**Insights on the Project**

1. **Age vs. Stroke Occurrence**: Age plays a major role that is to say that the older one get, the more likely for the anatomy of the body to change which in turn exposes the individual to stroke, however that is not to say that young people do not fall into stroke.
2. **Impact of Hypertension and Heart Disease**: They determine stroke as they both expose the Blood pressure, brain and health to a total collapse which in turn triggers stroke.
3. **Marital Status and Stroke Risk**: Those who were married were more susceptible to stroke which may be as a result of age or time being inputted into parenting as that determines factor for married couples.
4. **Work Type and Stroke Incidence**: From the analysis we can see that the more the hours and time given to a particular work type the more the like hood of stroke in the patient. From the various work type it showed that those who have more staffs and less workload weren’t exposed to stroke.
5. **Residence Type and Stroke Risk**: From our analysis we can deduce that urban settlement had more occurrences than the rural settlement which may be top various factors such as stress, environmental impact etc..
6. **Glucose Levels and BMI**: We noticed that BMI was a major determinant to stroke in patient compared to the Glucose levels of patients.
7. **Smoking Status and Stroke Risk**: Evaluate the impact of smoking status on stroke risk. Provide insights on how being a smoker, non-smoker, or former smoker influences the likelihood of strokes.
8. **Gender Disparities in Stroke Occurrence**: we had gender differences in stroke occurrences. We can deduce that more females fell into stroke than males. We had prevalence of strokes among females than males.
9. **Predictive Modeling**: A predictive model was built to forecast stroke occurrences based on the available features. We evaluated the model's performance and provided recommendations for improving prediction accuracy.

**Recommendations**

1. Encourage regular health screenings for hypertension and heart disease to mitigate stroke risks.
2. Promote healthy lifestyle choices such as maintaining a balanced diet and regular exercise to manage glucose levels and BMI.
3. Raise awareness about the impact of smoking on stroke risk and provide resources for smoking cessation.
4. Advocate for public health campaigns targeting high-risk groups identified through the data analysis.
5. Collaborate with healthcare providers to implement personalized preventive strategies for patients at risk of strokes.
6. Conduct further research to explore additional factors that may contribute to stroke occurrences in the population.
7. Enhance data collection efforts to capture more detailed information that could improve predictive models.
8. Educate the community about the warning signs of strokes and the importance of seeking immediate medical attention.
9. Monitor and track key indicators related to stroke risk to evaluate the effectiveness of preventive interventions.
10. Continuously update and refine data analysis techniques to uncover new insights and improve stroke prediction models.