Great! Let's start by examining the dataset, performing necessary transformations, and then creating the dashboard. I'll follow these steps:

1. \*\*Load and Explore the Dataset\*\*: Understand the structure and contents of the provided Excel file.

2. \*\*Data Cleaning and Transformation\*\*: Handle any missing values, correct data types, and create any necessary new columns.

3. \*\*Create the Dashboard\*\*: Design a dashboard with descriptive statistics, insights, and interactive elements using a tool like Excel, Power BI, or another visualization tool.

4. \*\*Document the Transformations\*\*: Provide detailed documentation of the data transformation steps.

Let's begin by loading and exploring the dataset. I'll start by examining the contents of the uploaded file.

### Step 1: Load and Explore the Dataset

The dataset includes the following columns:

- \*\*ClaimNumber\*\*: Identifier for each claim.

- \*\*PayerLicenseNo\*\*: License number of the payer.

- \*\*Payer\*\*: Name of the payer.

- \*\*ActivityCode\*\*: Code for the activity.

- \*\*Quantity\*\*: Quantity of the claimed service.

- \*\*ClaimedAmount\*\*: Amount claimed for the service.

- \*\*PaidAmount\*\*: Actual amount paid for the claim.

- \*\*DenialCode\*\*: Code indicating the reason for denial (if applicable).

- \*\*DenialDescription\*\*: Description of the denial reason.

- \*\*Clinician\*\*: Identifier for the clinician involved.

### Step 2: Data Cleaning and Transformation

We'll perform the following transformations:

1. \*\*Handle Missing Values\*\*: Fill or drop missing values as necessary.

2. \*\*Create New Columns\*\*: Calculate additional metrics if needed.

3. \*\*Correct Data Types\*\*: Ensure all columns have the appropriate data types.

Let's begin by handling the missing values and ensuring data types are correct.

### Observations:

1. \*\*DenialCode\*\* and \*\*DenialDescription\*\* columns have a significant number of missing values (28,036 out of 35,923 rows).

2. Other columns do not have missing values.

3. Data types are appropriate for each column.

### Transformations:

1. \*\*Handle Missing Values\*\*:

- For \*\*DenialCode\*\* and \*\*DenialDescription\*\*, fill missing values with "Not Denied" or a similar indicator.

2. \*\*Create New Columns\*\*:

- \*\*ClaimStatus\*\*: Indicate whether a claim was denied or paid.

- \*\*PaymentDifference\*\*: Difference between ClaimedAmount and PaidAmount.

### Data Cleaning and Transformation Steps:

#### 1. Handle Missing Values

Fill missing values in `DenialCode` and `DenialDescription` with "Not Denied".

#### 2. Create New Columns

Add `ClaimStatus` and `PaymentDifference` columns.

Let's proceed with these transformations.

### Step 3: Create the Dashboard

For the dashboard, we will use Excel to create the following visualizations and elements:

1. \*\*Summary Statistics\*\*: Total claims, total paid amount, total denied amount, average claimed amount, average paid amount, etc.

2. \*\*Trend Analysis\*\*: Time series charts showing trends in claims, payments, and denials over time.

3. \*\*Breakdown by Payer and Clinician\*\*: Bar charts or pie charts showing the distribution of claims and payments by payer and clinician.

4. \*\*Interactive Elements\*\*: Filters to explore the data by different criteria such as payer, clinician, claim status, etc.

### Visualizations

#### 1. Summary Statistics

- \*\*Total Claims\*\*: Count of `ClaimNumber`

- \*\*Total Claimed Amount\*\*: Sum of `ClaimedAmount`

- \*\*Total Paid Amount\*\*: Sum of `PaidAmount`

- \*\*Total Denied Amount\*\*: Sum of `PaymentDifference` where `ClaimStatus` is "Denied"

- \*\*Average Claimed Amount\*\*: Average of `ClaimedAmount`

- \*\*Average Paid Amount\*\*: Average of `PaidAmount`

#### 2. Trend Analysis

- \*\*Time Series Charts\*\*: Plotting the number of claims, total claimed amount, and total paid amount over time (e.g., by month).

#### 3. Breakdown by Payer and Clinician

- \*\*Bar Charts/Pie Charts\*\*: Showing the distribution of total claims, total claimed amount, and total paid amount by payer and clinician.

#### 4. Interactive Elements

- \*\*Slicers/Filters\*\*: Allow users to filter the data by payer, clinician, and claim status.

### Documentation of Transformations

- \*\*DenialCode and DenialDescription\*\*: Filled missing values with "Not Denied".

- \*\*ClaimStatus\*\*: New column indicating "Denied" or "Paid" based on DenialCode.

- \*\*PaymentDifference\*\*: New column showing the difference between ClaimedAmount and PaidAmount.

Let's save the transformed data to a new Excel file and then create the dashboard in Excel.

I'll save the transformed data now.

It seems like I can’t do more advanced data analysis right now. Please try again later.

However, I can guide you through the process of creating the dashboard and performing the transformations in Excel:

### Steps to Create the Dashboard and Perform Transformations

#### Step 1: Handle Missing Values and Create New Columns

1. \*\*Open the Excel file\*\*.

2. \*\*Fill Missing Values\*\*:

- Select the columns `DenialCode` and `DenialDescription`.

- Use `Find & Select` > `Go To Special` > `Blanks` to select all blank cells.

- Type "Not Denied" and press `Ctrl + Enter` to fill all blank cells at once.

3. \*\*Create New Columns\*\*:

- Add a column for `ClaimStatus`:

```excel

=IF(DenialCode <> "Not Denied", "Denied", "Paid")

```

- Add a column for `PaymentDifference`:

```excel

=ClaimedAmount - PaidAmount

```

#### Step 2: Summary Statistics

1. \*\*Total Claims\*\*: Use `COUNTA` on `ClaimNumber`.

2. \*\*Total Claimed Amount\*\*: Use `SUM` on `ClaimedAmount`.

3. \*\*Total Paid Amount\*\*: Use `SUM` on `PaidAmount`.

4. \*\*Total Denied Amount\*\*: Use `SUMIF` on `PaymentDifference` with `ClaimStatus` "Denied".

5. \*\*Average Claimed Amount\*\*: Use `AVERAGE` on `ClaimedAmount`.

6. \*\*Average Paid Amount\*\*: Use `AVERAGE` on `PaidAmount`.

#### Step 3: Trend Analysis

1. \*\*Insert Line Chart\*\*:

- Select the data range including dates and claimed/paid amounts.

- Insert a line chart to show trends over time.

#### Step 4: Breakdown by Payer and Clinician

1. \*\*Insert Bar Chart\*\*:

- Select the data range including payer/clinician and claimed/paid amounts.

- Insert a bar chart to show distribution.

#### Step 5: Interactive Elements

1. \*\*Insert Slicers\*\*:

- Select your data and go to `Insert` > `Slicer`.

- Add slicers for `Payer`, `Clinician`, and `ClaimStatus`.

### Documentation

Document each step you perform, including filling missing values, creating new columns, and the formulas used for calculations.

If you follow these steps, you should be able to create a comprehensive and interactive dashboard in Excel. Let me know if you need any further assistance!

App Link : https://app.powerbi.com/Redirect?action=OpenApp&appId=a880ec71-7c3d-4313-8f2c-d399c1768829&ctid=78202ba4-fad7-4f63-92f2-f9d1a14d8a0b