OVERVIEW OF HEALTH CARE DATA ANALYSIS

1. Objective

Define the purpose of the data analysis project in healthcare:

- To improve patient outcomes.
- To identify trends in disease incidence.
- To optimize hospital operations and reduce costs.
- To evaluate the effectiveness of treatments or interventions.

2. Data Preparation

Outline the steps taken to clean and preprocess the data:

- Removing duplicate records.
- Handling missing data.
- Normalizing data formats.

3. Methodology

Describe the methods and tools used for analysis:

- **Descriptive Analysis:** Summarizing data using statistics and visualization tools.
- **Prescriptive Analysis:** Providing recommendations based on predictive insights.
- **Tools Used:** Python, Excel, SQL, Power BI, DAX etc.

4. Key Metrics and KPIs

Identify the metrics to evaluate performance and outcomes:

- Billing Amount
- Medication Cost
- Treatment Cost
- Total Insurance
- Room Charges
- Remaining Balance in Insurance

5. Insights and Findings

Highlight key results and discoveries:

- Analyze the total Billing Amount By State and city
- Total Billing Amount by Procedure with the percentage of Grand Total
- Total Billing Amount by Diagnosis and service type
- Total Billing Amount by Department with Pct of Grand Total

6. Visualization

Include visual representations of the data:

- Charts: Line graphs, bar charts, MAP charts.
- Maps: Geographic patterns in healthcare outcomes.
- Dashboards: Interactive views for stakeholders.

7. Recommendations

Provide actionable recommendations based on the findings:

- Implement specific treatment protocols.
- Optimize resource allocation in hospitals.
- Launch public health campaigns targeting identified risk areas.

8. Limitations and Challenges

Discuss challenges encountered during the project:

- Data quality issues.
- Incomplete or biased datasets.
- Limitations of models or tools used.
- Ethical considerations in handling sensitive health data.