

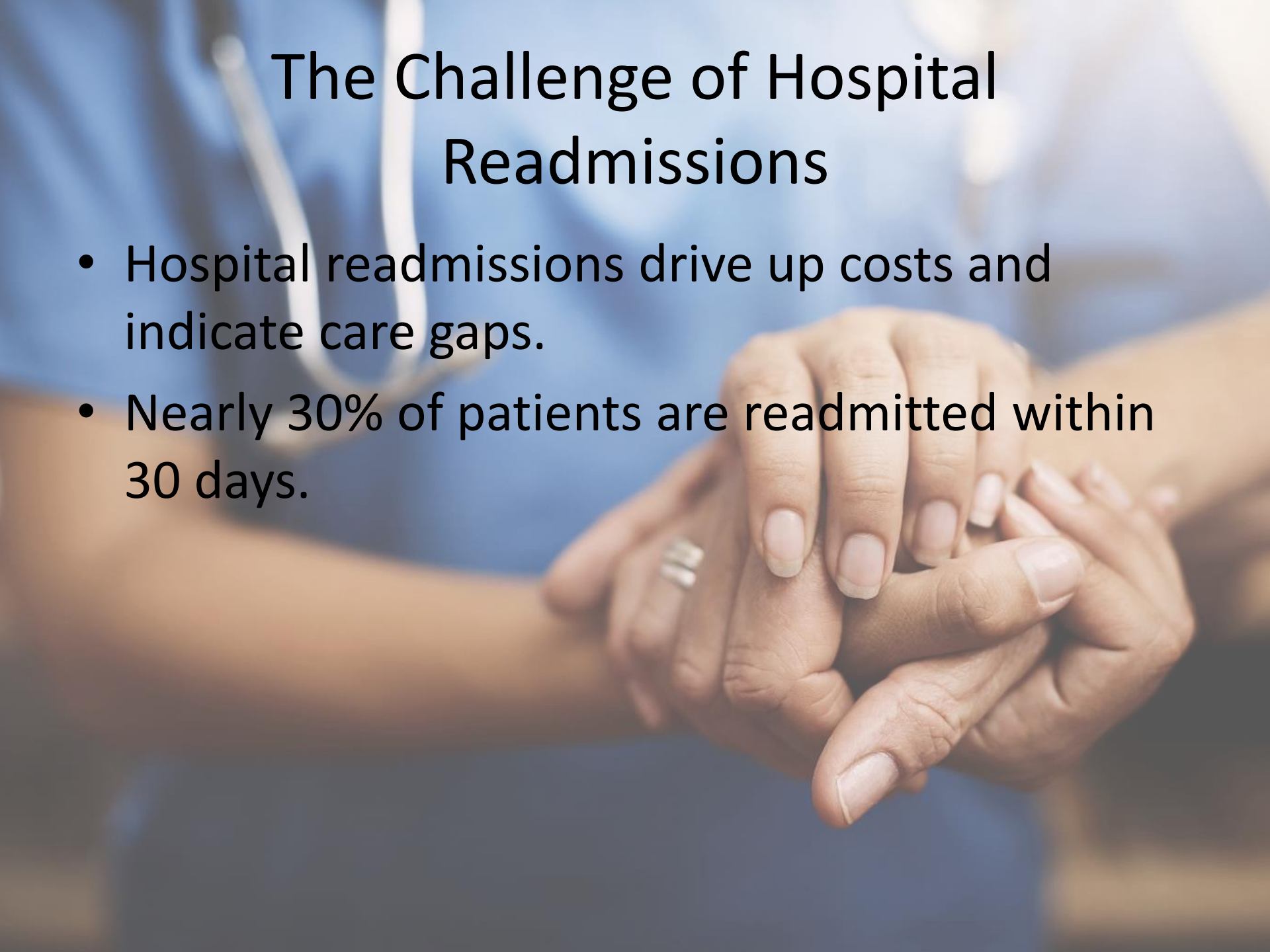


Predicting Hospital Readmissions

A Data Science Case Study

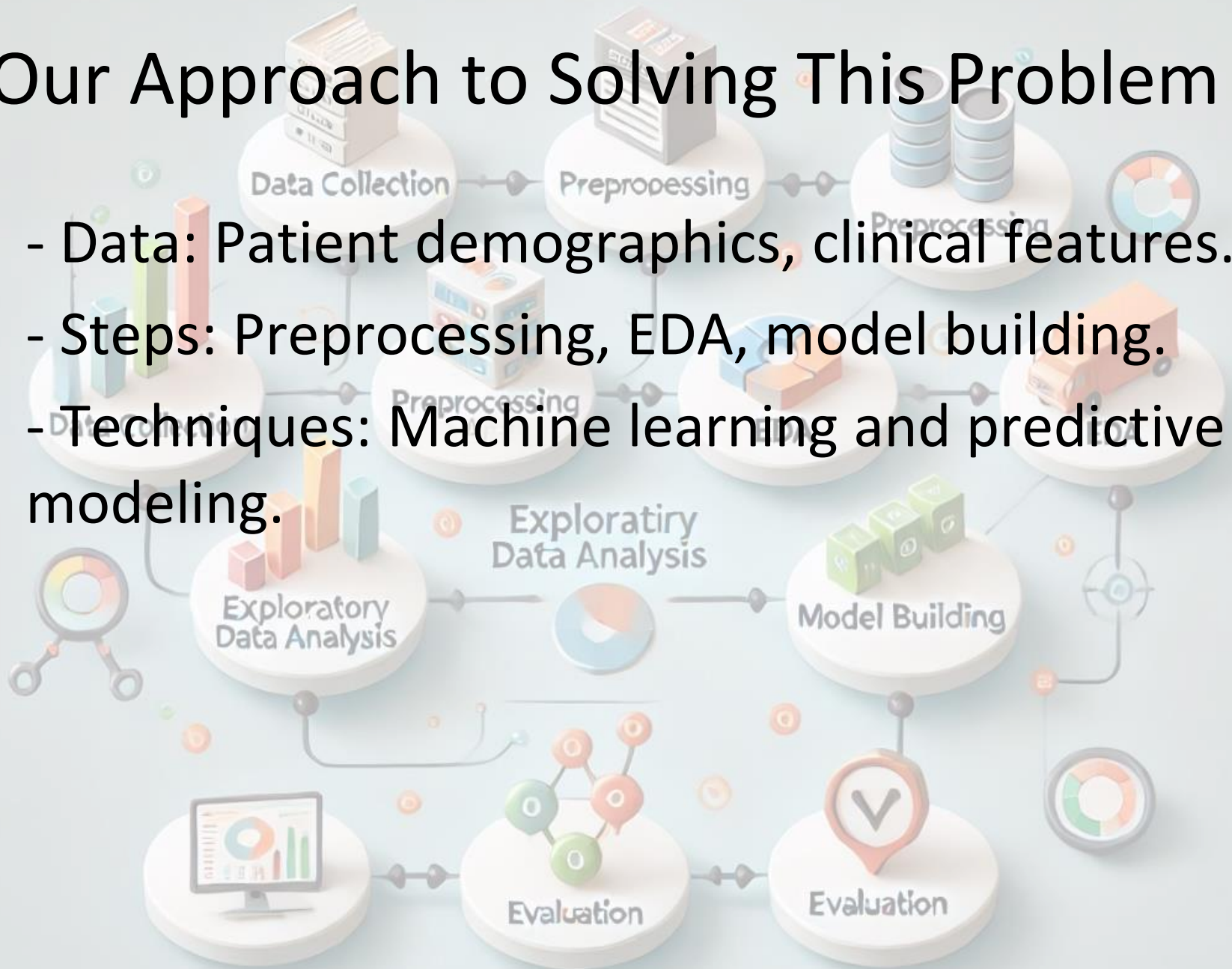
The Challenge of Hospital Readmissions

- Hospital readmissions drive up costs and indicate care gaps.
- Nearly 30% of patients are readmitted within 30 days.



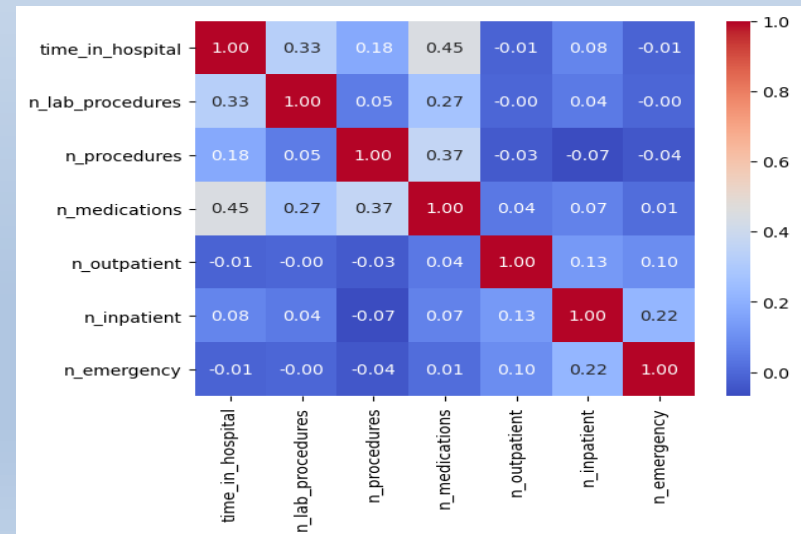
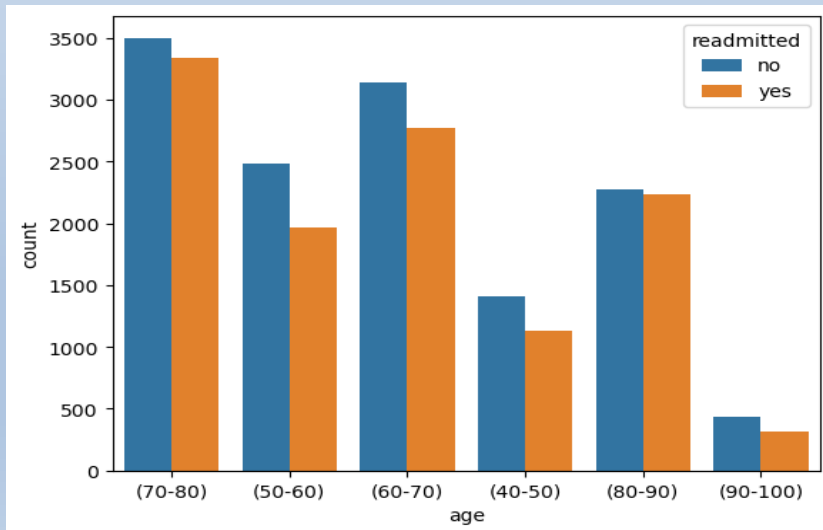
Our Approach to Solving This Problem

- - Data: Patient demographics, clinical features.
- - Steps: Preprocessing, EDA, model building.
- - Techniques: Machine learning and predictive modeling.



What the Data Tells Us

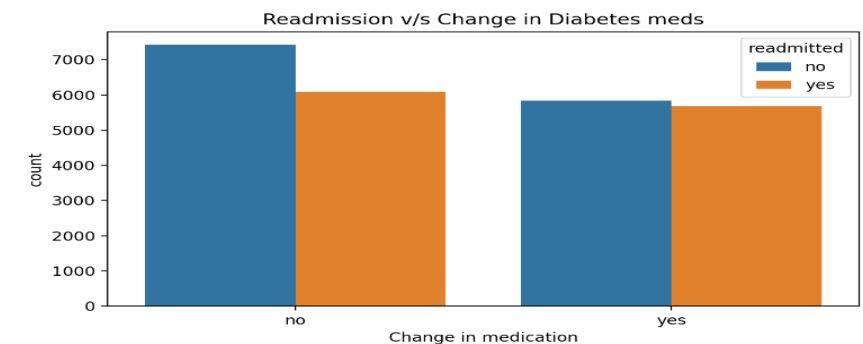
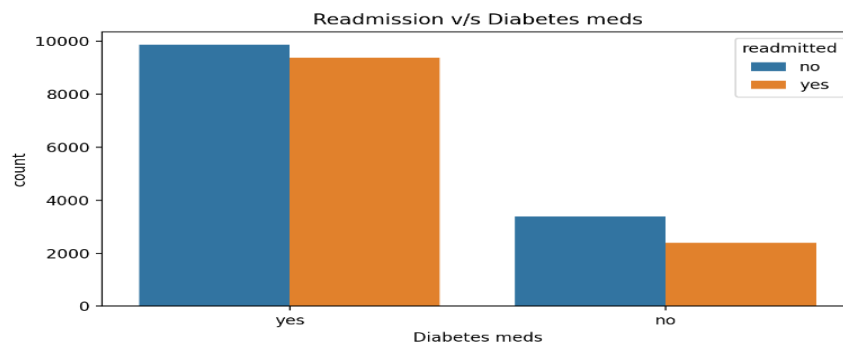
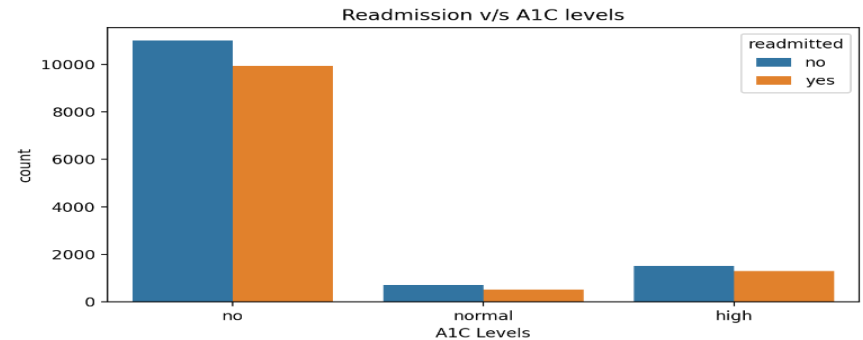
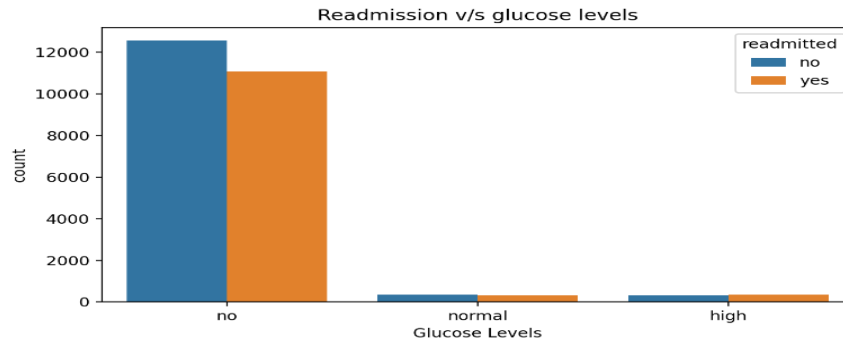
- Patterns in readmissions by age, Diabetes or the diagnosis.
- Key predictors identified for targeted interventions: Age, Number of Inpatient and Outpatient visits, number of surgical and lab procedures.



Contd.

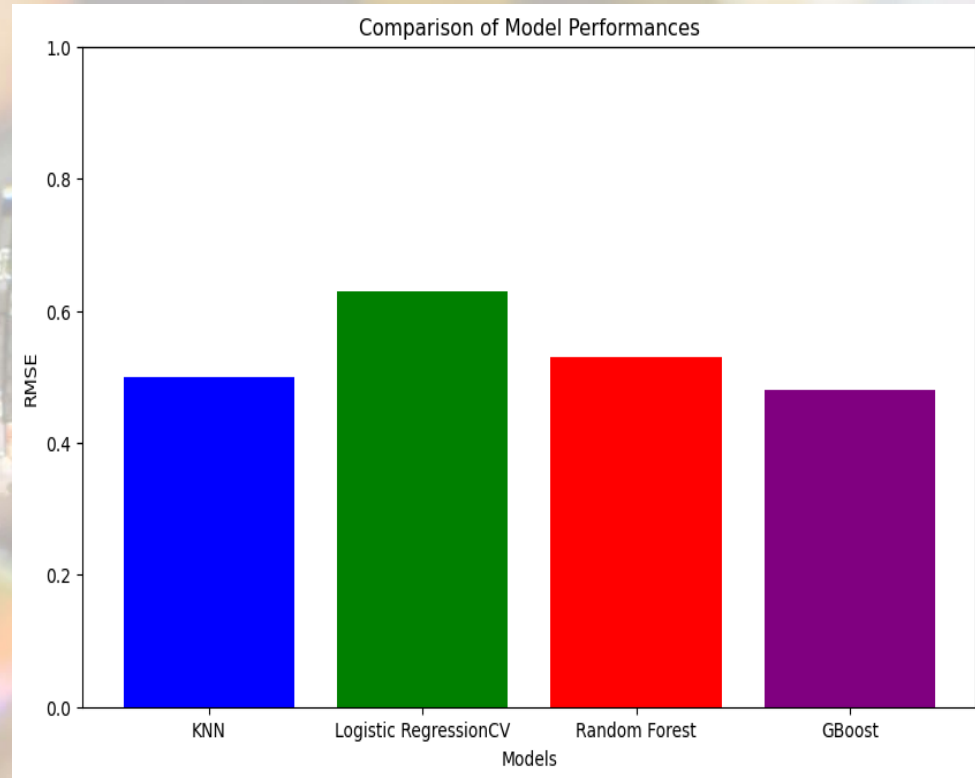
What the Data Tells Us

- - Glucose levels or A1C levels do not contribute to readmission chances.
- - However, the change in medication and prescription of Diabetes medication have a small contribution to the readmission chances.

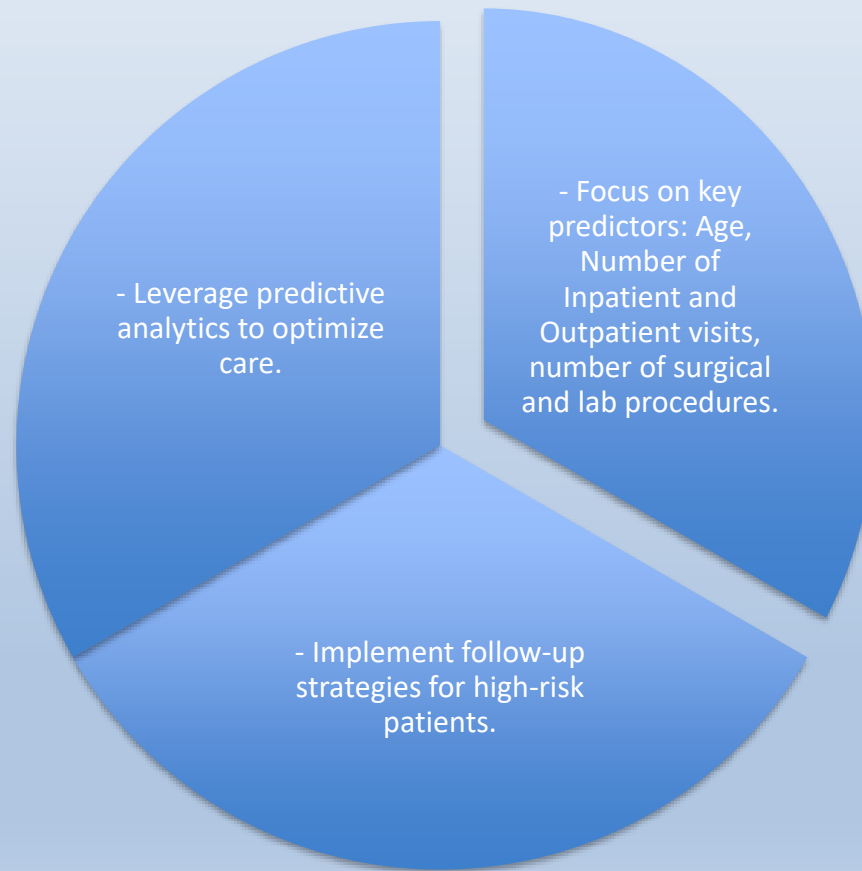


Machine Learning in Action

- Models Tested:
- - Logistic Regression
- - Random Forest
- - Gradient Boosting
- Best Performance: RMSE = 0.51



Actionable Insights



Transforming Healthcare with Data Science

- Predictive analytics improve outcomes and reduce costs.
- Let's connect to explore more data-driven healthcare innovations!