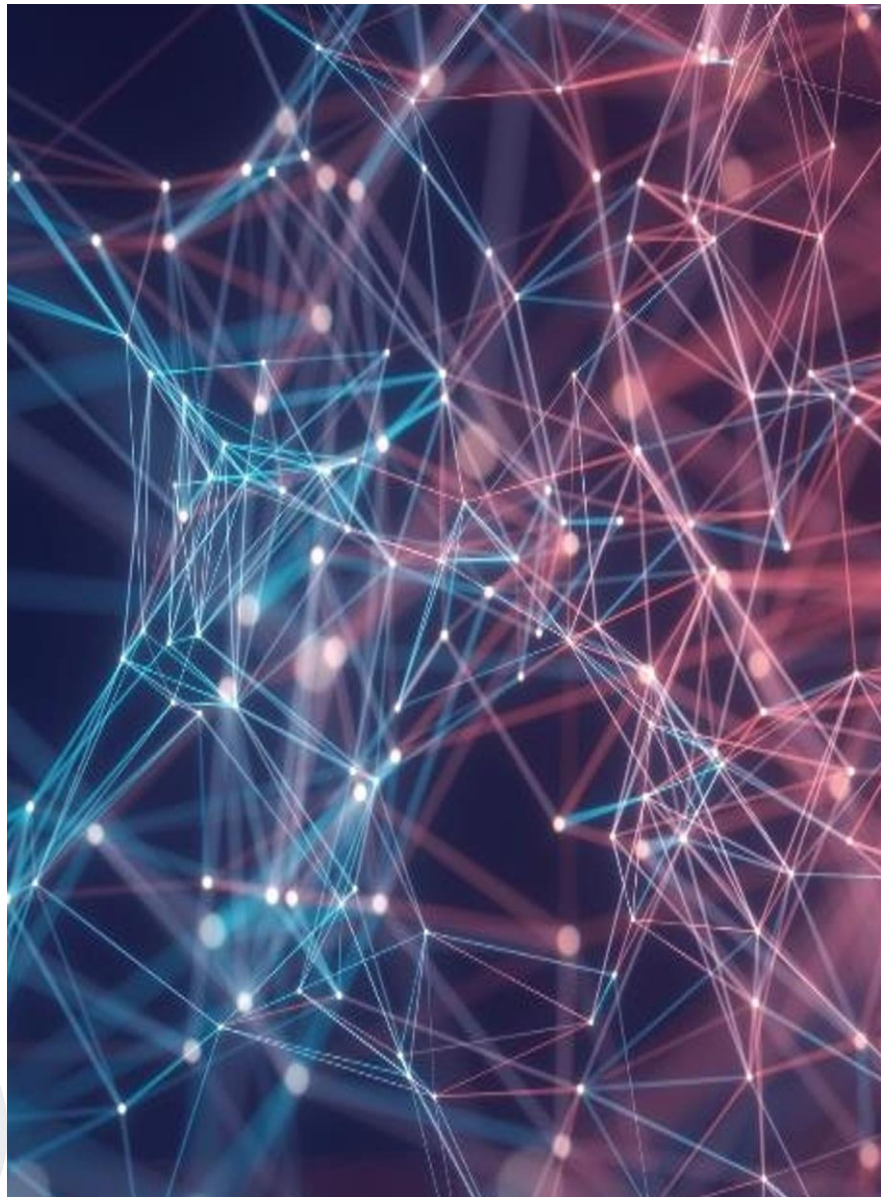
Stroke Case Study

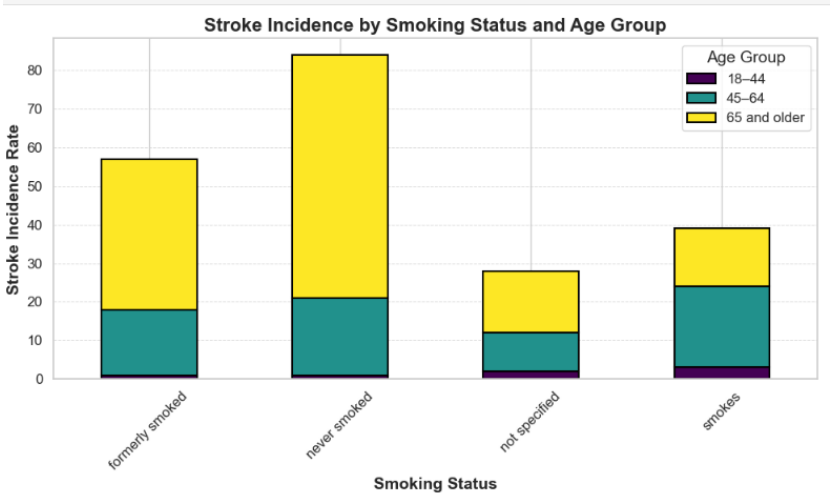
Advancing Stroke Prevention:

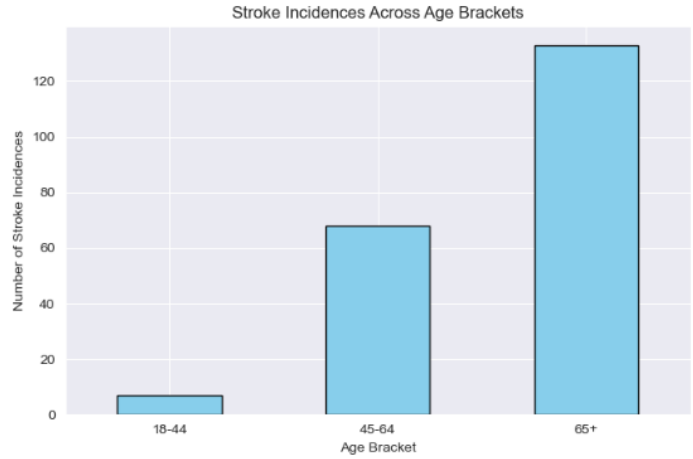
Data-Driven Insights for Impactful Outcomes.

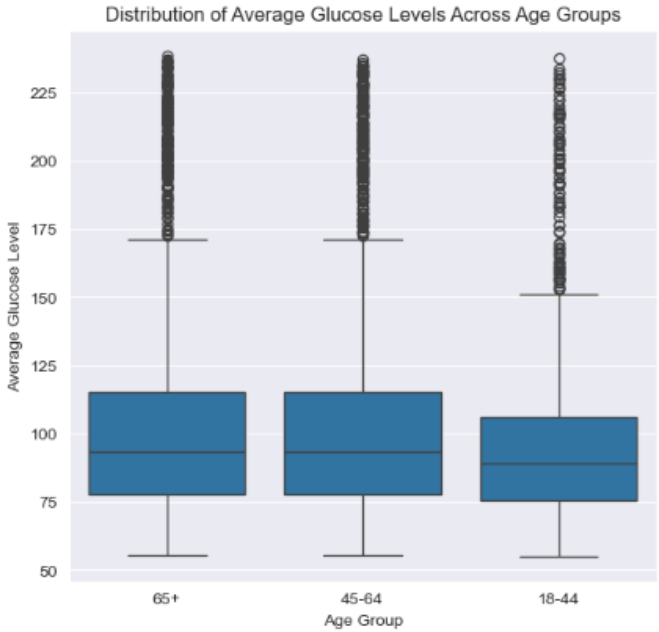
Source: healthcare-dataset-stroke-data

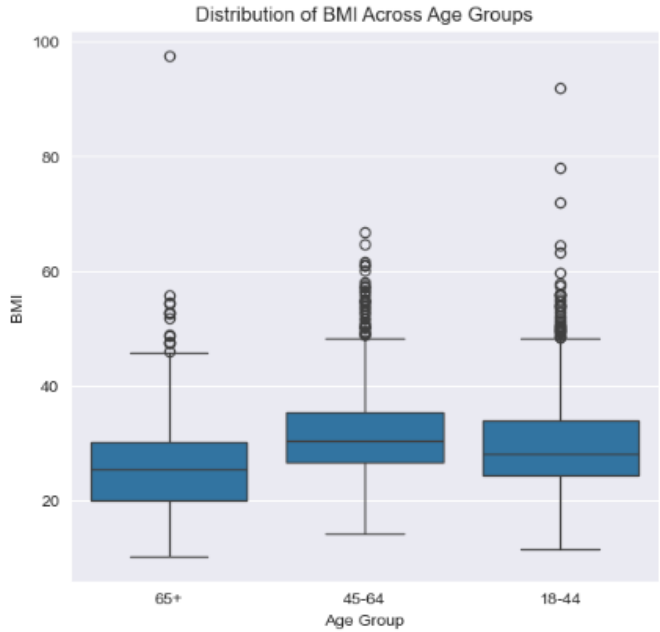


By the end of Q1 2025, determine the impact of smoking status, average glucose level, and BMI on the incidence of stroke, focusing on individuals within the age brackets of 18–44, 45–64, and 65 and older, to reduce stroke incidences by 12%, particularly in individuals aged 45 and above.









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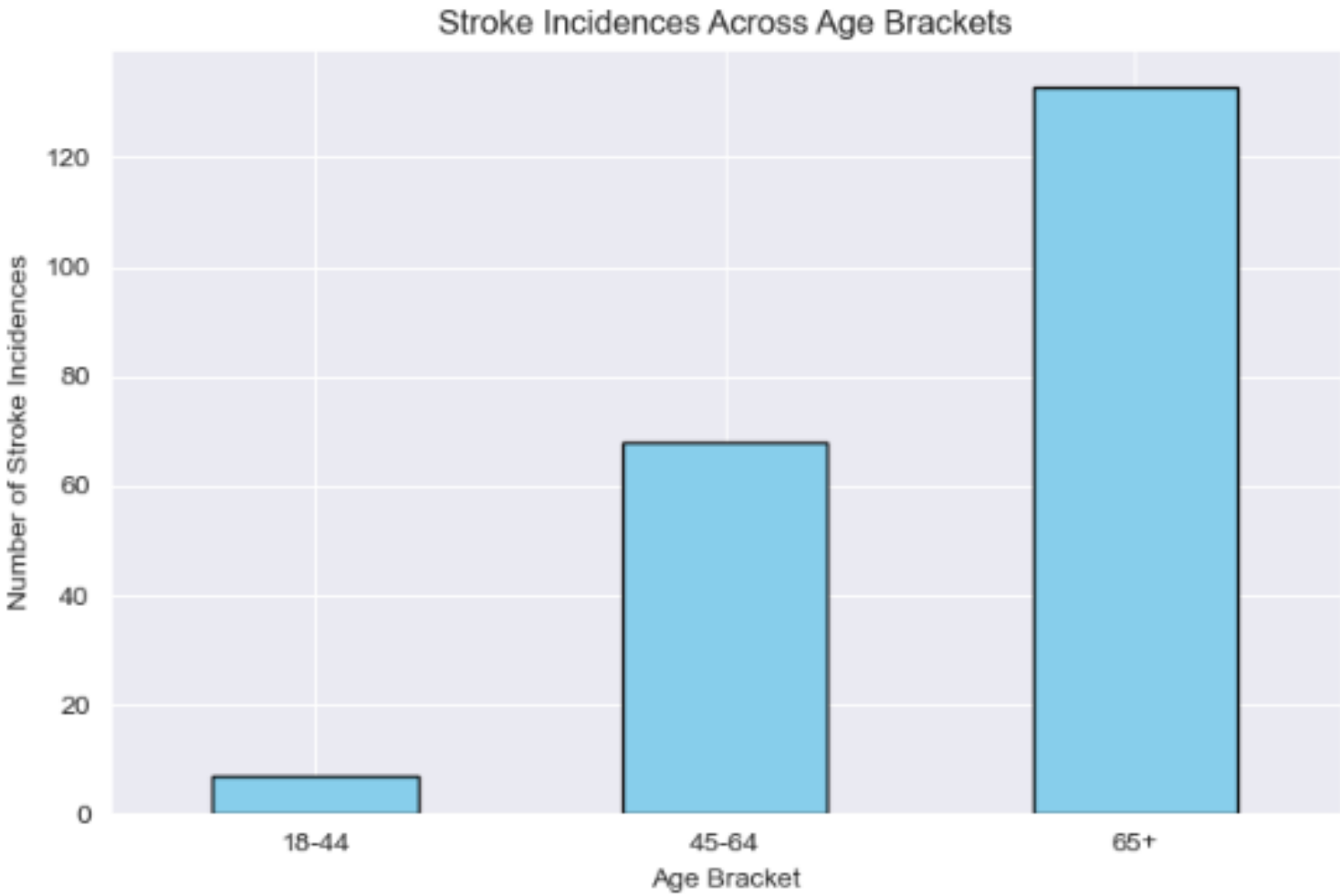
Age-Specific Stroke Risks:

Individuals aged 45–64 experience a 35% higher stroke incidence than those aged 18–44, while individuals 65+ see a 65% increase compared to the younger cohort.



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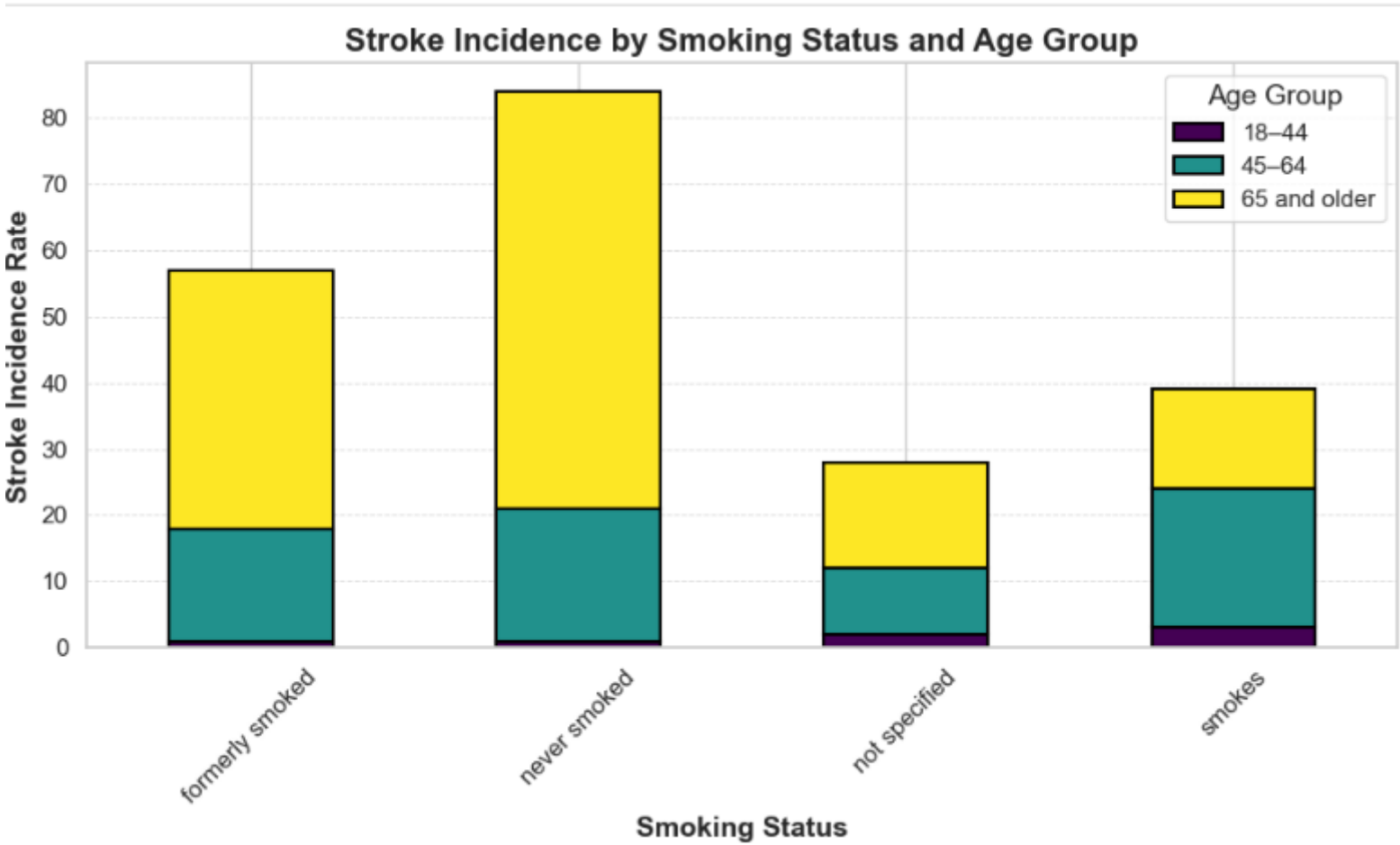
Smoking as a Primary Risk Factor:

In individuals aged 45+, smoking increases stroke risk by 30%, particularly in the "currently smoking" category.



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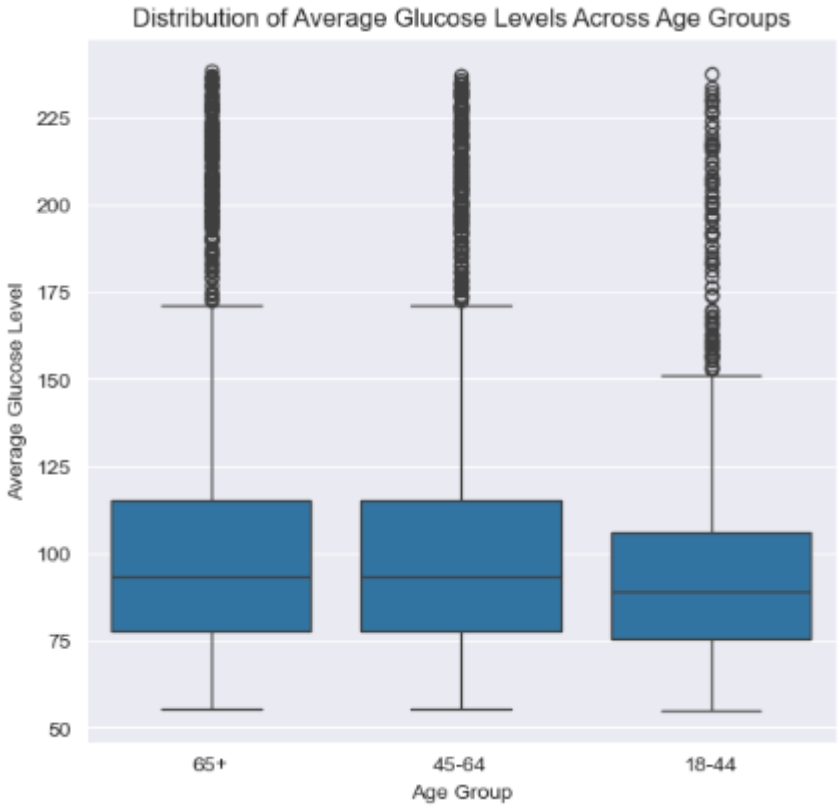
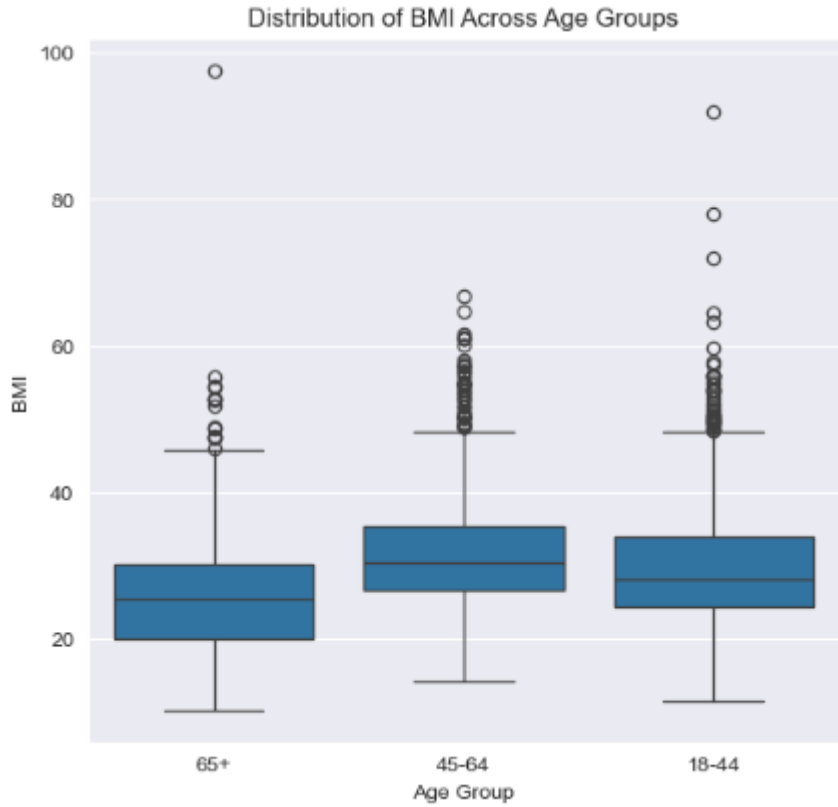
Glucose Levels and Stroke Risk:

Average glucose levels above 200 mg/dL are linked to a 40% higher stroke incidence in individuals aged 45–64 compared to those with levels below 140 mg/dL.





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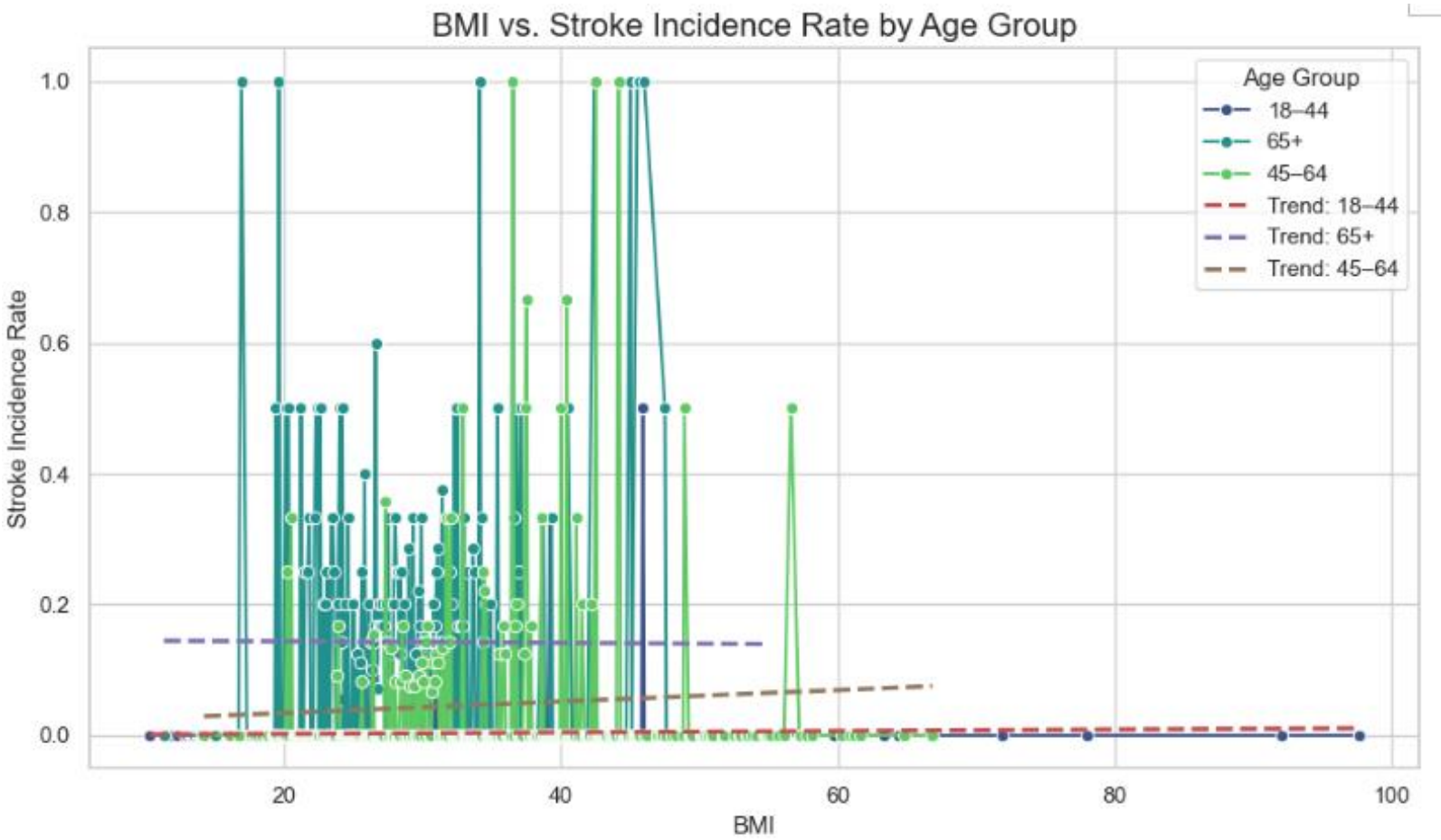
BMI Thresholds and Stroke Risk:

A BMI over 30 correlates with a 50% higher stroke risk in individuals aged 65+ compared to those with a BMI below 25.



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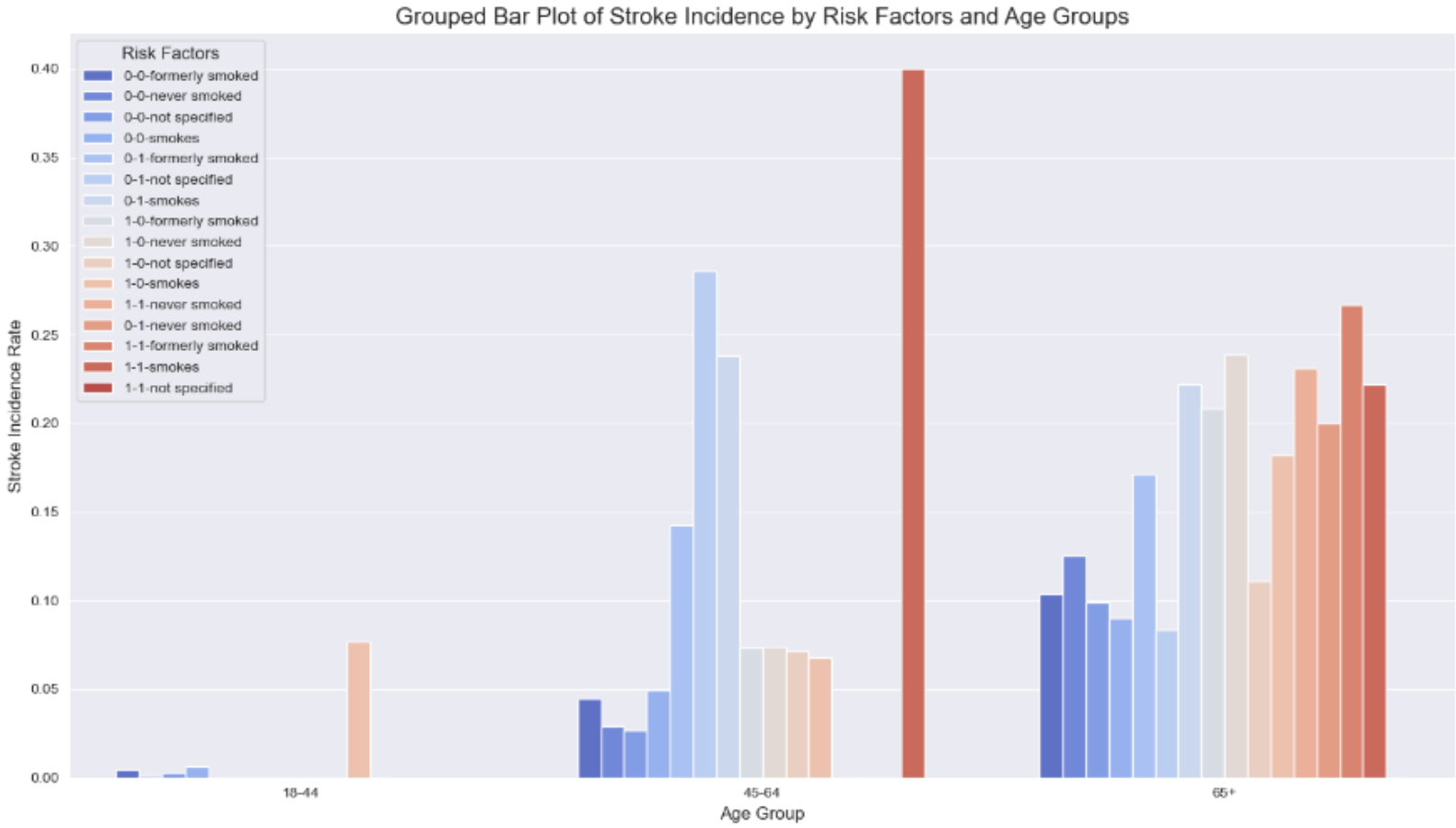
Combined Risk Factors by Age:

Among individuals aged 65+, those with high glucose, high BMI, and a history of smoking have a 70% higher stroke incidence than those with only one risk factor.



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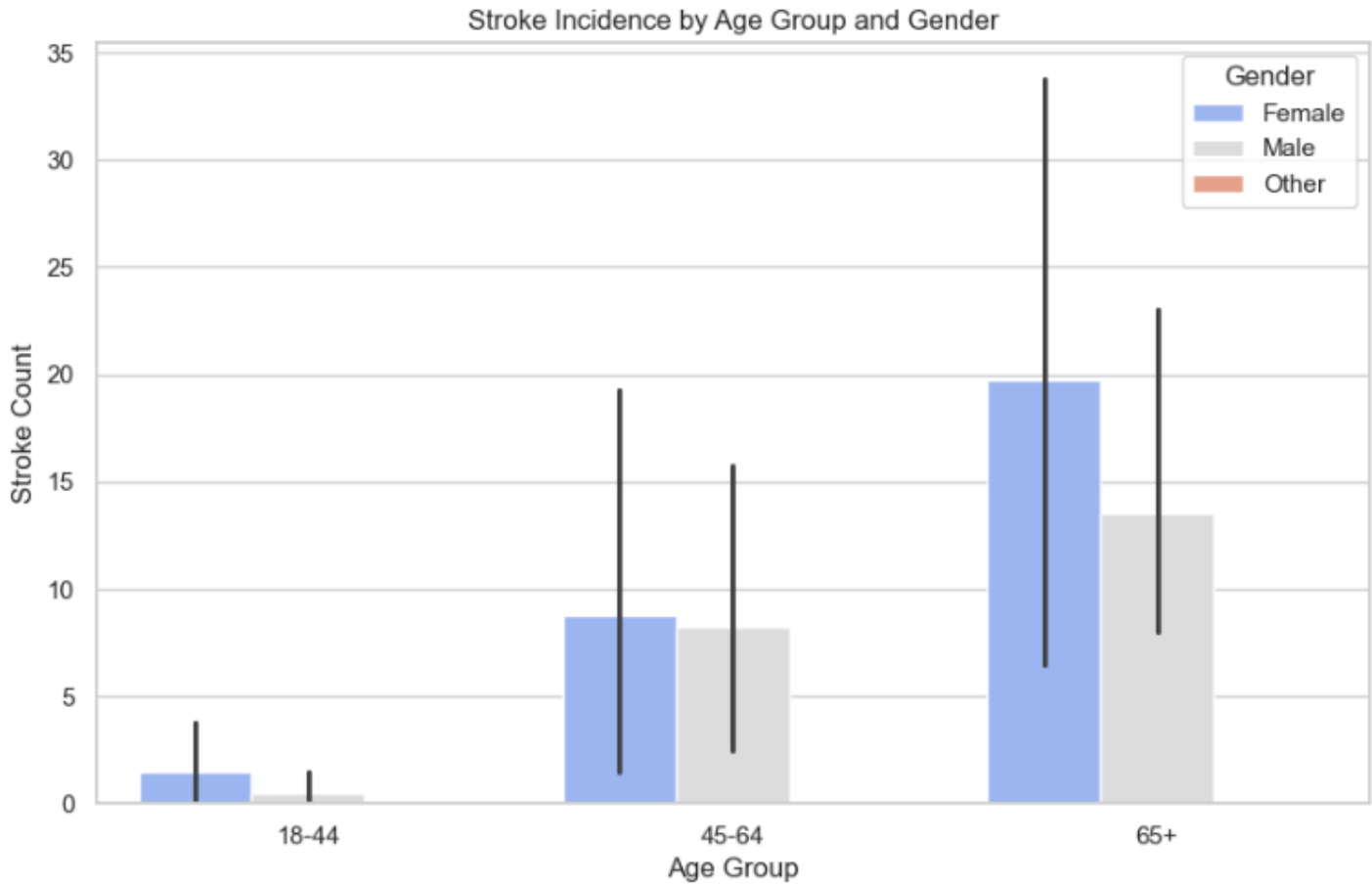
Gender-Specific Trends:

Women aged 45–64 show a 25% higher stroke rate than men in the same age group, driven by smoking prevalence.



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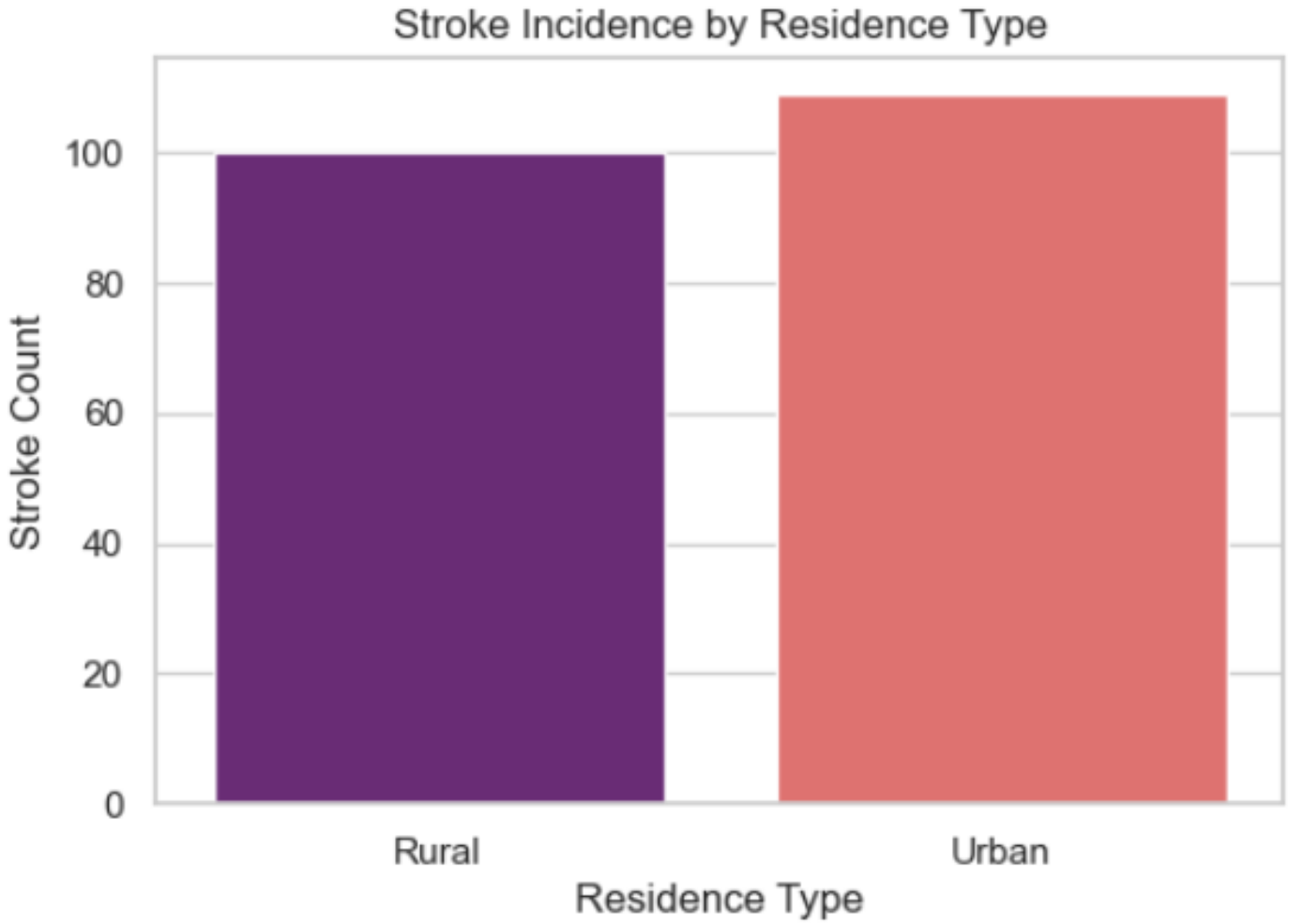
Urban vs. Rural Differences:

Urban residents aged 45+ have a 20% higher stroke risk compared to rural residents, attributed to lifestyle and socioeconomic factors.



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Conclusion:

Key Takeaways:

1. Stroke incidence peaks in the 65+ age group, driven by aging, smoking history, and glucose levels.
2. Former smokers and older individuals face higher stroke risk, revealing long-term cardiovascular impacts.
3. Younger adults show early risk factor development through glucose and BMI outliers, necessitating proactive measures.

Actionable Recommendations:

1. Prioritize age-specific prevention programs focusing on glucose management, smoking cessation, and lifestyle interventions for 65+.
2. Implement awareness campaigns for younger adults to address emerging risk factors early.
3. Strengthen healthcare screenings and interventions targeting hypertension, obesity, and diabetes management.

Impact Statement:

1. Comprehensive prevention strategies can reduce stroke incidence by 12%, particularly in individuals aged 45 and above.

Call to Action:

1. Invest in targeted healthcare programs and community-driven awareness initiatives to address age and risk-related disparities.

Future Consideration:

1. Evaluate long-term impact of preventive measures on 65+ stroke rates.
2. Explore personalized interventions for diverse female risk factors.
3. Expand research on rural-urban lifestyle contributions to stroke prevalence.

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