‘Home’,‘Work’,‘Mobile’,etc. |
| phone | char(14) | not null | N | N | Stores the phone number of the member in the following format: (xxx)-xxx-xxxx |

**provider:** Lists all providers, i.e. Doctors and Hospitals, and populate them with Provider\_id. Contains a unique provider id and the type of provider such as doctor or hospital.

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| **provider** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| provider\_id | char(6) | not null | Y | N | Contains each provider’s unique id. It follows the format of ‘DOCXXX’ OR ‘FACXXX’ where XXX stands for numeric code, eg: DOC001, FAC002, etc |
| provider\_type | varchar(10) | not null | N | N | It displays the type of provider such as ‘Doctor’ or ‘Facility’ for the particular ID. |

**facility:** This table has data of facilities who are either listed as providers, or facilities where doctors provide service, or both. These facilities may be in-network or out-network with the insurance company. The table contains a unique facility id, which is PFK from provider table, facility name and the network status of facility such as in-network or out-network.

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| **facility** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| facility\_id | char(6) | not null | Y | Y | Contains each facility’s unique id. It is a primary foreign key of provider table using provider\_id. It follows the format of ‘FACXXX’ where XXX stands for numeric code, eg: FAC001, FAC002, etc. |
| facility\_name | varchar(50) | not null | N | N | Stores facility’s name with the first character as capital, eg: ‘Children’s Hospital’ |
| facility\_innetwork | bit | not null | N | N | Specifies the network status of a facility where ‘1’ signifies in-network and ‘0’ signifies out-network. |
| building\_no | int | not null | N | N | Stores the building number of the facility. |
| street\_name | varchar(30) | not Null | N | N | Stores the street name |
| zip | char(5) | not Null | N | Y | Contains the zip of the facility’s address. |

**city:** City table contains the city and the zip code attributes linked to facility via zip code.

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| --- | --- | --- | --- | --- | --- |
| **city** | | | | | |
| **Attribute Name** | **Data Type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| city\_zip | char(5) | not null | Y | N | Contains the zip of the address |
| city | varchar(30) | not null | N | N | Stores the city name for a particular zip |

**doctor:** Contains an unique ID for each doctor and all the information related to that doctor such as the first name, last name, address, phone, email. It also stores information about the doctor’s specialty and whether the doctor is in network or otherwise.

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| --- | --- | --- | --- | --- | --- |
| **doctor** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| doctor\_id | char(6) | not null | Y | Y | Contains each doctor’s unique id. It is a primary foreign key of provider table using provider\_id. It follows the format of ‘DOCXXX’ where XXX stands for numeric code, eg: DOC001, DOC002, etc. |
| doctor\_fname | varchar(20) | not null | N | N | Stores doctor’s first name with the first character as capital, eg: ‘Peter’ |
| doctor\_lname | varchar(20) | not null | N | N | Stores doctor’s last name with the first character as capital, eg: ‘Peterson’ |
| doctor\_phone | char(14) | null | N | N | Stores the phone number of the doctor in the following format:(xxx)-xxx-xxxx. This column is nullable as out-network doctors’ data may not be available. |
| doctor\_email | varchar(128) | null | N | N | Stores the email of the doctor in the following format:abc@xyz.com. This column is nullable as out-network doctors’ data may not be available. |
| doctor\_innetwork | bit | not null | N | N | Specifies the network status of a doctor where ‘1’ signifies in-network and ‘0’ signifies out-network. |
| facility\_id | char(6) | not null | N | Y | This column connect a doctor to a facility using facility\_id. It contains a facility’s unique id. It is a foreign key of facility table using facility\_id. It follows the format of ‘FACXXX’ where XXX stands for numeric code, eg: FAC001, FAC002, etc. |

**facility\_info:** This table has extra data of facilities listed in the facility table. The table contains a unique facility id, which is PFK from facility table, facility description such as X-Ray, MRI, ICU, etc., facility start time and facility end time.

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| **facility\_info** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| facility\_id | char(6) | not null | N | Y | Contains each facility’s unique id. It is a primary foreign key of facility table using facility\_id. It follows the format of ‘FACXXX’ where XXX stands for numeric code, eg: FAC001, FAC002, etc. This column could have repeating values to list multiple information for 1 facility. |
| facility\_desc | varchar(50) | not null | N | N | It describes the special rooms/services provided by the facility such as: ICU, MRI, OT, etc. |
| facility\_start\_time | time | not null | N | N | It specifies the time when the service/room becomes available. The format is 24 hours. |
| facility\_end\_time | time | not null | N | N | It specifies the time when the service/room becomes unavailable. The format is 24 hours. |

**Specialty:** This table contains the unique specialty\_id and specialty name that a doctor can have.

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| **specialty** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| specialty\_id | char(6) | not null | Y | N | Contains each specialty’s unique id. It follows the format of ‘SPCXXX’ where XXX stands for numeric code, eg: SPC001, SPC002, etc. |
| specialty\_name | varchar(20) | not null | N | N | This attribute stores each specialty’s name which is linked by the unique specialty\_id |

**plan:** This table broadly lists various plans offered by the company. It displays the unique ID for every plan, the type of plan such as Gold, Platinum, etc., and the amount covered under a plan. This coverage amount means the maximum amount of money that can reimbursed under a plan.

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| --- | --- | --- | --- | --- | --- |
| **plan** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| plan\_id | char(6) | not null | Y | N | Contains each plan’s unique id. It follows the format of ‘PLNXXX’ where XXX stands for numeric code, eg: PLN001, PLN002, etc |
| plan\_type | varchar(30) | not null | N | N | It stores the type of the plan, such as ‘gold’,’silver’,’bronze’, etc. |
| plan\_coverage | Money | not null | N | N | This coverage amount means the maximum amount of money that can reimbursed under a plan. |

**plan\_info:**

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| --- | --- | --- | --- | --- | --- |
| **plan\_info** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| plan\_id | char(6) | not null | N | Y | Contains each plan’s unique id. It follows the format of ‘PLNXXX’ where XXX stands for numeric code, eg: PLN001, PLN002, etc. This column could be repeated to store various facilities that are connected under this plan, and the various diseases that are covered under this plan. |
| plan\_facility\_id | char(6) | not null | N | Y | This attribute links the facilities to the plan to show that a facility is covered under the policy. (A higher-level plan may have more facilities covered under it compared to lower-level plan) |
| plan\_disease\_id | varchar(7) | not null | N | Y | This attribute links the diseases to the plan to show that a disease is covered under the policy. (A higher-level plan may have more diseases covered under it compared to lower-level plan) |

**policy:** This table lists the unique policies designed for all members. These policies could be existing policies or older policies which have expired. This table also links member and plans to provide past and present policies a member held, it has IDs of subscriber of the member (if he is a solo member), group of the member (if the member is part of a group) and the relation of the member to subscriber/group. One entry in the table can either have a sub\_id or group\_id. To get the subscriber of a member who belongs to a group, then that must be obtained from the group table using the group\_id as FK in the policy table.

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| **policy** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| policy\_id | char(6) | not null | Y | N | Specifies a unique policy ID of a policy. It follows the format of ‘POLXXX’ where XXX stands for numeric code, eg: POL001, POL002, etc |
| plan\_id | char(6) | not null | N | Y | Contains each plan’s unique id. It follows the format of ‘PLNXXX’ where XXX stands for numeric code, eg: PLN001, PLN002, etc. This column could be repeated to store various facilities that are connected under this plan, and the various diseases that are covered under this plan. |
| member\_id | char(6) | not null | N | Y | Points to a member. The column contains a member’s unique id. It follows the format of ‘MEMXXX’ where XXX stands for numeric code, eg: MEM001, MEM002, etc |
| policy\_premium | money | not null | N | N | Since all members have their own tailored premium for their policy, this column stores that data. |
| policy\_start\_date | date | not null | N | N | Stores the start date of the member’s policy. |
| policy\_end\_date | date | not null | N | N | Stores the end date of the member’s policy. |
| sub\_id | char(6) | null | N | Y | Specifies the subscriber for that policy & member. If there is data in this column, then it means that this member doesn’t belong to a group and is a solo member. It will contain data like, ‘SUB001’, ‘SUB002’, etc.  If the column is null for a member, then it specifies that the member belongs to a group. |
| group\_id | char(6) | null | N | Y | Specifies the group for that member. If there is data in this column, then it means that this member belongs to a group. It will contain data like, ‘GRP001’, ‘GRP002’, etc.  If the column is null for a member, then it specifies that the member is a solo member and doesn’t belong to a group. |
| relation | varchar(20) | not null | N | N | Stores the relation of the member under the policy with its subscriber/group. It could have data like, ’Self’, ‘Son’, ‘Employee’, ‘Friend’, ‘Group Member’, etc. |
| primary\_doctor | char(6) | not null | N | Y | Specifies the ID of the primary doctor from the doctor table; of that member mentioned under his policy, for eg: ‘DOC001’, ‘DOC002’, etc. |

**Claim Definition:**

An insurance claim is a formal request to an insurance company asking for a payment based on the terms of the insurance policy.

**Tables:**

**claim:** This table records data related to the claims. We capture the unique claim ID, claim date, the amount claimed, status of the claim and link the claim to member, provider, disease tables with their unique IDs.

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| --- | --- | --- | --- | --- | --- |
| **claim** | | | | | |
| **Attribute Name** | **Data type** | **Nullability** | **PK** | **FK** | **Attribute Description** |
| claim\_id | char(6) | not null | Y | N | Specifies a unique policy ID of a claim. It follows the format of ‘CLMXXX’ where XXX stands for numeric code, eg: CLM001, CLM002, etc |
| claim\_date | date | not null | N | N | Stores the claim date |
| claim\_amount | Money | not null | N | N | The total claimed amount |
| policy\_id | char(6) | not null | N | Y | Specifies the ID of the policy from the policy table to specify the policy under which the claim is filed and also to get more details from policy table, for eg: ‘POL001’, ‘POL002’, etc. |
| provider\_id | char(6) | not null | N | Y | Specifies the ID of the provider from the provider table; to point out the provider that has filed for claim. Its format would be: ‘DOC001’, ‘DOC002’, etc. |
| disease\_id | varchar(7) | not null | N | Y | Refers to the disease\_id in the disease table to point to the disease for which the claim is filed. |
| claim\_status | int | not null | N | N | Describes the claim status:  0 indicates the claim is rejected  1 indicates the claim has passed  2 indicates the claim is on hold |

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| **RELATIONSHIPS** | | | |
| **From** | **To** | **Dependency** | **Foreign Key** |
| member | person\_info | 1-1 | member\_id |
| member | medical\_history | 1-\* | member\_id |
| member | member\_address | 1-\* | member\_id |
| member\_address | city | \*-1 | zip |
| medical\_history | disease | \*-1 | disease\_id |
| member | group | \*-1 | group\_id |
| subscriber | group | \*-1 | group\_id |
| member | subscriber | \*-1 | sub\_id |
| member | member\_phone | 1-\* | member\_id |
| provider | doctor | 1-1 | doctor\_id (provider\_id) |
| provider | facility | 1-1 | facility\_id(provider\_id) |
| facility | facility\_info | 1-\* | facility\_id |
| facility | doctor | 1-\* | facility\_id |
| facility | city | \*-1 | zip |
| doctor | specialty | \*-\* | doctor\_id, specialty\_id |
| plan | plan\_info | 1-\* | plan\_id |
| policy | plan | \*-1 | plan\_id |
| plan\_info | facility | 1-\* | facility\_id |
| plan\_info | disease | 1-\* | disease\_id |
| doctor | policy | 1-\* | primary\_doctor |
| member | policy | 1-1 | member\_id |
| policy | subscriber | \*-1 | sub\_id |
| policy | groups | \*-1 | group\_id |
| claim | policy | \*-1 | policy\_id |
| claim | provider | 1-1 | provider\_id |
| claim | disease | 1-1 | disease\_id |