Healthcare Data Analysis Dashboard

Project Structure with Filters

Page 1: Patient Demographics

- **KPIs:**
    1. **Total Admitted Patients**: Sum of total admitted patients (displayed as a card visualization).
    2. **Gender Distribution (%)**: Percentage of each gender (displayed as a pie chart).
    3. **Total Number of Patients by Blood Type**: Count of patients for each blood type (displayed as a bar chart).
    4. **Average Age of Patients**: Average age of patients (displayed as a card visualization).
- **Charts:**
    1. **Bar Chart** — **Age Distribution**: Visualize the number of patients across different age groups (e.g., 0-10, 11-20, etc.). This will help identify which age groups are most represented in the dataset.
    2. **Stacked Bar Chart** — **Gender vs. Medical Condition**: Show the distribution of genders across various medical conditions. This will help analyze if certain conditions are more prevalent in specific genders.
    3. **Heatmap** — **Geographical Distribution of Patients**: Display the number of patients by geographical location (e.g., city or region). This can reveal trends in patient demographics based on location.
- **Filters for Page 1:**
    - Age Range Slider (e.g., 0–100 years)
    - Gender (Male, Female, Other)
    - Blood Type (A+, A-, B+, B-, AB+, AB-, O+, O-)
    - Medical Condition (selectable conditions)
- **Deep Questions:**

1. What is the age distribution among patients, and how does it affect health outcomes?
2. Does gender influence the prevalence of certain medical conditions in this dataset?
3. Are there geographical trends in patient demographics that could impact healthcare delivery?

- **Insight Focus:** Identifying population characteristics that may impact patient care planning or resource allocation, as well as understanding demographic trends that could inform healthcare strategies.

Page 2: Hospitalization and Treatment Outcomes

• **KPIs:**

1. **Total Number of Patients:** Count of all patients admitted to the hospital (displayed as a card visualization).
2. **Average Length of Stay:** Average duration of patient stays in days (displayed as a card visualization).
3. **Number of Rooms Utilized:** Count of distinct room numbers assigned to patients during their stay (displayed as a card visualization).
4. **Total Number of Doctors On Duty:** Count of distinct doctors responsible for patient care (displayed as a card visualization).

• **Charts:**

1. **Pie Chart — Patients by Test Results:** Visualize the percentage of patients with normal vs. abnormal test results. This will help identify the overall health status of admitted patients.
2. **Line Chart — Average Length of Stay Over the Years:** Track trends in the average length of stay for patients over time. This can reveal changes in treatment efficiency or patient care practices.
3. **Donut Chart — Patients by Admission Type:** Show the distribution of patients based on admission type (e.g., Emergency, Elective). This will help analyze the demand for different types of care.

• **Filters for Page 2:**

- Admission Type (Emergency, Elective)
- Medical Condition (selectable conditions)
- Test Results (Normal, Abnormal)
- Time Period (Year/Month)

• **Deep Questions:**

1. What percentage of patients have abnormal test results, and how might this impact treatment protocols?
2. How has the average length of stay changed over the years, and what factors might be influencing these trends?
3. What is the distribution of patients between emergency and elective admissions, and how does this affect resource allocation?
4. Are there correlations between the number of doctors on duty and the average length of stay or patient outcomes?

• **Insight Focus:** Understanding patient admission patterns, treatment durations, and test results to improve hospital operations and enhance patient care strategies. This analysis aims to identify trends that can inform resource allocation and operational efficiency.

Page 3: Financial Overview and Insurance Coverage

• **KPIs:**

1. **Total Number of Patients:** Count of all patients admitted to the hospital (displayed as a card visualization).
2. **Total Billing Amount:** Sum of all billing amounts for treatments provided (displayed as a card visualization).
3. **Average Billing Amount:** Average cost per patient for treatments (displayed as a card visualization).
4. **Billing per Blood Group:** Total billing categorized by blood group (displayed as a column chart).

• **Charts:**

1. **Bar Chart — Total Billing by Medical Condition:** Visualize the total billing amounts associated with each medical condition, helping to identify high-cost areas.

2. **Column Chart — Total Billing by Insurance Provider:** Show the contribution of each insurance provider to the overall billing, highlighting financial dependencies.
3. **Line Chart — Average Billing Over the Years:** Track trends in average billing amounts over time, revealing changes in treatment costs and financial performance.

• **Filters for Page 3:**

- Insurance Provider (selectable options)
- Medical Condition (selectable conditions)
- Time Period (Year/Month)

• **Deep Questions:**

1. What are the highest billing medical conditions, and how can this inform resource allocation?
2. How does the average billing amount vary by insurance provider, and what implications does this have for financial planning?
3. What trends can be observed in average billing over the years, and what factors might be influencing these changes?

• **Insight Focus:** Understanding financial performance, billing patterns, and insurance contributions to enhance revenue management and inform strategic decisions. This analysis aims to identify trends that can optimize resource allocation and improve financial sustainability.

Global filters

Hospitals

Gender

Year