**Heart Failure Clinical Dataset**

**Overview**

This dataset contains clinical records of patients who have experienced heart failure. The data includes various clinical features, demographics, and a target variable indicating whether the patient experienced a death event. The purpose of this dataset is to enable analysis and prediction of mortality among heart failure patients, aiding in understanding key factors associated with patient outcomes.

**Dataset Description**

The dataset consists of 13 columns (features) and one target variable. Below is a detailed explanation of each column:

**Columns (Features)**:

1. Age: The age of the patient in years.

2. Anaemia: Indicates whether the patient has anaemia (1 = Yes, 0 = No).

3. Creatinine phosphokinase: The level of the CPK enzyme in the blood, which is an enzyme found mainly in the heart, brain, and skeletal muscles.

4. Diabetes: Indicates whether the patient has diabetes (1 = Yes, 0 = No).

5. Ejection fraction: The percentage of blood leaving the heart each time it contracts. It is a key measure of heart function.

6. High\_blood\_pressure: Indicates whether the patient has high blood pressure (1 = Yes, 0 = No).

7. Platelets: The platelet count in the blood, important for clotting.

8. Serum creatinine: The level of creatinine in the blood, which is a waste product filtered by the kidneys. Higher levels can indicate kidney dysfunction.

9. Serum sodium: The level of sodium in the blood, which is essential for maintaining blood pressure, blood volume, and nerve and muscle function.

10. Sex: The gender of the patient (1 = Male, 0 = Female).

11.Smoking: Indicates whether the patient is a smoker (1 = Yes, 0 = No).

12. Time: The follow-up period in days, representing the duration from the start of the observation period until the occurrence of a death event or until the last follow-up.

13. DEATH\_EVENT: Indicates whether the patient experienced a death event during the follow-up period (1 = Yes, 0 = No).

**Use Cases**

This dataset can be used for the following purposes:

Predictive Modelling: To build models that predict the likelihood of a death event based on the clinical features.

Exploratory Data Analysis (EDA): To understand the distribution of various clinical features and their relationship with patient outcomes.

Risk Factor Analysis: To identify and analyze key risk factors that contribute to mortality in heart failure patients.

**Suggested Analyses**

Survival Analysis: Explore how different factors like age, serum creatinine levels, and ejection fraction affect the survival time.

Correlation Studies: Analyse correlations between various clinical features and the occurrence of death events.

-Comparison by Subgroups: Compare outcomes by subgroups, such as by gender, presence of diabetes, or high blood pressure.

**Tools :** PowerBI, Excel

**Approach:**  
1. Imported and Loaded the Dataset in Power Bl.  
2. Conducted Data Cleaning and Transformation in Power Query Editor.  
3. Created Key Measures and Dax Calculated Columns using DAX.  
4. Developed various visuals such as Bar Charts 📊 , Line Charts 📈 , Area Chart 📉, Pie Charts 🔘, Stacked Bar Charts, Slicers, and Cards for the Dashboards.  
5. Implemented Slicers for filtering insights by Male or Female and used a drill through

**Conclusion**

This dataset provides valuable insights into the clinical factors associated with heart failure mortality. By analysing these data, healthcare professionals and data scientists can gain a deeper understanding of the risks and contribute to better patient outcomes. The dataset was given as a CSV and later transferred into PowerBI by me and different Dax measures was calculated