Tableau Link: https://public.tableau.com/app/profile/bhv.shrikant/vizzes

Tableau Age, BMI, Critical Health Factors impact on Premium Dashboard
Link: https://public.tableau.com/app/profile/bhv.shrikant/viz/InsurancePricePredictionPPA/
PremiumPricingAnalysisDashboard

Tableau Risk Factor Analysis Dashboard
Link: https://public.tableau.com/app/profile/bhv.shrikant/viz/InsurancePricePredictionRFA/
RiskFactorAnalysisDashboard

Tableau Premium Pricing Analysis
Dashboard: https://public.tableau.com/app/profile/bhv.shrikant/viz/InsurancePricePredicti
on/BMIvsPremiumDashboard

Tableau Summary Statistics
Dashboard: https://public.tableau.com/app/profile/bhv.shrikant/viz/InsurancePricePredicti
onSSD/SummaryStatisticsDashboard

Github Link: https://github.com/bhvshrikant/Insurance-Cost-Prediction

Technical Blog (Medium) Link: https://medium.com/@shrikantbhamidipati/predicting-
insurance-premiums-using-machine-learning-a-portfolio-project-3842477f7426

Loom Video
Link: https://www.loom.com/share/0401499181604f00a5d13f9a66f1f44d?sid=c2fd0772-
e33b-4f92-a14d-58e9709333a0

Colab Notebook
Link: https://colab.research.google.com/drive/1zcwY5pxWCvEAXbJCc3QRTu_2f0b_TsbX?us
p=sharing

Streamlit App Link: https://insurancepredictorapppy-bhvshrikant.streamlit.app/

Insights:
1. Age as a Major Cost Driver: Premium costs were observed to increase significantly with
age, reflecting the higher health risks associated with older age groups. This could guide
age-based premium adjustments.
2. Impact of Transplants: Customers with a history of transplants had significantly higher
premiums. Given the long-term medical support often needed post-transplant, this factor is
an important indicator of risk.
3. Weight: Individuals with a higher Weight (in the overweight or obese categories) showed
higher premium costs. As weight can signal potential health risks, this variable proved
valuable in premium prediction.

4. Impact of Chronic Diseases: Customers with chronic conditions had noticeably higher premiums. Chronic conditions often signal ongoing healthcare needs, which raises an individual's risk profile.

5. Family History of Cancer: The presence of a family history of cancer was associated with higher premiums. This insight could help insurers focus on health programs aimed at preventative care for these high-risk individuals.

Business Recommendations:

1. Targeted Wellness Programs: Developing personalized wellness programs for individuals with chronic diseases or higher BMI could help improve their health outcomes and potentially lower insurance claims over time.

2. Age-Adjusted Premium Options: Offering customized plans that take age-related health risks into account could attract older customers while covering their potential risk more accurately.

3. Enhanced Support Programs for Transplant Patients: Since transplant history is a major indicator of increased premiums, insurers could provide specialized health plans or incentives for regular check-ups and preventive care for these customers. This may not only improve customer satisfaction but also help mitigate high claim risks associated with post-transplant care.

4. Preventive Health Screenings: Encourage customers with a family history of cancer to undertake regular health screenings. Such programs not only promote customer health but also help insurers monitor and mitigate risks proactively.

5. Education on Chronic Conditions: Providing education and support for customers with chronic diseases, or who are at risk due to lifestyle factors, may decrease the likelihood of high-cost claims and improve long-term profitability.

6. Data-Driven Risk Assessment Models: Finally, insurers should regularly revisit and update their risk assessment models based on factors like Age, Transplant History, Chronic Diseases, BMI, and Family Cancer History. This data-driven approach enables more accurate pricing models and aligns premium costs with individual risk profiles.