

Week 10 Deliverable

Group Name: Individual Project - Healthcare Persistency

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Problem Description

This project involves predicting drug persistency to help pharmaceutical companies optimize strategies and improve patient adherence to therapy.

GitHub Repository Link

https://github.com/KTW04/Data_Glacier_Internship_LISUM38

Exploratory Analysis (EDA)

Key Insights from Visualizations:

- Distribution of Persistency:
 - Majority of patients (69.5%) are categorized as "Non-Persistent," indicating a significant issue with adherence.
- Gender-Based Persistency:
 - Females dominate the dataset, with a larger number showing persistency compared to males.
- Persistency by Race:
 - Caucasians represent the largest racial group, with a notable proportion being "Non-Persistent."
- Persistency by Region:
 - Patients from the Midwest and South regions show the highest "Non-Persistent" rates.
- Age-Based Persistency:
 - Older age groups (>75) have the highest number of patients, yet many are categorized as "Non-Persistent."

- Combined Analysis:
 - Age and Gender: Older females show higher persistency rates, while younger males are less persistent.
 - Gender and Race: Significant patterns emerge, such as Caucasian females being more persistent than other groups.
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Final Recommendations

- Prioritize High-Impact Demographics:
 - Focus resources on groups with lower persistency rates, such as males, non-Caucasians, and patients under 55 years old.
 - These differences signify culturally related views on medicine, varying levels of trust in healthcare systems, or racial barriers such as limited access to healthcare resources. Addressing these barriers through targeted interventions is essential.
 - Develop tailored education and support programs for these groups to address barriers in persistency.
 - Targeted Interventions:
 - Develop gender- and age-specific programs to address barriers to persistence.
 - Design regional campaigns emphasizing patient education and systemic support.
 - Digital Tools:
 - Implement digital health solutions like reminders for medication adherence, focusing on younger and male populations.
 - Regular Monitoring:
 - Evaluate persistency rates post-intervention to measure effectiveness and adjust strategies as needed.
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