



# Diagnostic Analysis of Heart Disease Using Power BI Desktop

This presentation offers a comprehensive analysis of heart disease diagnostics leveraging the capabilities of Power BI Desktop. We will explore key physiological factors that influence cardiovascular health, including blood pressure, cholesterol levels, and age. These insights aim to empower healthcare professionals with a deeper understanding of heart disease risk factors, enabling more informed and personalized patient care.

# Heart Disease Diagnostic Analysis



Chest Pain By Gender

206

Restecg By Gender

207

Blood Pressure By Gender

26968

Cholestrol By Age

304

Heart Disease

☐ Absent

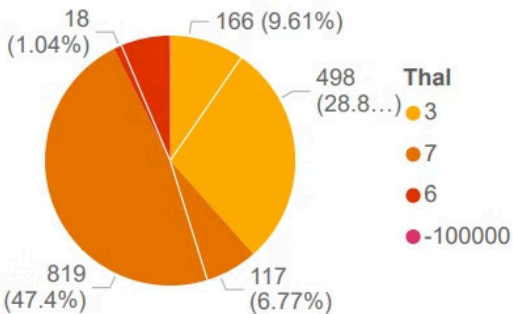
☐ Present

Gender

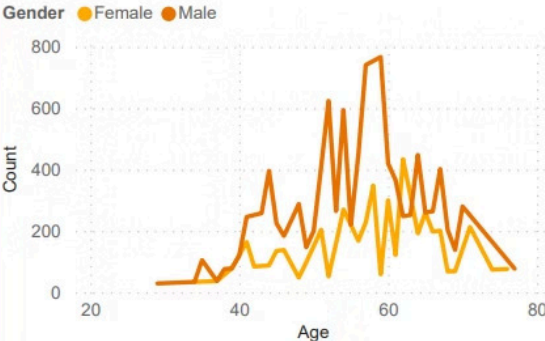
☐ Female

☐ Male

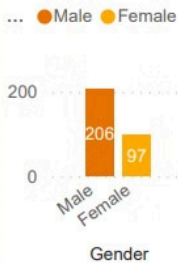
## Heart Disease



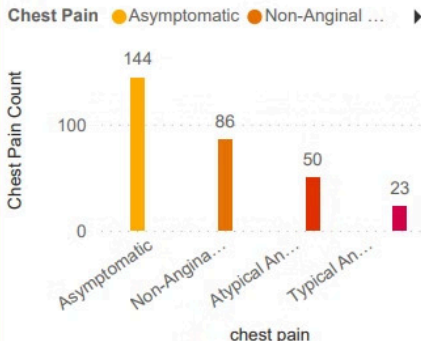
## Age Distribution



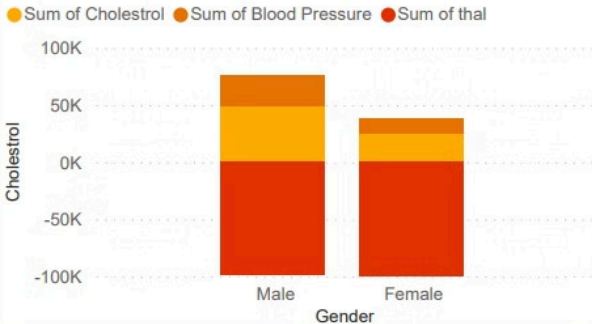
## Heart Disease By Gender



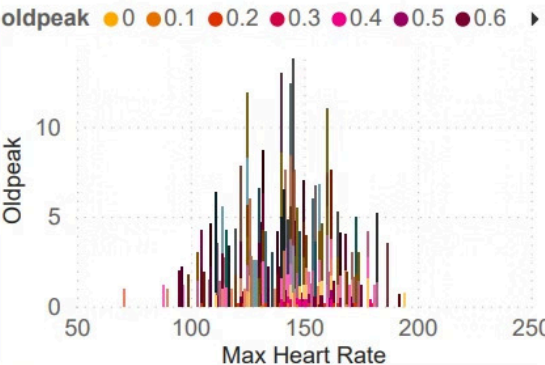
## Chest Pain Experienced



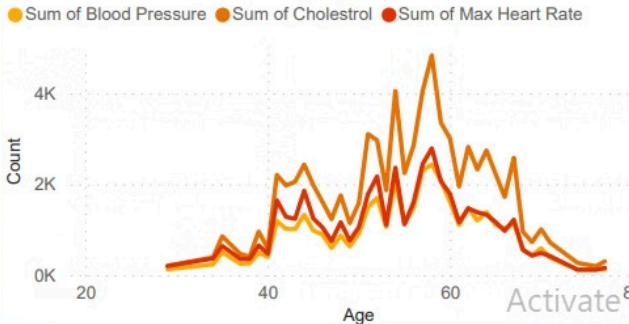
## Cholestrol, Blood Pressure, Thalenium By Gender



## Oldpeak By Max Heart Rate



## Blood Pressure, Cholestrol, Max Heart Rate By Age



# Blood Pressure By Gender

## Blood Pressure Distribution

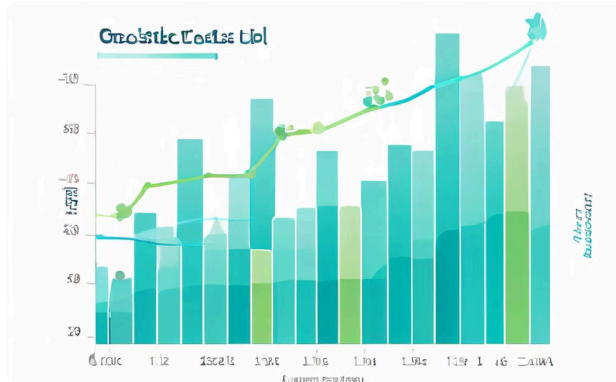
This visualization showcases the distribution of blood pressure among males and females. The average blood pressure for males is slightly higher than for females. However, it's essential to note that individual variations exist within each gender group.

## Interpreting the Data

Elevated blood pressure is a significant risk factor for heart disease. Analyzing blood pressure data by gender can help identify potential disparities and guide personalized preventive measures.

## Implications for Healthcare

Understanding gender-based differences in blood pressure can help healthcare providers tailor interventions and treatment plans to address specific needs. This data can also be used to advocate for targeted public health initiatives.



## Age-Related Cholesterol Trends

This visualization illustrates how cholesterol levels change with age. The data reveals a general upward trend in cholesterol levels as individuals age, particularly after the age of 30.



## Understanding the Impact

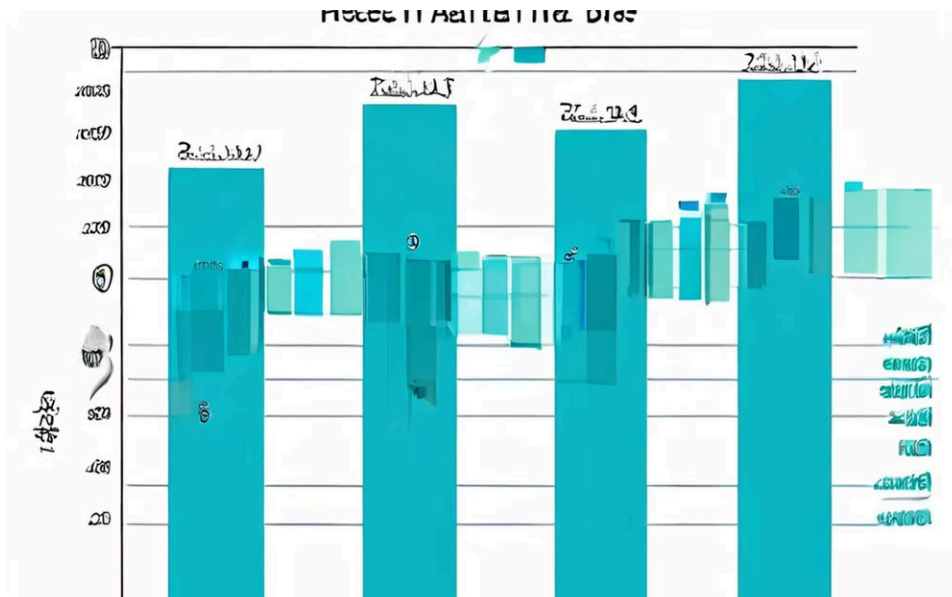
Elevated cholesterol is a key contributor to heart disease. Understanding the link between age and cholesterol levels is crucial for preventive care and early intervention.



## Implications for Patient Management

This data can help healthcare professionals identify individuals at higher risk for elevated cholesterol based on their age. Early screening and lifestyle modifications can play a significant role in mitigating the risk of heart disease.





## Heart Disease Prevalence by Gender

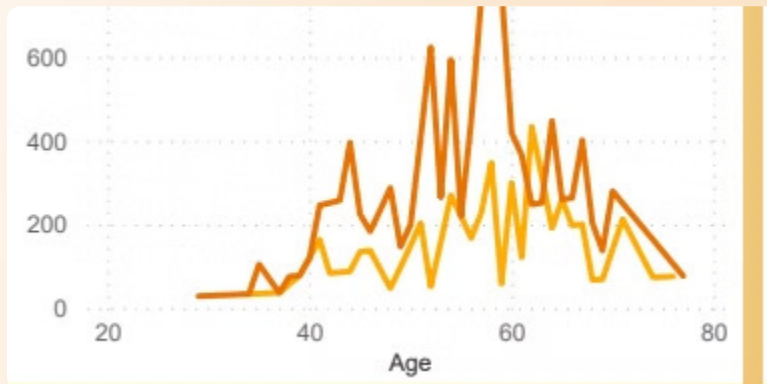
This visualization highlights the gender-based differences in heart disease cases. While the overall number of female patients with heart disease is higher, the percentage of affected males is significantly greater, indicating a higher risk for men.



## Gender Disparities

The data shows that while 304 females have heart disease, the number is 206 for males. However, the percentage of males affected is significantly higher, emphasizing the need for targeted prevention and intervention strategies.

# Cholesterol, Blood Pressure, and Thalenium by Gender



1

## Cholesterol Levels

The average cholesterol levels for males are higher than for females. This observation aligns with the established link between cholesterol and heart disease risk.

2

## Blood Pressure Variations

Blood pressure readings also show a slight difference between genders, with males exhibiting higher average blood pressure. This reinforces the importance of gender-specific risk assessment for heart disease.

3

## Thalenium Levels

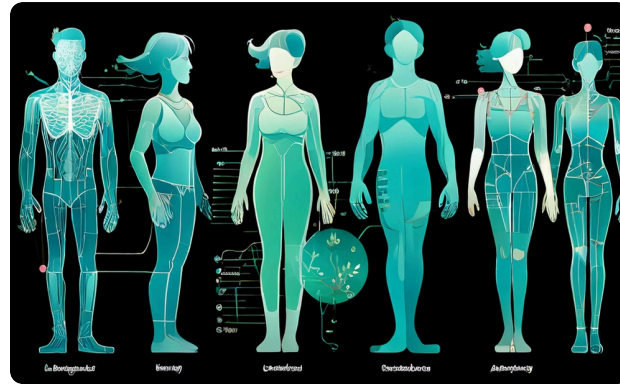
Thalenium, a marker of blood flow, shows a noticeable difference between genders. While the average thalenium level is slightly lower for females, further research is needed to fully understand the implications for heart health.

# Age Distribution and Heart Disease



## Age as a Risk Factor

This visualization demonstrates the clear relationship between age and the risk of heart disease. As individuals age, the prevalence of heart disease increases.



## Understanding the Dynamics

With age, physiological changes occur in the body, potentially leading to increased susceptibility to heart disease. This underscores the need for age-appropriate preventive measures.

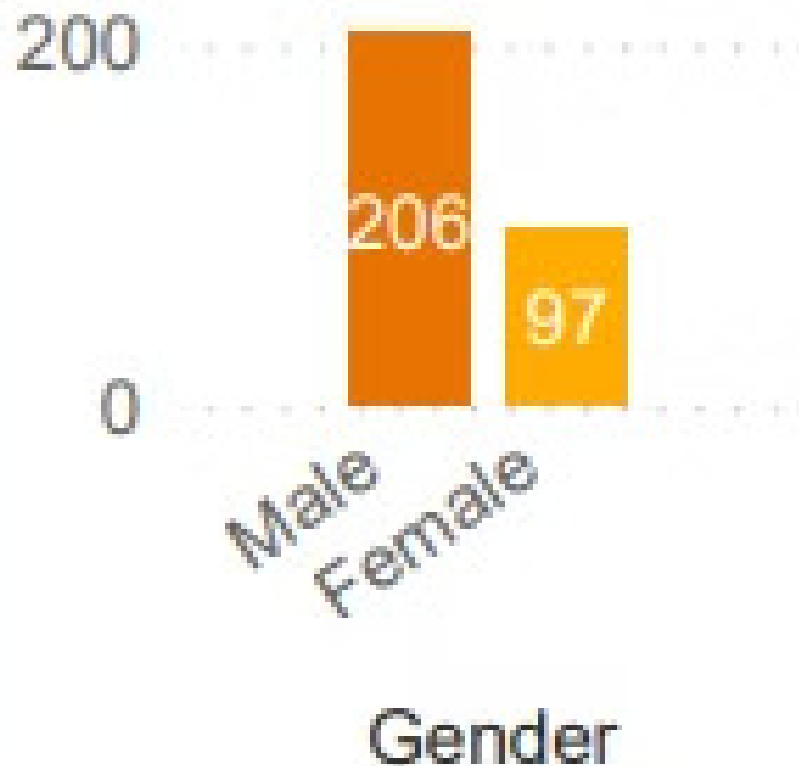


## Implications for Public Health

This data highlights the importance of public health initiatives targeting older adults to promote heart-healthy behaviors and early detection of heart disease.

# Heart Disease By Gender

... ● Male ● Female



## Max Heart Rate and Heart Disease



### Max Heart Rate Trends

This visualization reveals a trend between heart disease and maximum heart rate. Individuals with lower maximum heart rate are more likely to have heart disease.



### Understanding the Connection

A lower maximum heart rate could indicate underlying cardiovascular issues that increase the risk of heart disease. It's a crucial indicator for heart health assessment.

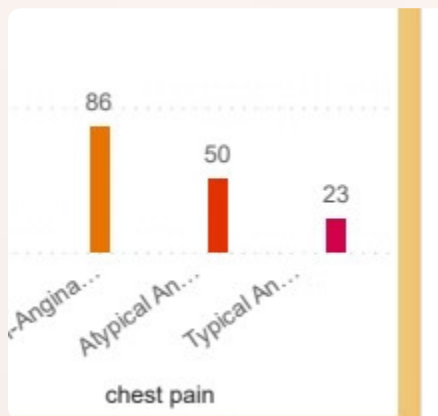


### Clinical Implications

Measuring maximum heart rate can be a valuable tool for identifying individuals at higher risk of heart disease, facilitating early intervention and preventive strategies.



# Chest Pain and Heart Disease



## Chest Pain as a Symptom

Chest pain is a common symptom associated with heart disease. Analyzing the frequency of chest pain experienced by individuals with and without heart disease provides valuable insights into its diagnostic significance.

## Prevalence by Chest Pain Type

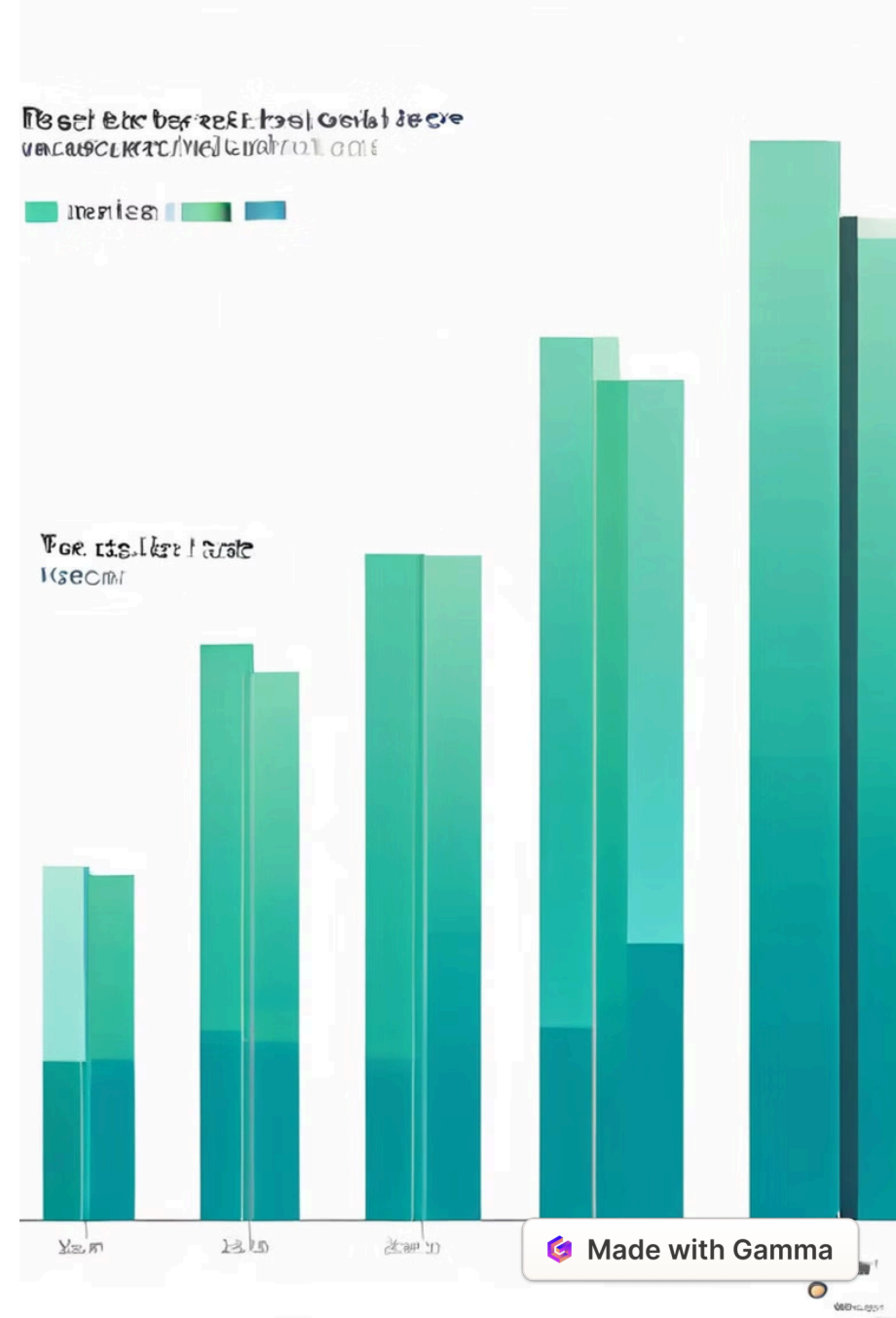
The data shows that the prevalence of heart disease is higher among individuals experiencing specific types of chest pain, such as non-anginal pain. This suggests a correlation between certain types of chest pain and heart disease.

## Clinical Applications

These findings can guide healthcare professionals in evaluating chest pain complaints. The presence of specific chest pain types may warrant further investigation to assess the risk of heart disease.

# Restecg and Heart Disease

This visualization explores the relationship between Restecg (Resting Electrocardiographic Measurement) values and heart disease. The data indicates that individuals with heart disease tend to have a different distribution of Restecg values compared to those without heart disease. This suggests that Restecg can be a valuable tool for detecting heart disease.



# Conclusion

This analysis has provided valuable insights into the factors that contribute to heart disease risk. Using Power BI Desktop, we have explored the impact of gender, age, blood pressure, cholesterol levels, maximum heart rate, chest pain, and Restecg on heart health. These findings emphasize the importance of comprehensive diagnostics and personalized care for preventing and managing heart disease. By leveraging data-driven insights, healthcare professionals can make more informed decisions, promoting better patient outcomes and advancing the field of cardiovascular health.



**Thank You !**