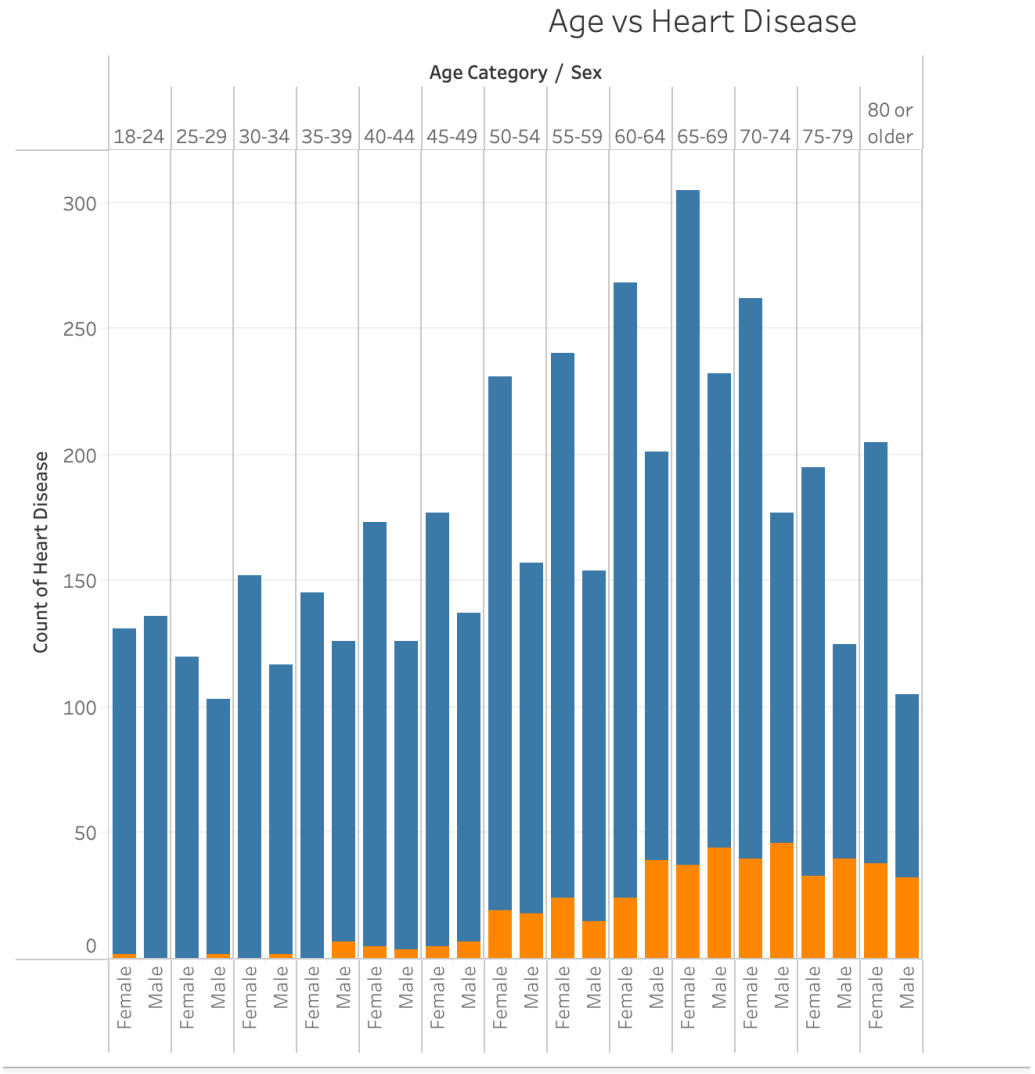
Heart Disease Analysis – Business Questions with Visualizations (Tableau)

1. Which age group shows the highest number of heart disease cases, and how does it vary by gender?

Visualization: Bar Chart: Heart Disease Cases by Age Group and Gender

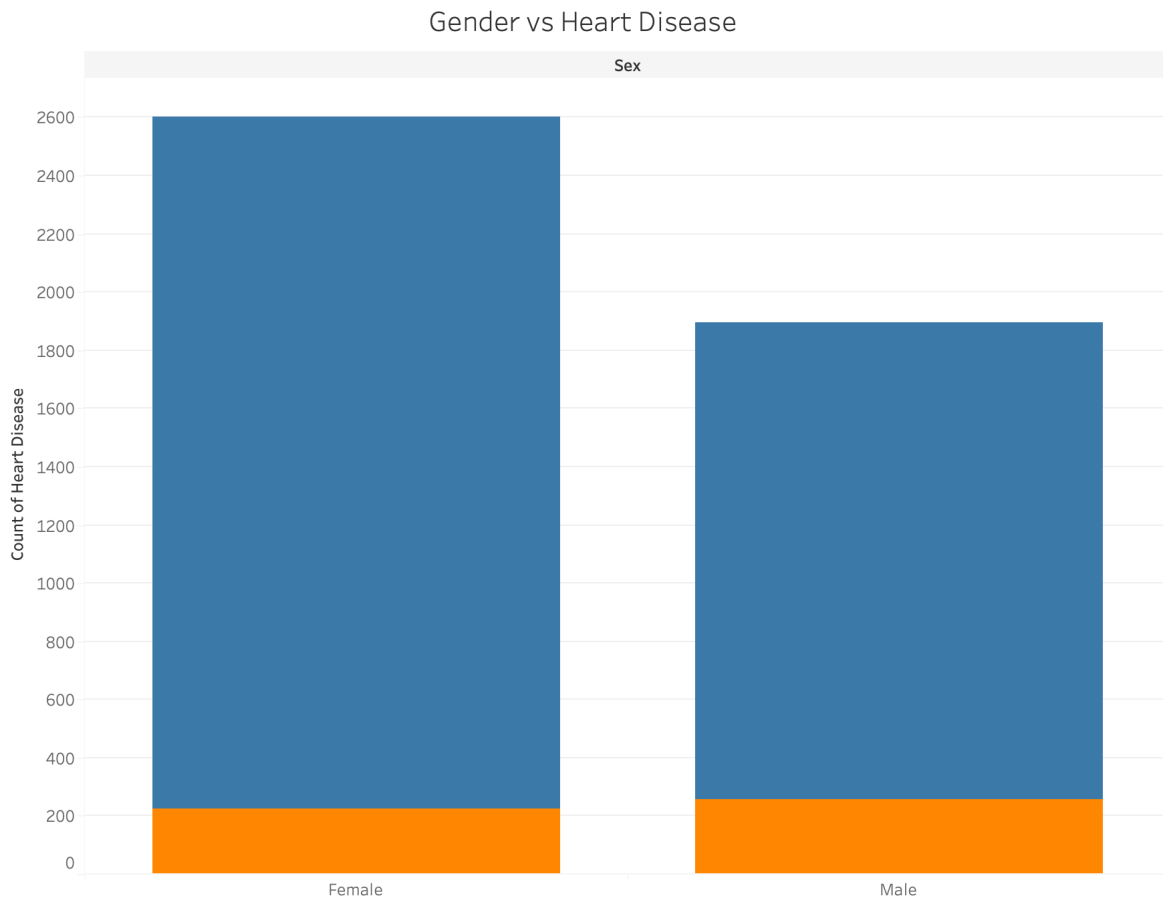


Business Insight:
Heart disease cases peak in the 60–69 age group for both males and females, indicating that preventive screenings and targeted healthcare programs should strongly focus on individuals aged 55 and above, especially those entering their 60s.

2. How does the total number of heart disease cases compare between males and females?

Visualization Title:

Bar Chart: Total Heart Disease Cases by Gender

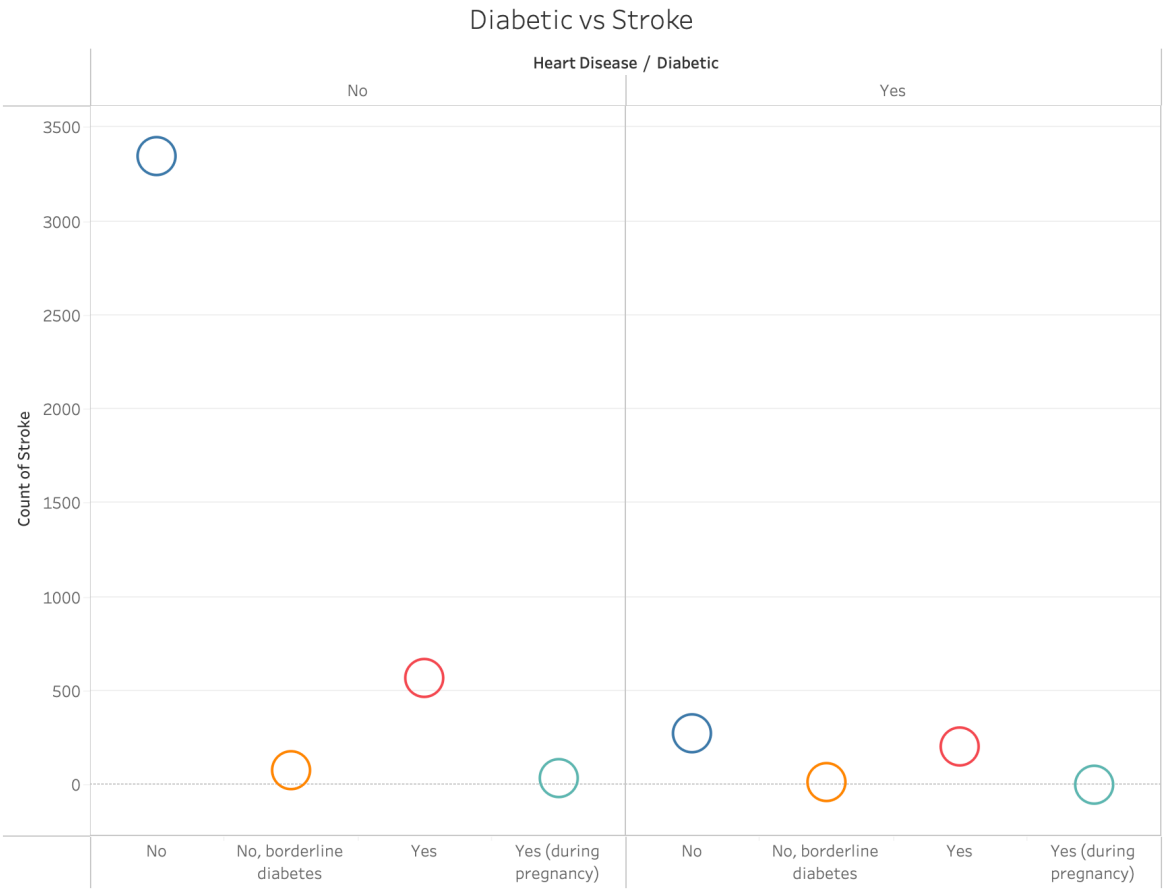


Business Insight:
The dataset shows a higher total number of heart disease cases among females compared to males, suggesting the need for stronger awareness, early screening, and targeted healthcare programs for women.

3. How does diabetes status relate to stroke occurrence among heart disease patients?

Visualization Title:

Bubble Chart: Stroke Cases by Diabetes Status

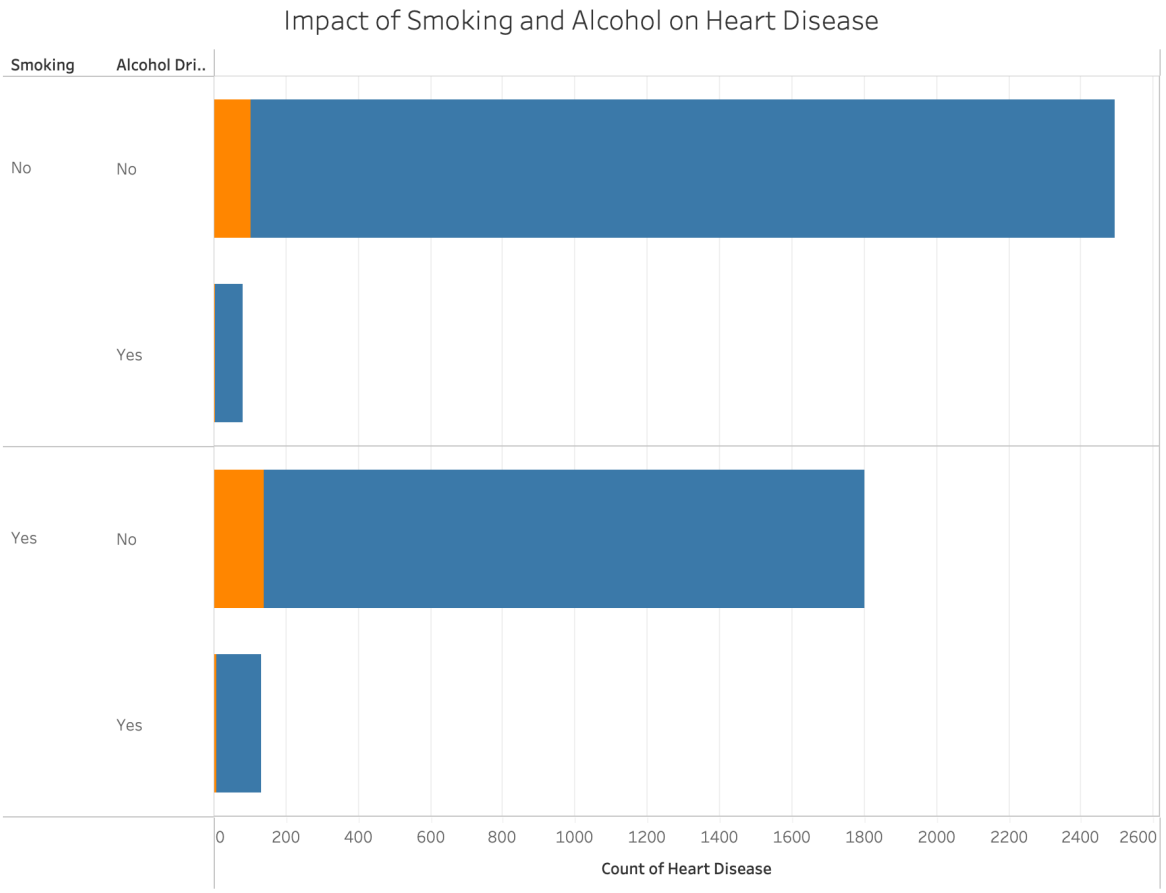


Business Insight:
Stroke cases are significantly higher among individuals without diabetes in absolute numbers, but diabetic individuals still represent a considerable high-risk group. This suggests that both diabetic and non-diabetic heart patients require stroke risk monitoring, with special preventive attention to diabetic patients due to their elevated vulnerability.

4. How do smoking and alcohol consumption impact heart disease cases?

Visualization Title:

Stacked Bar Chart: Impact of Smoking and Alcohol Consumption on Heart Disease

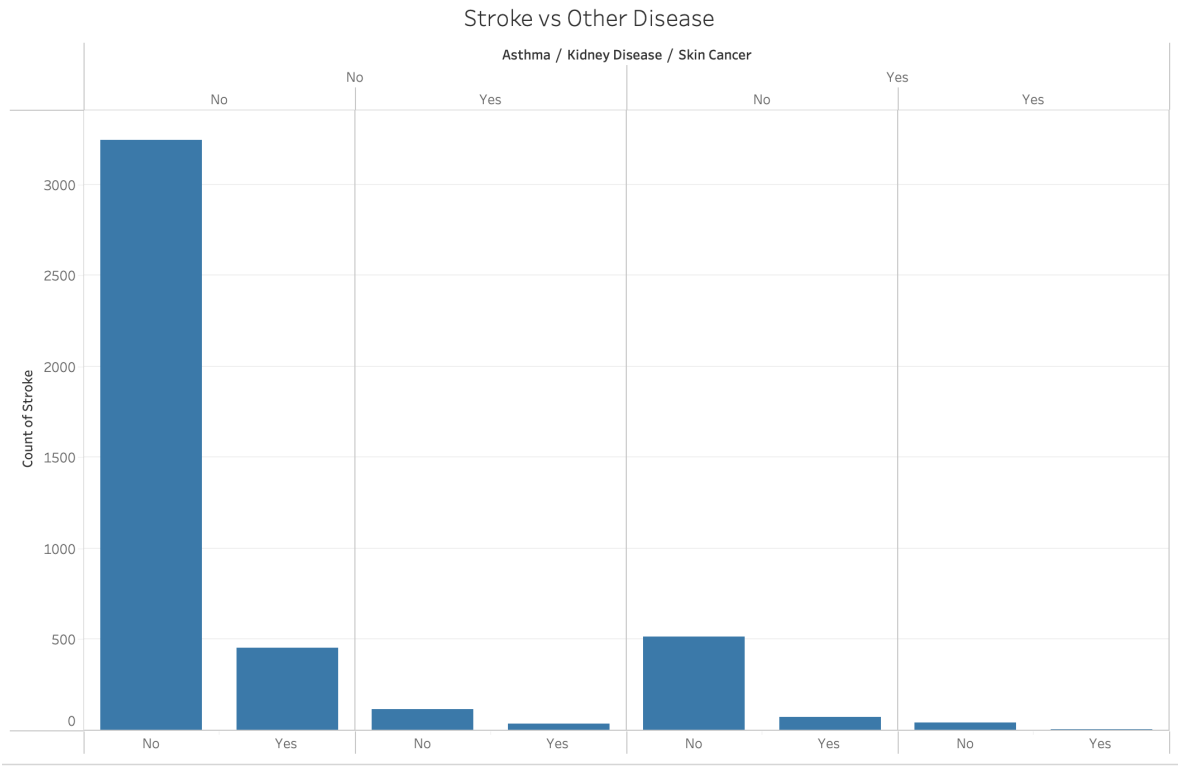


Business Insight:
Heart disease cases are notably higher among individuals who smoke and/or consume alcohol. This highlights the importance of lifestyle-based prevention strategies, including smoking cessation programs and alcohol moderation campaigns to reduce cardiovascular risk.

5. How is stroke occurrence associated with other underlying diseases such as asthma, kidney disease, and skin cancer?

Visualization Title:

Bar Chart: Stroke Cases by Presence of Other Diseases (Asthma, Kidney Disease, Skin Cancer)

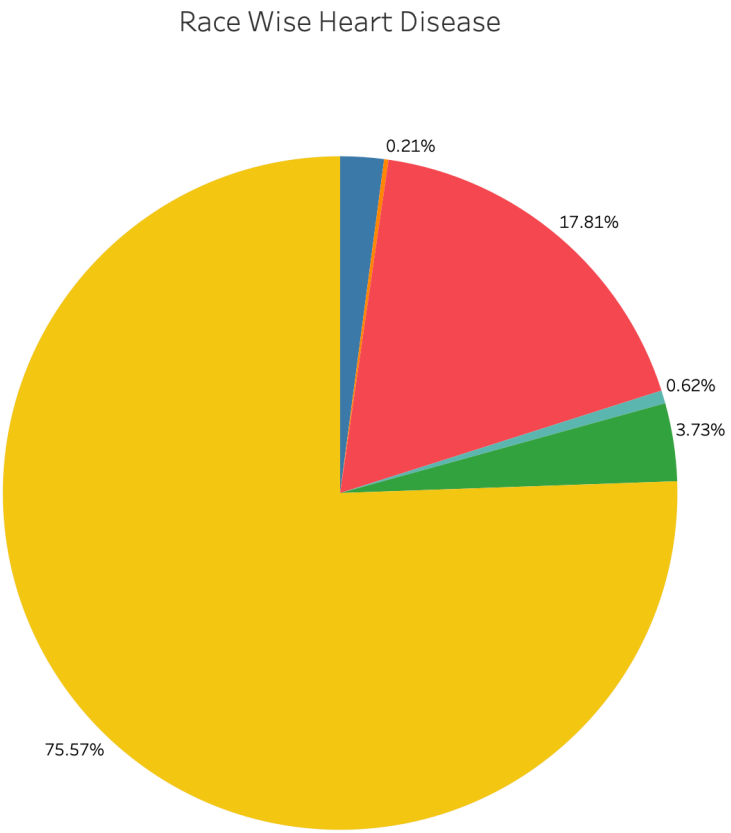


Business Insight:
Stroke cases are significantly higher among individuals without other listed diseases in absolute numbers, but patients with comorbid conditions (such as asthma or kidney disease) still show notable stroke counts. This indicates the need for integrated health monitoring for patients with multiple medical conditions to reduce stroke risk.

6. How are heart disease cases distributed across different racial groups?

Visualization Title:

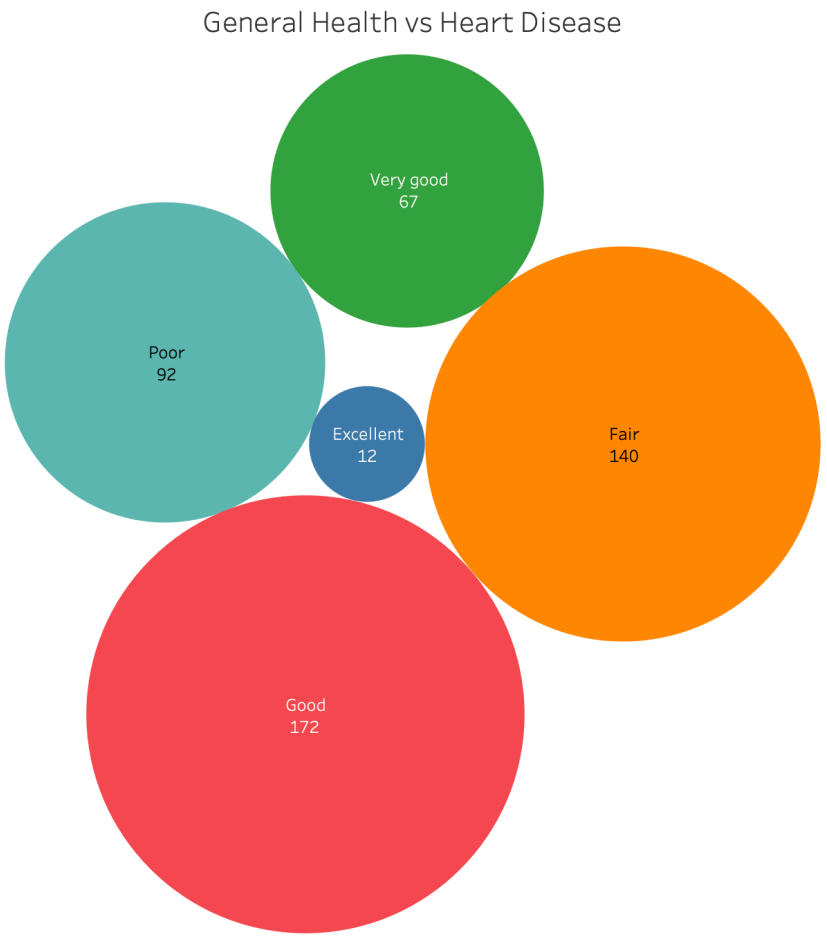
Pie Chart: Distribution of Heart Disease Cases by Race



Business Insight:
The majority of heart disease cases are concentrated in one dominant racial group (around 75%), while other groups represent smaller proportions. This suggests the need to analyze demographic disparities and ensure equitable healthcare access and targeted awareness programs across all racial communities.

7. How does self-reported general health status relate to heart disease cases?

Visualization Title: Bubble Chart: Heart Disease Cases by General Health Status

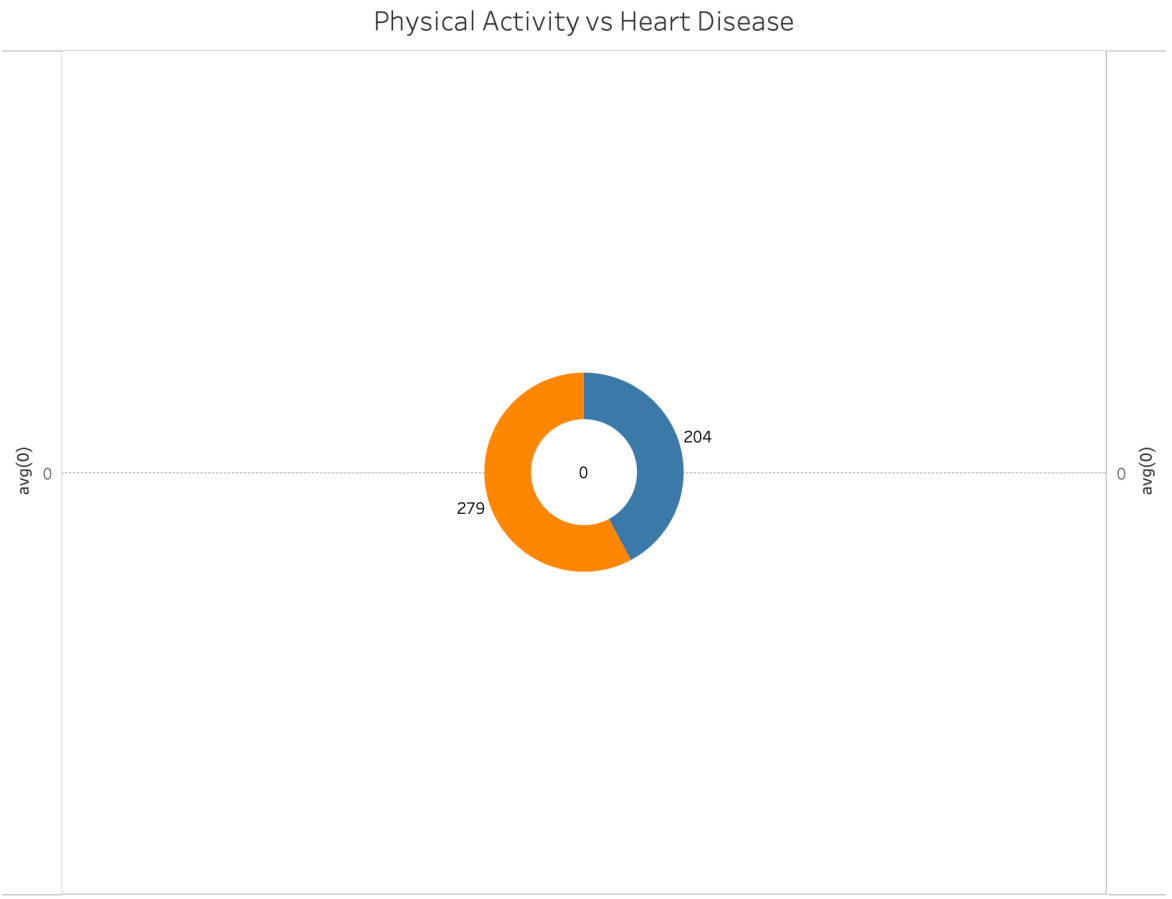


Business Insight:
Heart disease cases are higher among individuals reporting “Good” and “Fair” health, while significantly lower among those reporting “Excellent” health. This suggests that early lifestyle interventions and regular health monitoring should target individuals with declining general health before conditions worsen.

8. How does physical activity level relate to heart disease occurrence?

Visualization Title:

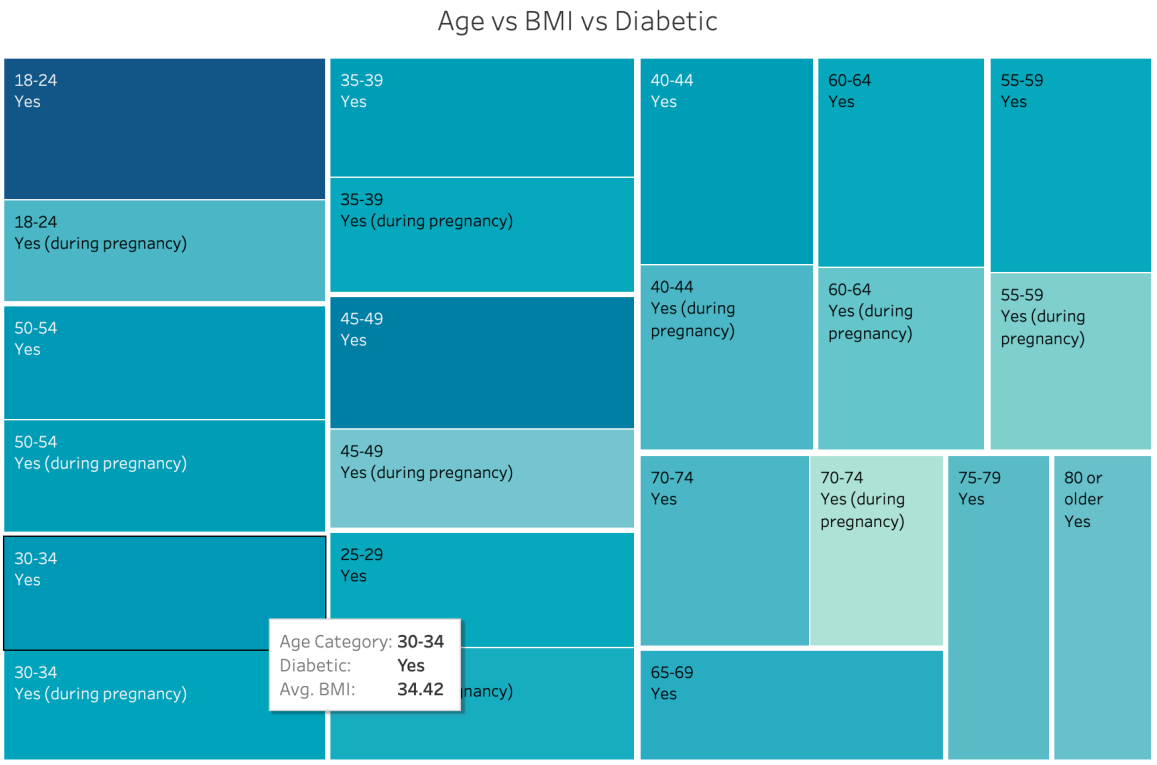
Donut Chart: Heart Disease Distribution by Physical Activity Level



Business Insight:
Heart disease cases are higher among individuals with low or no physical activity compared to physically active individuals. This highlights the importance of promoting regular exercise and active lifestyles as a key preventive strategy against heart disease.

9. Which age group combined with high BMI and diabetes shows the highest heart disease risk?

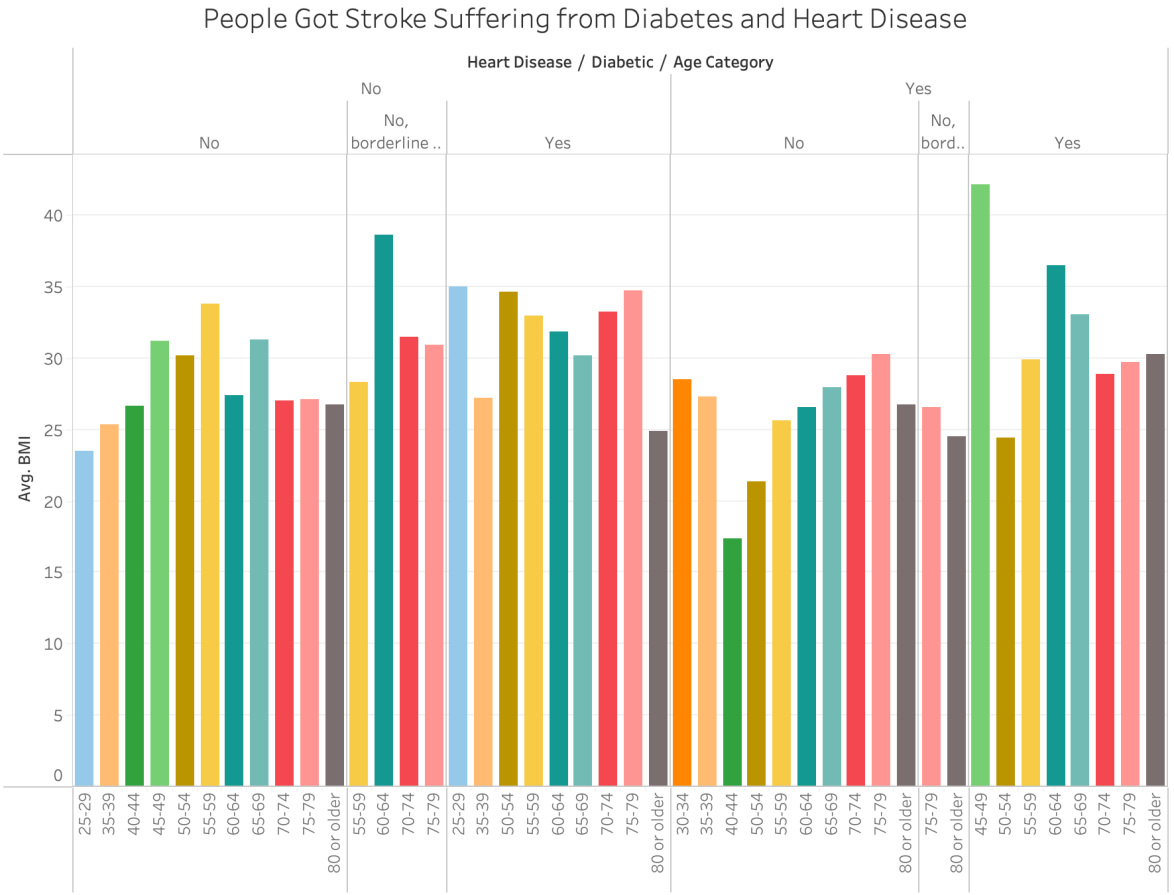
Visualization Title: Treemap: Heart Disease Risk by Age Group, BMI, and Diabetes Status



Business Insight:
Middle-aged and older individuals with diabetes and higher average BMI show greater concentration of heart disease cases. This indicates that age, obesity (high BMI), and diabetes together significantly increase cardiovascular risk, emphasizing the need for targeted preventive screening for high-BMI diabetic patients in mid-to-late adulthood.

10. Which age groups with both diabetes and heart disease show higher stroke risk and elevated BMI?

Visualization Title:Bar Chart: Stroke Occurrence by Heart Disease, Diabetes Status, Age Group, and Average BMI



Business Insight:
Older adults (especially 55+ age groups) with both diabetes and heart disease show higher average BMI and increased stroke occurrence. These patients should be prioritized for regular follow-up, weight management programs, and cardiovascular monitoring to reduce complications and hospital readmissions.