

Assignment - I

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course: DBMS

Healthcare data warehouse with patient insights develop a data warehouse for analyzing patients records, treatment, diagnosis and healthcare provider data.

Requirement :-

- * Create dimension tables for patients, time and diagnosis and fact table for treatment records.
- * Implement ETL processes to load patient data from multiple sources, handling data cleansing and transformation.
- * Write queries to analyze trends in diagnosis, treatment effectiveness and patient demographics.
- * Create a view for healthcare administration to monitor key performance indicators such as average treatment duration and patient recovery rates.

Physical ER diagram :-

The actual that while this diagram database could include more attributes depending on your needs such as contact details for patients and providers, additional timestamps for record creation and updates and soon.

Patient

Patient ID (PK)

Name

DOB

Gender

Provider

Provider ID (PK)

Name

Specialty

Time

Time ID (PK)

Date

Month

Year

Treatment record

Record ID (PK)

Patient ID (FK)

Provider ID (FK)

Diagnosis ID (FK)

Time ID (FK)

Treatment Desc

Outcome

Diagnosis

Diagnosis ID (PK)

Description

conceptual ER diagram :-

This conceptual diagram represents the high-level structure and relationship between the key entities in your healthcare data warehouse.

Patient

Patient ID (PK)

Name

DOB

Gender

Provider

Provider ID (PK)

Name

Specialty

Time

Time ID (PK)

Date

Month

Year

Treatment record

Record ID (PK)

Patient ID (FK)

Provider ID (FK)

Diagnosis ID (FK)

Time ID (FK)

Treatment desc

outcome

Diagnosis

Diagnosis ID (PK)

Description

Logical ER diagram

This logical diagram adds more specific attributes to each entity, helping to define what kind of data each table will store. The relationships between the entities are more detailed, showing how patient records, providers, diagnosis and time are linked through treatment records.

Patient

Patient ID (PK)

First name

Last name

Date of Birth

Gender

Address

Contact Number

Provider ID (PK)

First name

Last name

Specialty

Contact number

Email

Time

Diagnosis

Time ID (PK)

Diagnosis ID (PK)

Date

code

month

Description

Year

Quarter



Treatment Record

Record ID (PK)

Patient ID (FK)

Provider ID (FK)

Diagnosis ID (FK)

Time ID (FK)

Treatment Desc

Treatment Date

Outcome

Code

* Create the patient table

```
Create Table patient (
    Patient ID INT PRIMARY KEY,
    First Name VARCHAR(50),
    Last Name VARCHAR(50),
    DOB DATE,
    Gender CHAR(1),
    Address VARCHAR(255),
    Contact Number VARCHAR(15)
);
```

* Create the provider table

```
Create Table provider (
    provider ID INT PRIMARY KEY,
    First Name VARCHAR(50),
    Last Name VARCHAR(50),
    Specialty VARCHAR(50),
    contact number VARCHAR(15),
    Email VARCHAR(100)
);
```

Treatment Description TEXT,

Treatment Date DATE,

Outcome TEXT,

FOREIGN KEY (Patient ID) REFERENCES patient (Patient ID),

FOREIGN KEY (Provider ID) REFERENCES provider (Provider ID),

FOREIGN KEY (Diagnosis ID) REFERENCES diagnosis (Diagnosis ID)

FOREIGN KEY (Time ID) REFERENCES Time (Time ID)

);