Power BI Report Dashboard Development

## **Objective**

Create a healthcare analytics dashboard to visualize appointments, billing, patient demographics, doctor performance, and treatment trends.

Dataset:<https://github.com/manav9503/healthcare-analytics-dashboard/tree/main/healthcare-analytics-dashboard>

This dataset consisting of five interconnected tables:

1. **appointments**: appointment\_id appointment\_date appointment\_time doctor\_id patient\_id reason\_for\_visit status
2. **billing**: bill\_id bill\_date amount patient\_id payment\_method payment\_status treatment\_id
3. **patients**: patient\_id first\_name last\_name gender date\_of\_birth email contact\_number address insurance\_number insurance\_provider
4. **doctors**: doctor\_id first\_name last\_name email phone\_number hospital\_branch specialization years\_experience
5. **treatments**: treatment\_id appointment\_id treatment\_type description treatment\_date cost

## **Relationships** between these tables

1. appointments ⬌ doctors

* **Relationship**: appointments[doctor\_id] → doctors[doctor\_id]
* **Type**: Many-to-One

2. appointments ⬌ patients

* **Relationship**: appointments[patient\_id] → patients[patient\_id]
* **Type**: Many-to-One

3. appointments ⬌ treatments

* **Relationship**: treatments[appointment\_id] → appointments[appointment\_id]
* **Type**: One-to-One

4. billing ⬌ patients

* **Relationship**: billing[patient\_id] → patients[patient\_id]
* **Type**: Many-to-One

5. billing ⬌ treatments

* **Relationship**: billing[treatment\_id] → treatments[treatment\_id]
* **Type**: One-to-One

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## **DAX : Measures Explained**

**Appointments by Doctor**

**Purpose**: Counts the number of appointments each doctor has.

Dax:Appointments by Doctor =

CALCULATE(

COUNTROWS(appointments),

ALLEXCEPT(appointments, appointments[doctor\_id])

)

**Average Treatment Cost**

**Purpose**: Shows the average cost of all treatments.  
Dax:Average Treatment Cost = AVERAGE(treatments[cost])

**Completed Appointments**

**Purpose**: Counts only the appointments marked as “Completed”.

Dax:Completed Appointments =

CALCULATE(

COUNTROWS(appointments),

appointments[status] = "Completed"

)

**Patients per Doctor**

**Purpose**: Shows the number of unique patients each doctor has seen.  
Dax:Patients per Doctor =

CALCULATE(

DISTINCTCOUNT(appointments[patient\_id]),

ALLEXCEPT(appointments, appointments[doctor\_id])

)

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**Total Appointments**

**Purpose**: Counts all appointments in the dataset.

Dax:Total Appointments = COUNTROWS(appointments)

**Total Revenue**

**Purpose**: Calculates the sum of all billed amounts.  
Dax:Total Revenue = SUM(billing[amount])

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## **Filters / Slicers Used:**

1. Reason for Visit

* **Field**: appointments[reason\_for\_visit]
* **Use**: Lets users focus on specific visit types (e.g., check-up, consultation, emergency).

2. Payment Status

* **Field**: billing[payment\_status]
* **Use**: Allows filtering based on payment completion (e.g., Paid, Pending).

3. Hospital Branch

* **Field**: doctors[hospital\_branch]
* **Use**: Enables users to view data for a specific hospital branch.

## **Healthcare-analytics-dashboard**

<https://github.com/manav9503/healthcare-analytics-dashboard/tree/main>