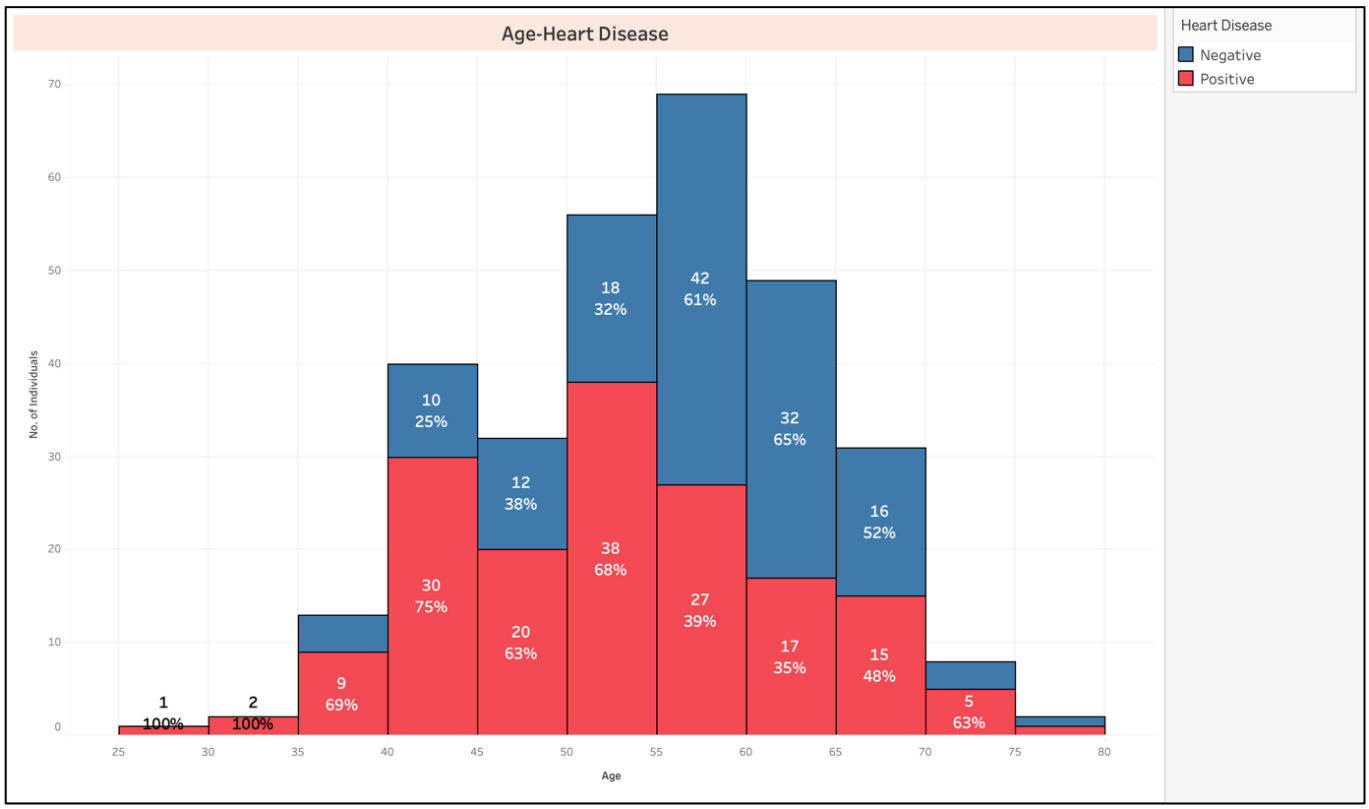
CAPSTONE PROJECT – HEALTHCARE
TABLEAU DASHBOARDS & REPORT

The dataset for healthcare was modified to indicate the variables in their raw form for better analysis and output in Tableau. The following changes were made:

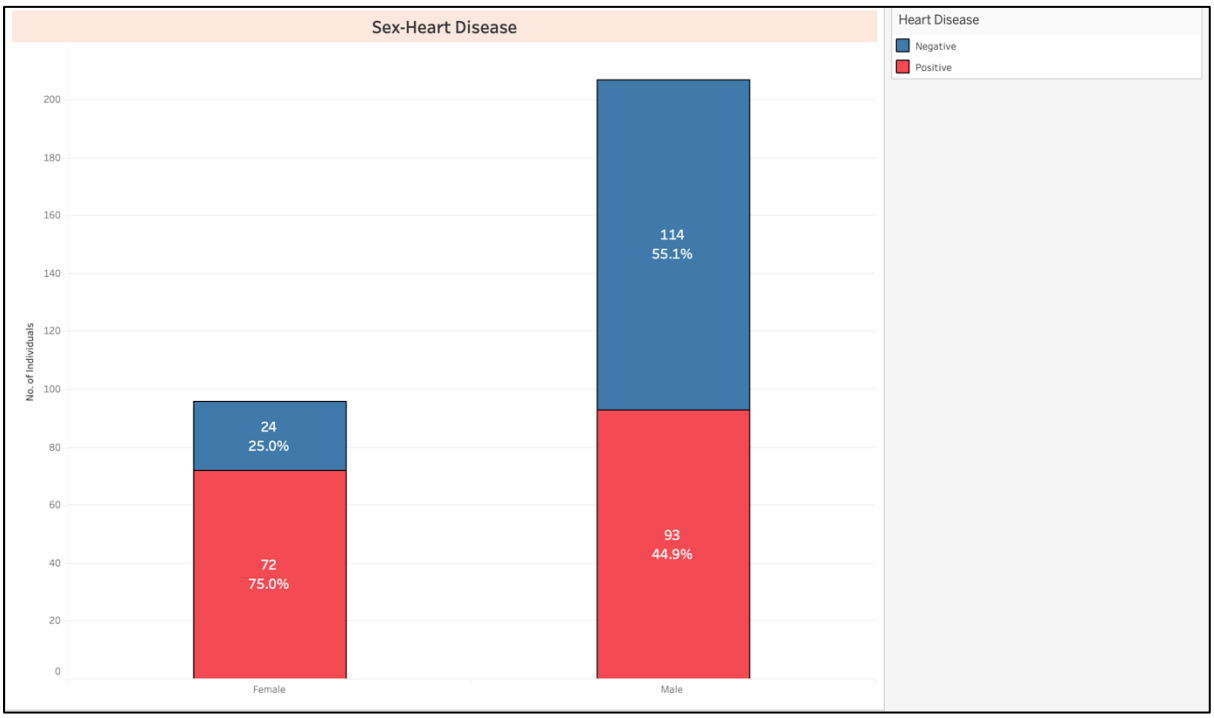
1. Sex – M and F
2. Chest Pain Type –
    a. TA – Typical Angina
    b. ATA – Atypical Angina
    c. NAP – Non-anginal Pain
    d. ASY – Asymptomatic
3. Blood Sugar – Yes and No
4. Resting ECG –
    a. 0 – Normal
    b. 1 – STT
    c. 2 – Hypertrophy
5. Exercise Angina – Yes and No
6. ST Slope –
    a. 0 – Up
    b. 1 – Flat
    c. 2 – Down
7. Target to Heart Disease –
    a. 0 – Negative
    b. 1 – Positive

Heart Disease with Age



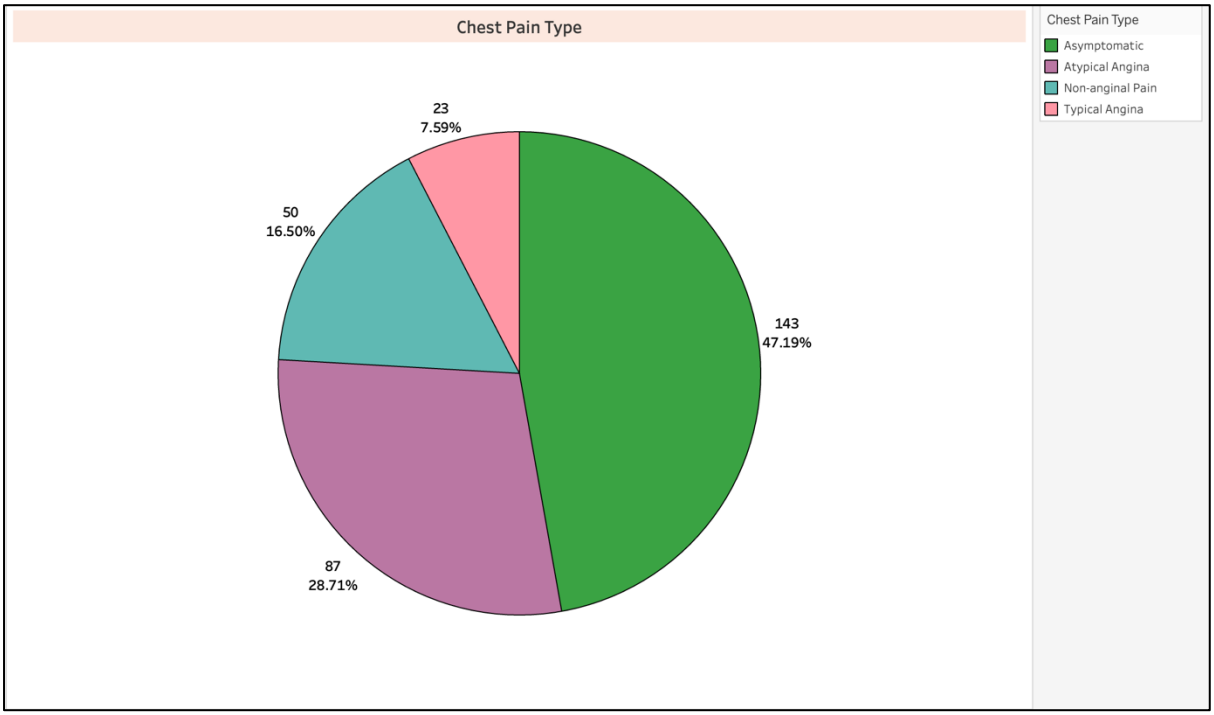
1. Histogram depicts the distribution of the age and cases of positive and negative heart disease.
2. The maximum instances of positive heart cases are in the age group of 40 to 55 years where the positivity rate varies from 63% to 75% of the sample population within these age groups.
3. The positivity rate reduces as the age group increases beyond 55 years where is varies from 35% to 48%.

Male-Female Heart Disease

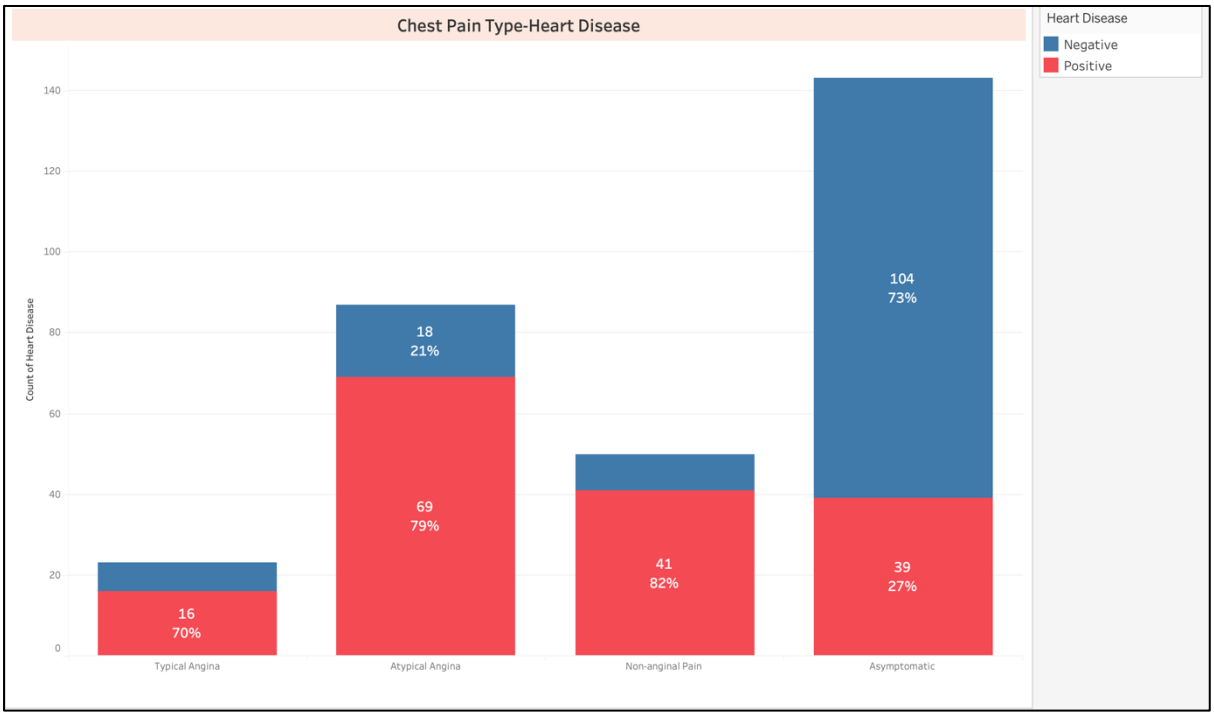


1. Males – 207 and females are 96 in the sample population.
2. The male to female ratio is almost 2 : 1.
3. It is interesting to note that within the sample, 75% of the females are positive cases while only 45% of the males are positive heart disease cases.

Chest Pain Type

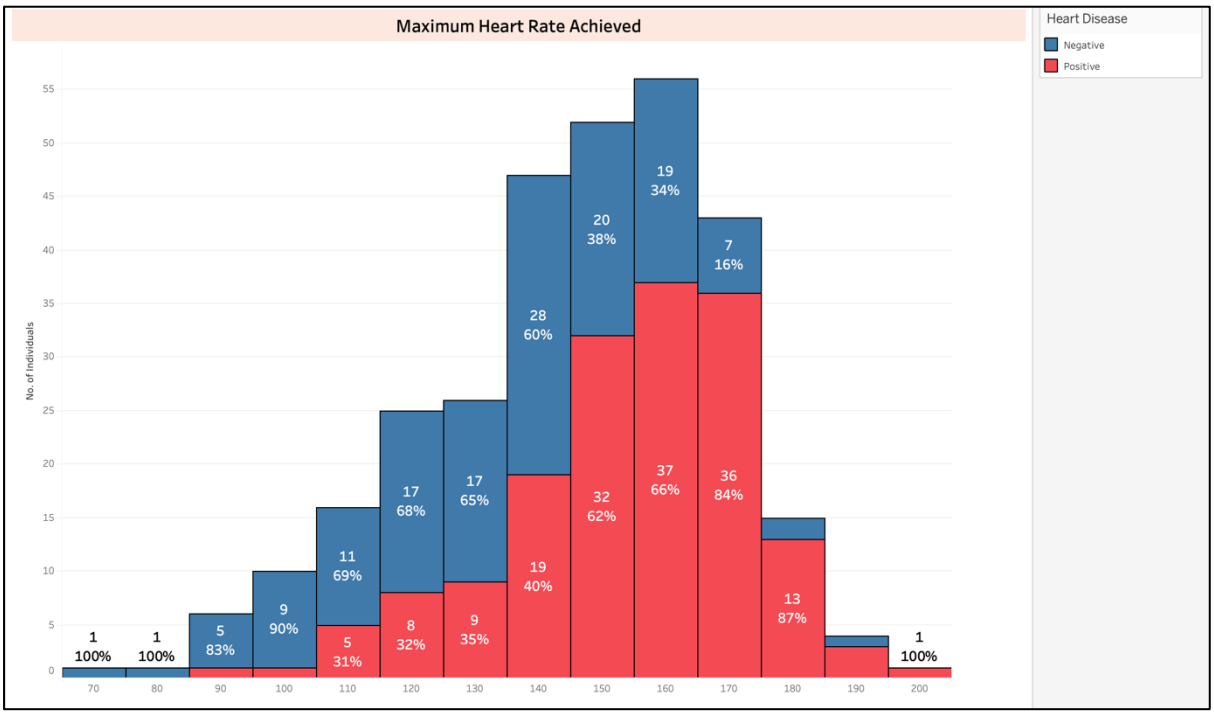


1. The data set shows that the asymptomatic cases were 47.2% of the sample population.
2. Typical angina contributed to only 7.6% in the data.
3. The atypical angina is much higher at 28.7%.



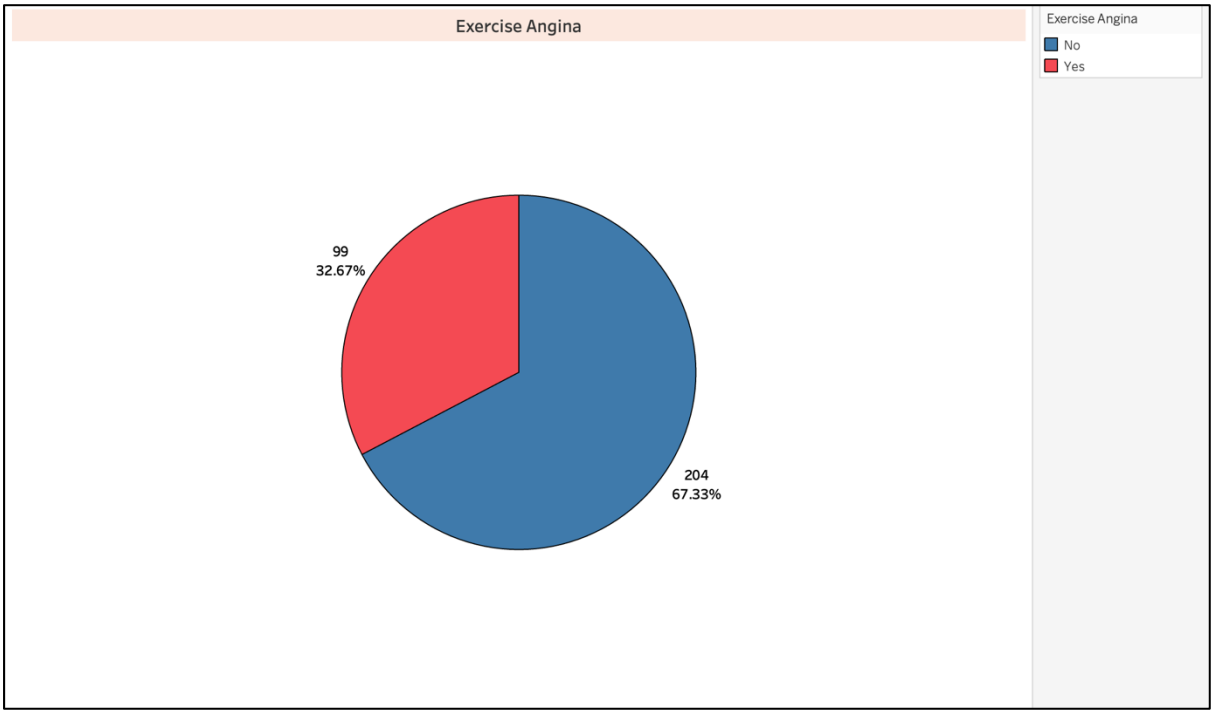
1. In cases of typical angina, atypical angina and non-anginal pain, the positive heart diseases cases vary from 70% to 82% of the sample population.
2. The positivity of asymptomatic cases is at 27% only.
3. It can also be seen that the positivity of non-anginal pain is higher than typical and atypical angina. Therefore, non-anginal pain needs to be thoroughly investigated.

Maximum Heart Rate Achieved



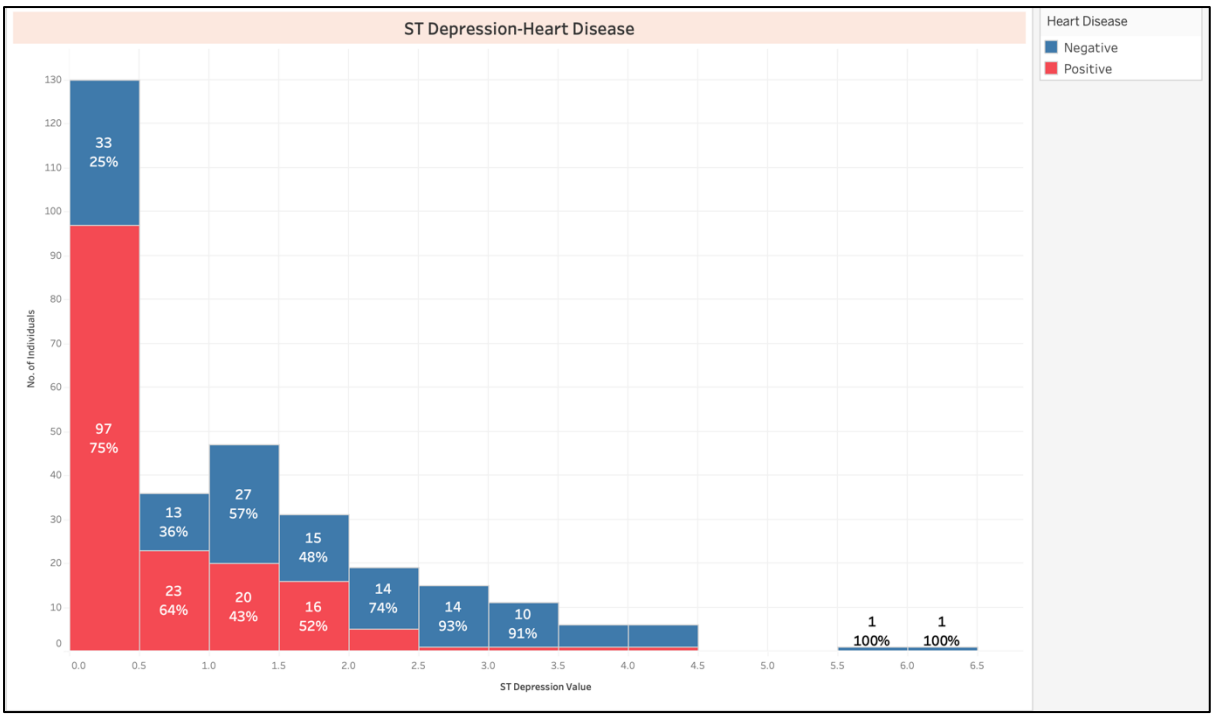
1. Maximum heart rate achieved is also an indicator of positive heart disease.
2. The sample population indicates that the maximum heart rate achieved goes much beyond 1.5 times the normal heart rate.
3. The instances of positive heart disease increase with higher maximum heart rate achieved.
4. The positivity rate varies from 62% to 100% of the cases as the maximum heart rate achieved increases beyond 150.

Exercise Induced Angina

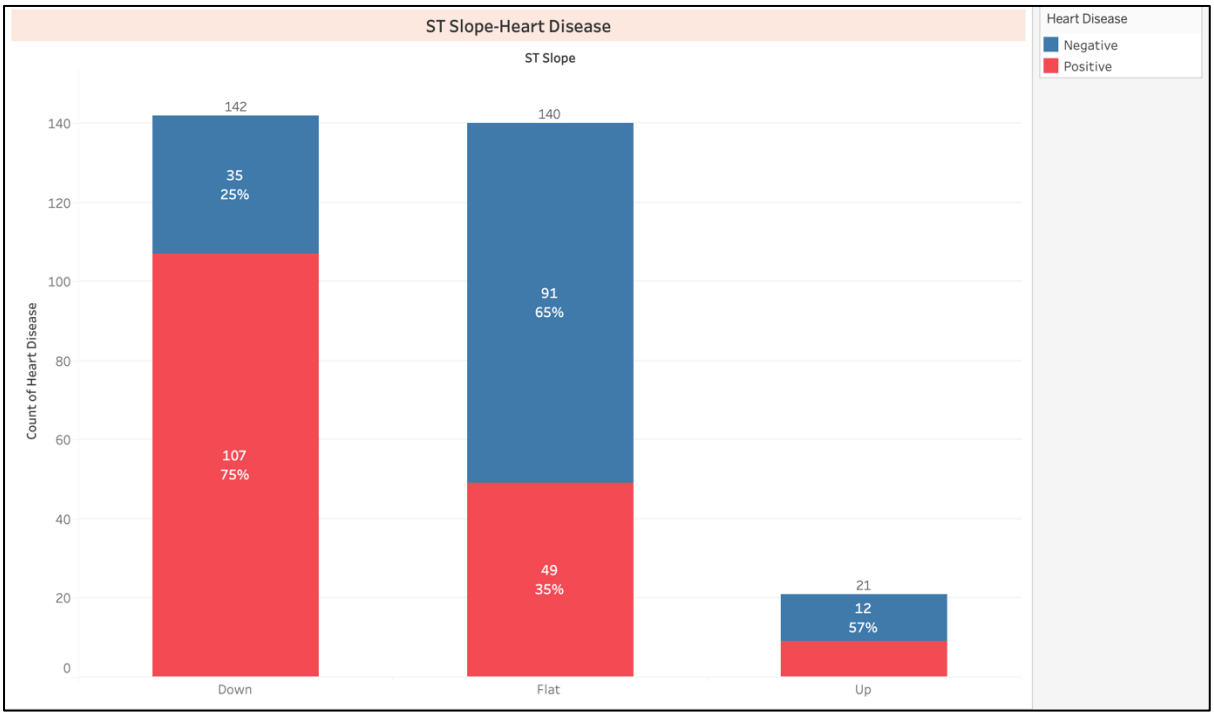


1. 32.7% of the population exhibited exercise induced angina – a population of 99 out of the 303 samples.
2. Rest of them – 204 are cases of no exercise induced angina.

ST Depression Induced by Exercise relative to Rest

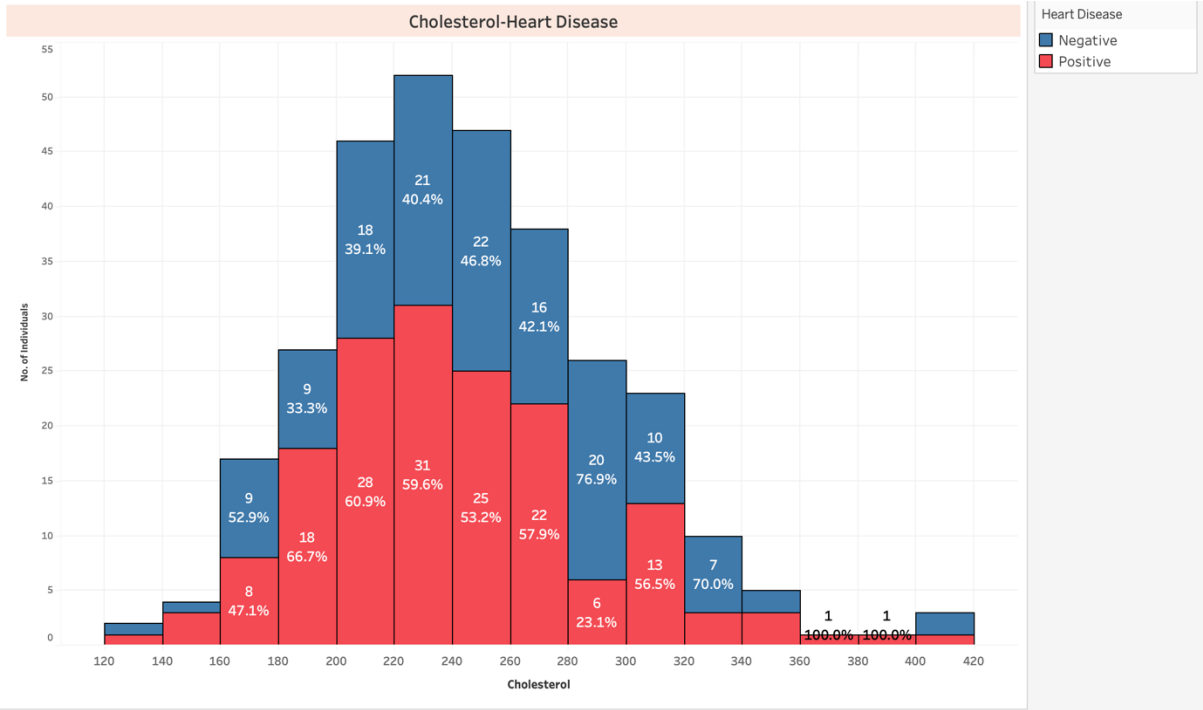


1. ST depression induced by exercise – the lower the value indicates lack of blood supply to the heart called myocardial ischaemia.
2. It can be observed that the lower values of St depression has very high positivity of heart disease from 64% to 75%.



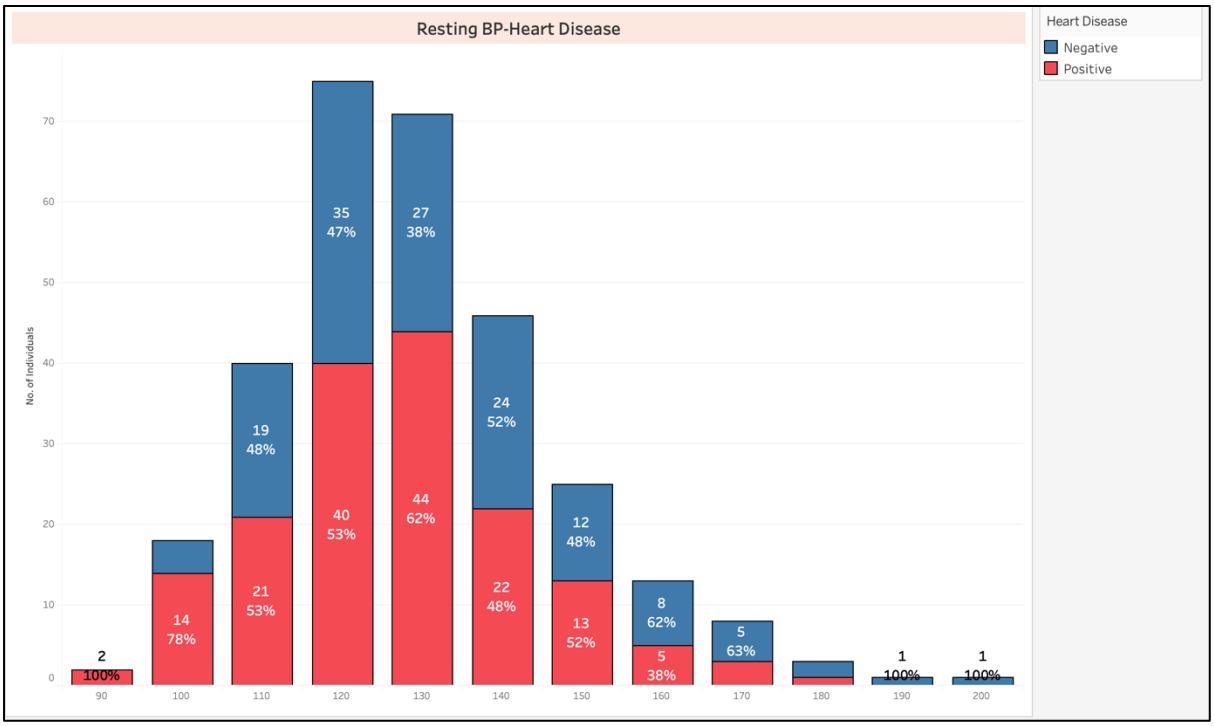
1. In relation to the ST depression induced by exercise, the slope of the curve also indicates possibility of heart disease. A down slope in ST depression is indicative of poor heart condition.
2. The graph above clearly indicates that cases with down sloping ST depression have very high risk of heart disease. From the sample population, there were 142 cases of down sloping ST depression of which 75% are positive heart disease cases.

Cholesterol and Heart Disease

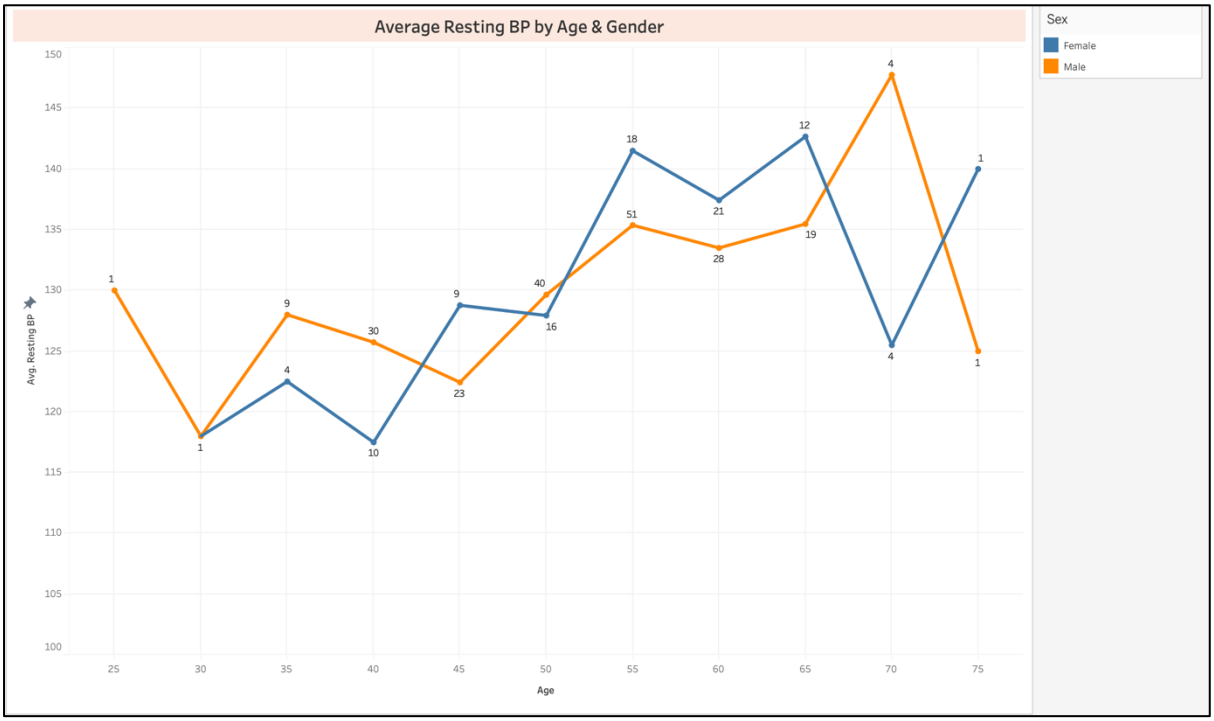


1. It is observed that higher the value of cholesterol, higher the chances of heart disease.
2. Cholesterol values of 180 and above have higher tendency for heart disease and the positivity rate can vary between 56.5% to 67%.

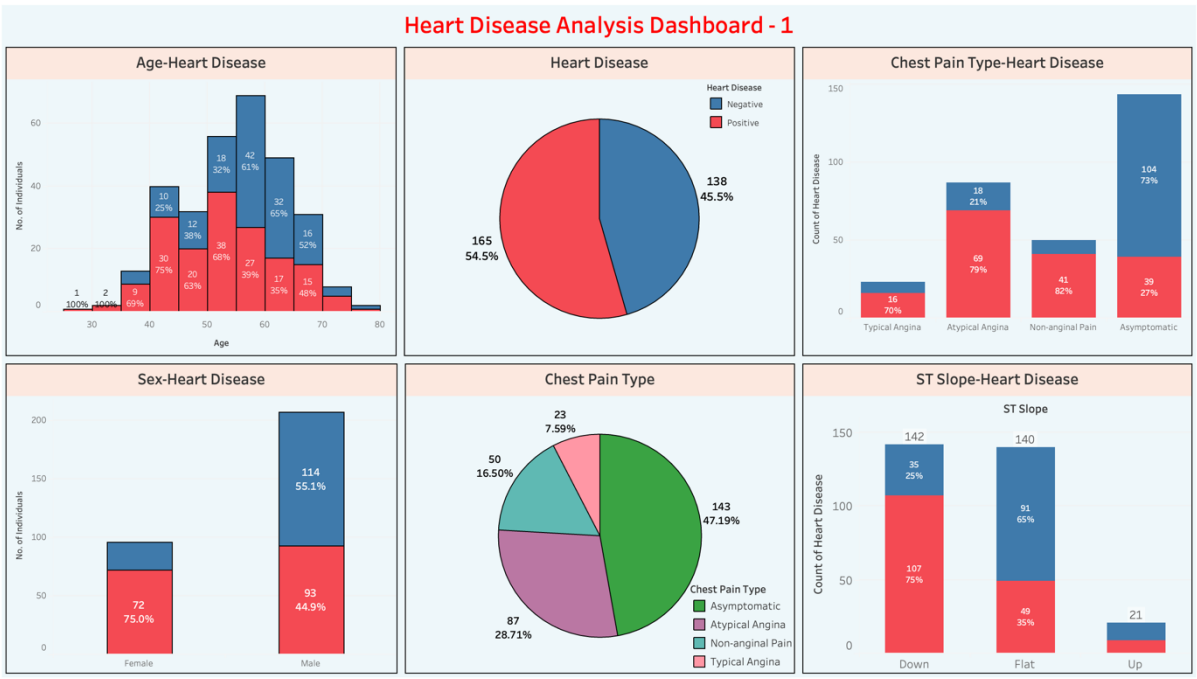
Resting BP and Heart Disease

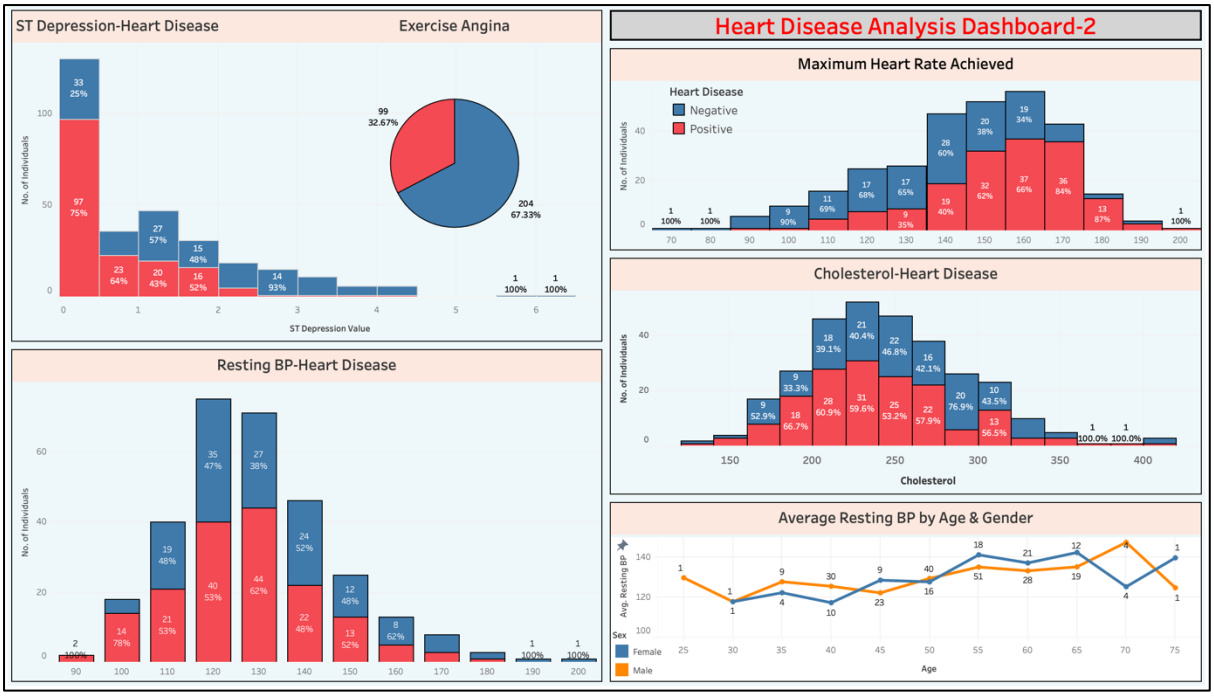


1. The above chart shows the resting blood pressure of the patient admitted to hospital. Patient with resting BP of 130 to 140 had higher chances of heart disease.
2. Also, the average resting blood pressure by Age & Gender is denoted below.



Heart Disease Analysis Dashboards





1. Two dashboards using Tableau were created to provide a visual representation of various features that impact the prediction of heart disease.
2. The dashboards provide a complete overview of the data set of the sample population for ease of understanding and objectivity.