HEART DISEASE DIAGNOSTIC

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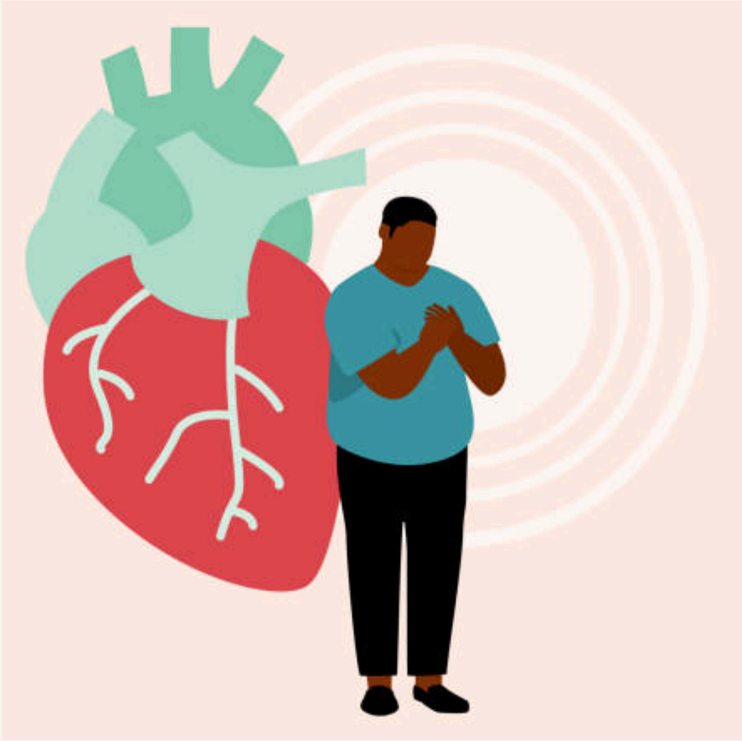
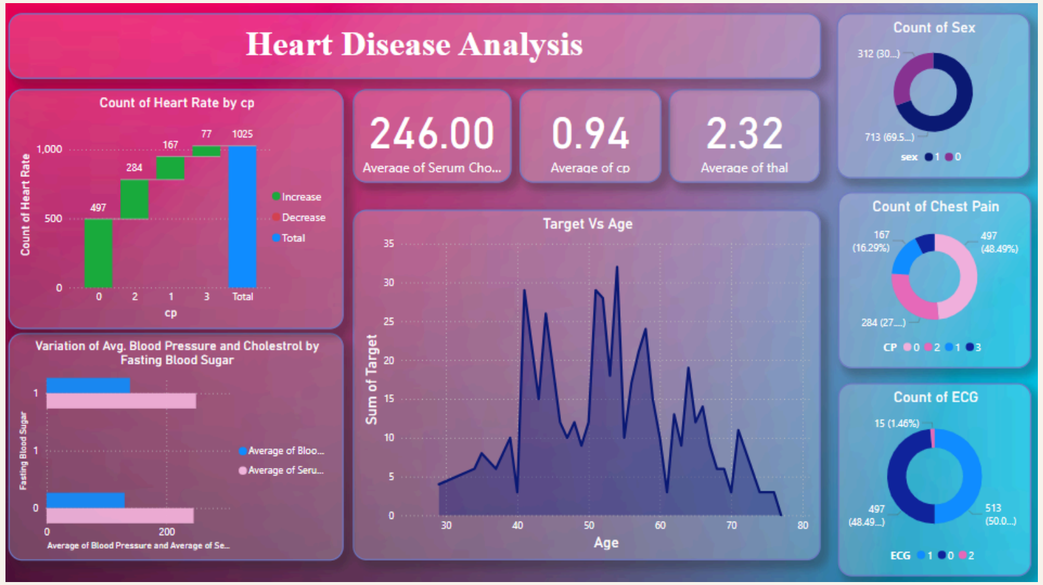
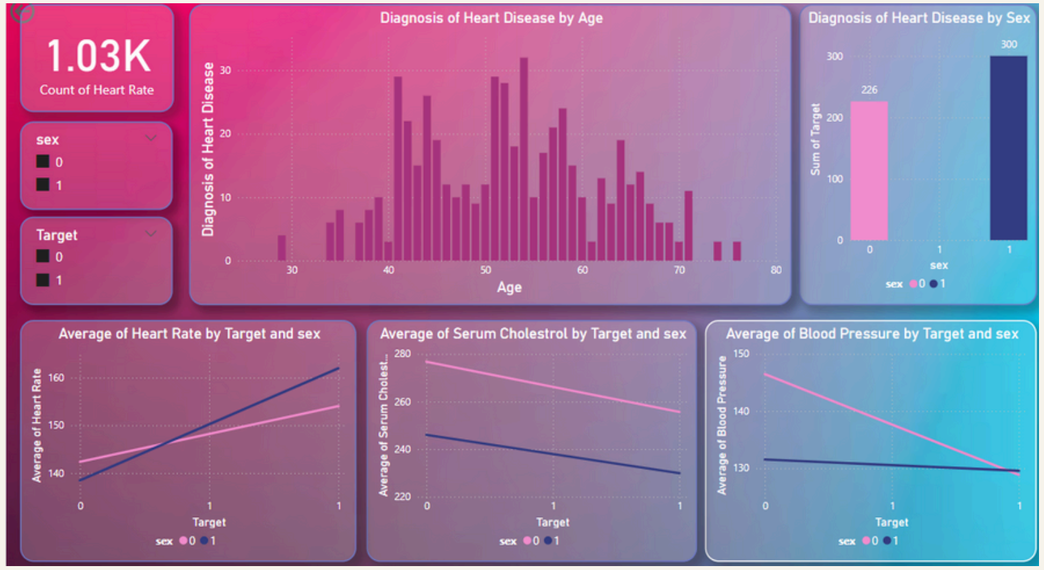
INTRODUCTION

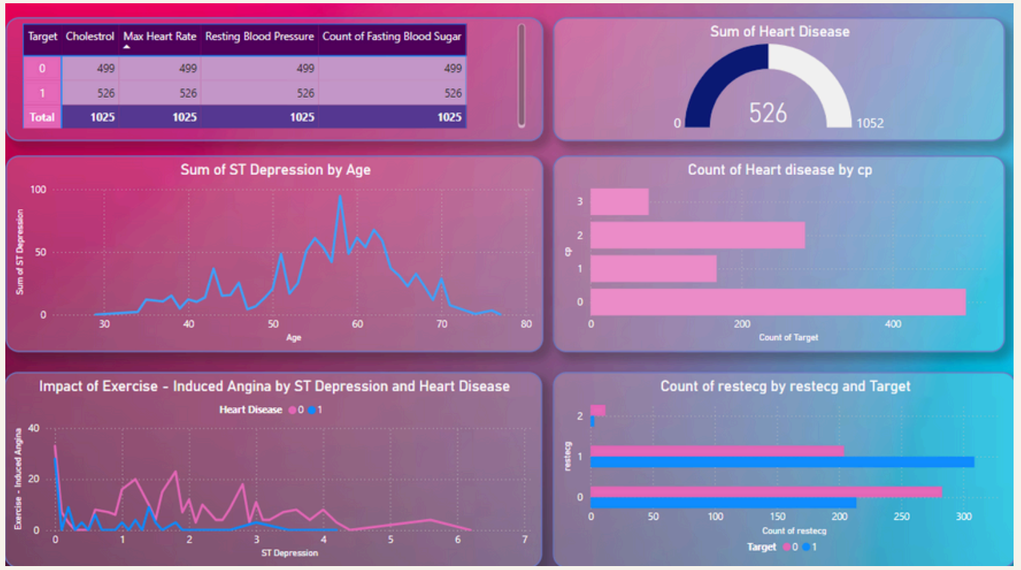
- Heart disease is a leading cause of death worldwide. Early detection and prevention are crucial for improving patient outcomes.
- Cardiovascular diseases have been the most common cause of death worldwide over the last few decades in developed as well as underdeveloped and developing countries. Early detection of cardiac diseases and continuou supervision of clinicians can reduce the mortality rate. However, it is not possible to monitor patients every day in all cases accurately and consultation of a patient for 24 hours by a doctor is not availabl since it requires more sapience, time, and expertise.
- Every day, the average human heart beats around I00,000 times, pumping 2,000 gallons of blood through the body. Inside your body, there are 60,000 miles of blood vessels. The signs of a woman having a heart attack are much less noticeable than the signs of a man. In women, heart attacks may feel uncomfortable squeezing, pressure, fullness, or pain in the center of the chest. It may also cause pain in one or both arms, the back, neck, jaw, stomach, shortness of breath, nausea, and other symptoms.



MY DESIGN


Heart Disease Analysis
Count of Heart Rate by cp
Count of Heart Rate
cp
Increase
Decrease
Total
246.00
Average of Serum Cho...
0.94
Average of cp
2.32
Average of thal
Count of Sex
sex
Target Vs Age
Sum of Target
Age
Count of Chest Pain
CP
Variation of Avg. Blood Pressure and Cholestrol by Fasting Blood Sugar
Fasting Blood Sugar
Average of Blood Pressure and Average of Se...
Count of ECG
ECG

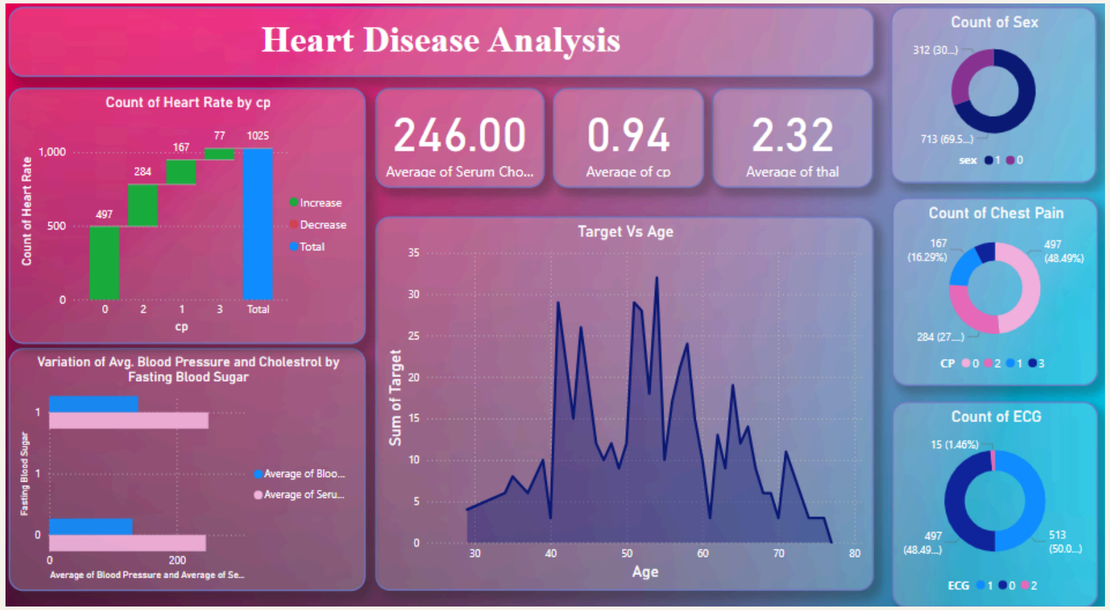

1.03K
Count of Heart Rate
sex
Target
Diagnosis of Heart Disease by Age
Diagnosis of Heart Disease
Age
Diagnosis of Heart Disease by Sex
Sum of Target
sex
Average of Heart Rate by Target and sex
Average of Heart Rate
Target
Average of Serum Cholestrol by Target and sex
Average of Serum Cholest...
Average of Blood Pressure by Target and sex
Average of Blood Pressure


Target
Cholestrol
Max Heart Rate
Resting Blood Pressure
Count of Fasting Blood Sugar
0 499 499 499 499
1 526 526 526 526
Total 1025 1025 1025 1025
Sum of Heart Disease
526
Sum of ST Depression by Age
Sum of ST Depression
Age
Count of Heart disease by cp
cp
Count of Target
Impact of Exercise - Induced Angina by ST Depression and Heart Disease
Heart Disease
Exercise - Induced Angina
ST Depression
Count of restecg by restecg and Target
restecg
Count of restecg
Target

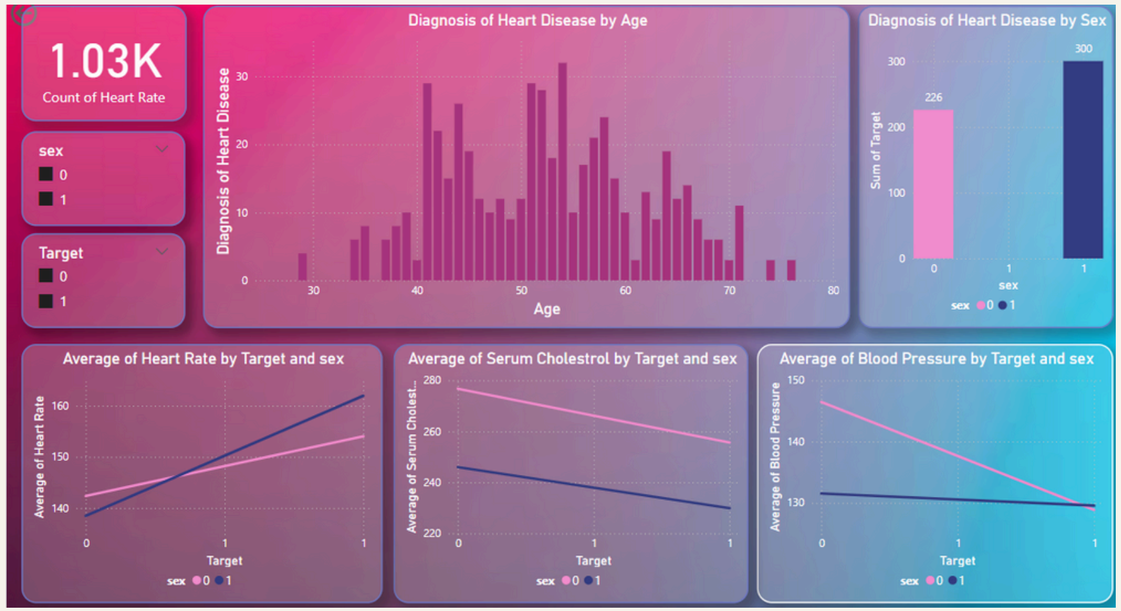
DATASET

age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	target
52	1	0	125	212	0	1	168	0	1	2	2	3	0
53	1	0	140	203	1	0	155	1	3.1	0	0	3	0
70	1	0	145	174	0	1	125	1	2.6	0	0	3	0
61	1	0	148	203	0	1	161	0	0	2	1	3	0
62	0	0	138	294	1	1	106	0	1.9	1	3	2	0
58	0	0	100	248	0	0	122	0	1	1	0	2	1
58	1	0	114	318	0	2	140	0	4.4	0	3	1	0
55	1	0	160	289	0	0	145	1	0.8	1	1	3	0
46	1	0	120	249	0	0	144	0	0.8	2	0	3	0
54	1	0	122	286	0	0	116	1	3.2	1	2	2	0
71	0	0	112	149	0	1	125	0	1.6	1	0	2	1
43	0	0	132	341	1	0	136	1	3	1	0	3	0
34	0	1	118	210	0	1	192	0	0.7	2	0	2	1
51	1	0	140	298	0	1	122	1	4.2	1	3	3	0
52	1	0	128	204	1	1	156	1	1	1	0	0	0
34	0	1	118	210	0	1	192	0	0.7	2	0	2	1

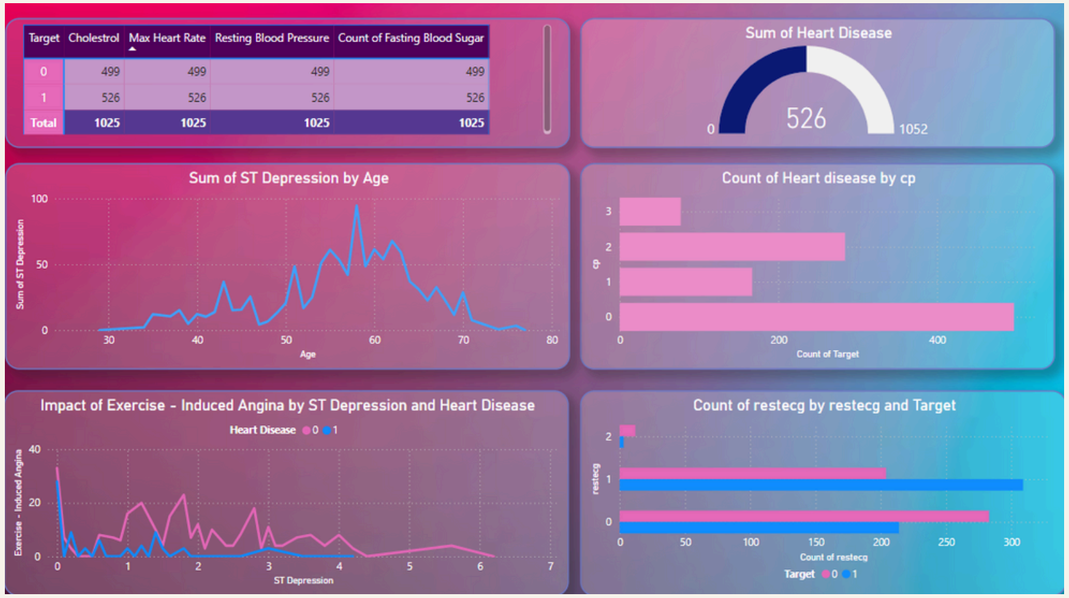
This dataset contains information about patients, including their age, sex, chest pain type, resting blood pressure, cholesterol level, fasting blood sugar, resting electrocardiogram results, maximum heart rate achieved, exercise-induced angina, ST-segment depression, slope of the ST segment, number of major vessels, thallium stress test result, and target variable (heart disease presence).



- Gender Distribution: The dataset is predominantly male-dominated.
- Heart Rate by Chest Pain (CP): Patients with CP = 2 have the highest average heart rate, followed by CP = 0 and CP = 1.
- Serum Cholesterol: The average serum cholesterol level is 246.00, with a slight increase in patients with CP = 2.
- Target vs. Age: There's a significant correlation between age and the likelihood of heart disease, with older patients more likely to be affected.
- Chest Pain: The most common type of chest pain is CP = 0, followed by CP = 1 and CP = 2.
- ECG: ECG abnormalities are relatively low, with only 15 cases (1.46%).
- Fasting Blood Sugar: The average fasting blood sugar level is 100.2, with a slight increase in patients with CP = 2.
- Blood Pressure: The average blood pressure is 132/82, with a slight increase in patients with CP = 2.



- Age Distribution: The dataset shows a higher prevalence of heart disease among older individuals, with a peak in the 55-60 age group.
- Gender Distribution: The data reveals a higher incidence of heart disease among males compared to females.
- Heart Rate: There's a general trend of increasing average heart rate with age, especially among individuals with a higher target.
- Serum Cholesterol: Serum cholesterol levels tend to increase with age, particularly in individuals with a higher target.
- Blood Pressure: Blood pressure generally rises with age, especially in males and individuals with a higher target.
- Target: Individuals with a higher target (1) are more likely to have heart disease, as evidenced by the higher average heart rate, serum cholesterol, and blood pressure levels.



- Heart Disease Prevalence: A total of 526 cases of heart disease were identified in the dataset.
- Age and ST Depression: There's a clear correlation between age and ST depression, with a peak in the 55-60 age group.
- Chest Pain (CP): CP=0 is the most common type of chest pain among patients with heart disease.
- Exercise-Induced Angina: ST depression is associated with a higher likelihood of exercise-induced angina, especially in patients with heart disease.
- Resting ECG (Restecg): Restecg abnormalities are common in patients with heart disease.
- Target: Individuals with a higher target (1) are more likely to have heart disease, as evidenced by the higher counts of heart disease, ST depression, and exercise-induced angina.

THANK YOU