

# **PFIZER'S**

## **PERSONALIZED MEDICINE INITIATIVE**



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# Problem Statement

Pfizer aims to improve treatment effectiveness by tailoring drugs to individual patients through personalized medicine. This project seeks to analyze clinical trial and genomics data to identify key patient demographics and genetic factors that influence drug efficacy and side effect patterns. By uncovering these insights, Pfizer can develop more effective, targeted treatments, enhance clinical trial designs, and reduce adverse side effects for diverse patient groups. This data-driven approach will help Pfizer advance the future of precision medicine.





# Stakeholders

- **Internal Stakeholders:** Pfizer's Research and Development (R&D) team, Data Science Team, and Clinical Researchers.
- **External Stakeholders:** Medical professionals, regulatory bodies, and patients.



# KPI'S (KEY PERFORMANCE INDICATOR)



**Positive Mutations**

**471**



**Success Rate**

**34.70%**



**Avg Survival Rate  
(In Months)**

**14.96**

# KPI'S (KEY PERFORMANCE INDICATOR)



**Average Efficacy  
Score**

**5.4**



**Average Progression  
Free Survival**

**11.59**

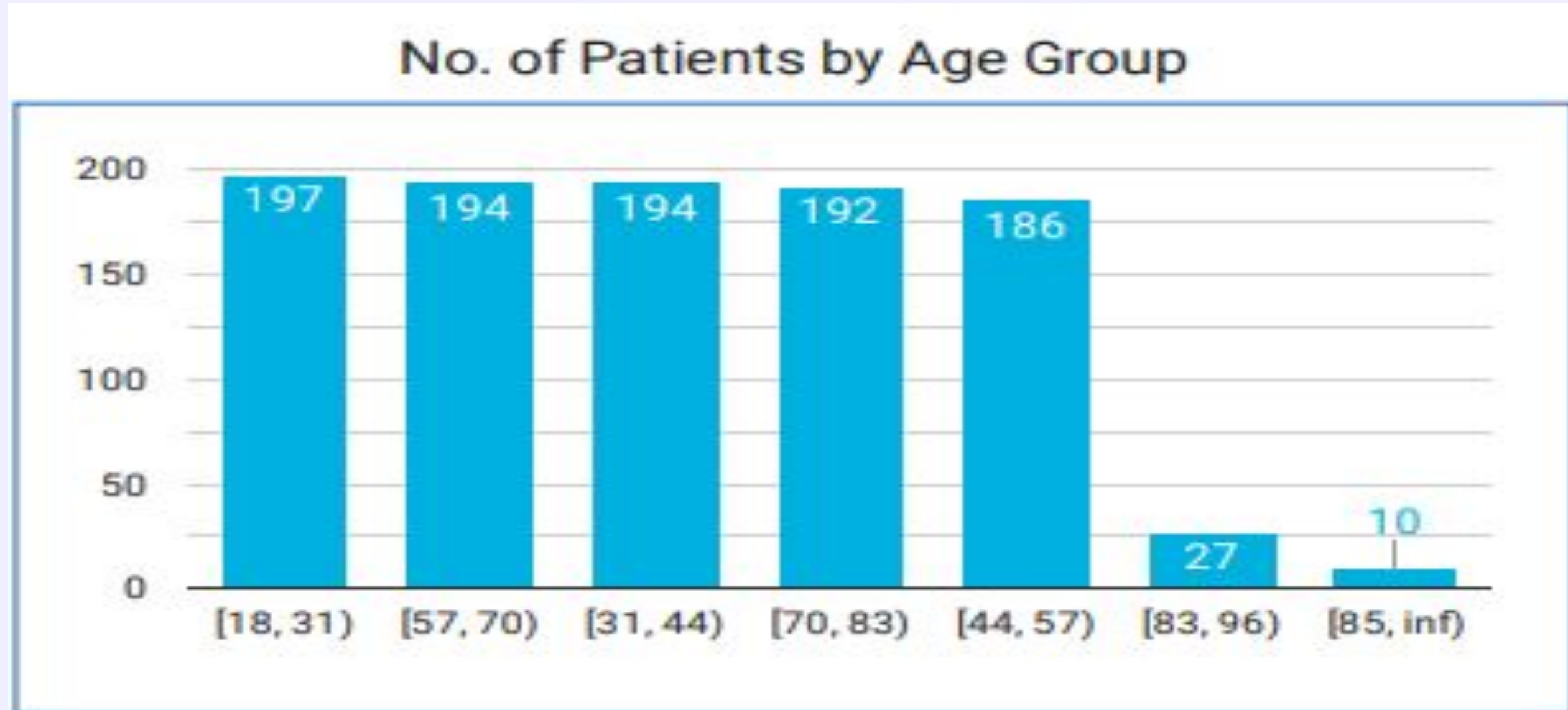


**Avg Survival Rate  
(In Months)**

**14.96**

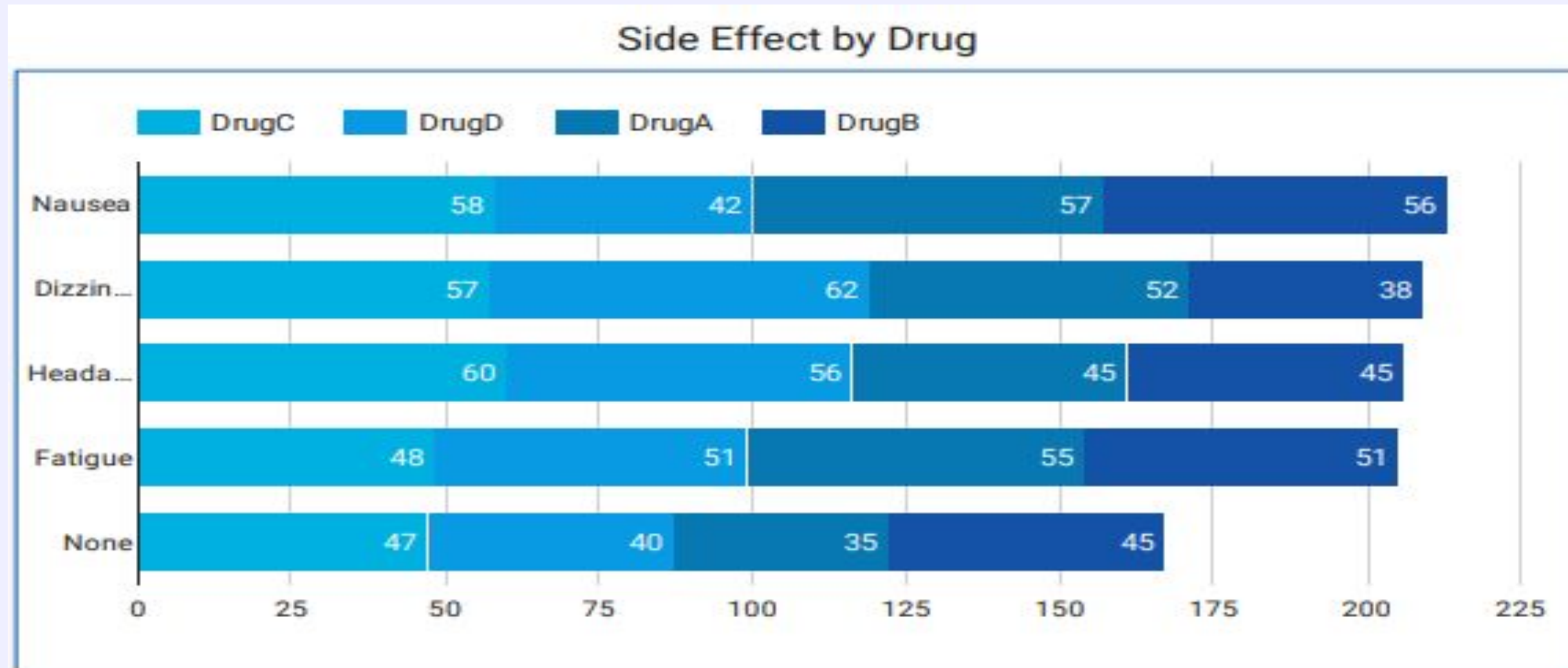
# Recommended Analysis

**Q1. Analyze the number of patients in each age group?**



# Recommended Analysis

Q2. Analyze the number of side effects reported by drug?





# Recommended Analysis

Q3. Analyze Trend Over Time Survival Time ?



# Pfizer Personalized Medicine Dashboard

Mutation\_Status

Side\_Effects

Total Positive Mutations

Mutation\_Status

471



Success Rate

Success Rate %

34.7%



Average Survival

Survival Rate(in Months)

14.96



Average Efficacy Score

Efficacy\_Score

5.4



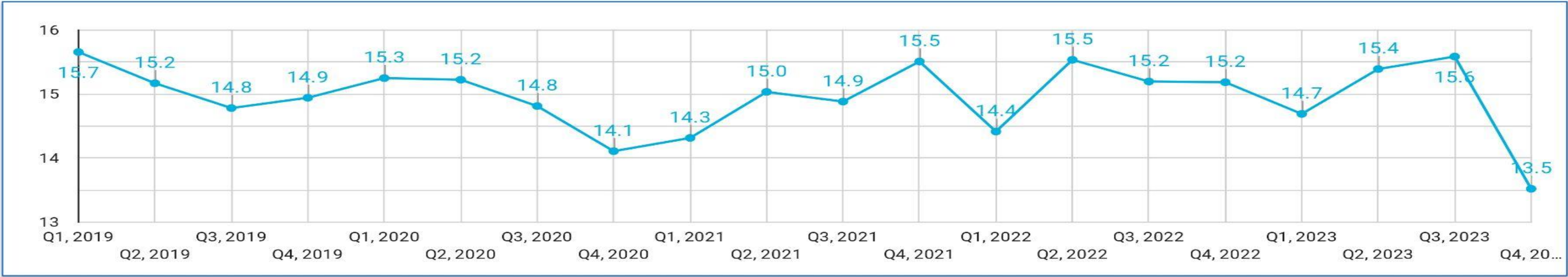
Average PFS

Progression\_Free\_Survival

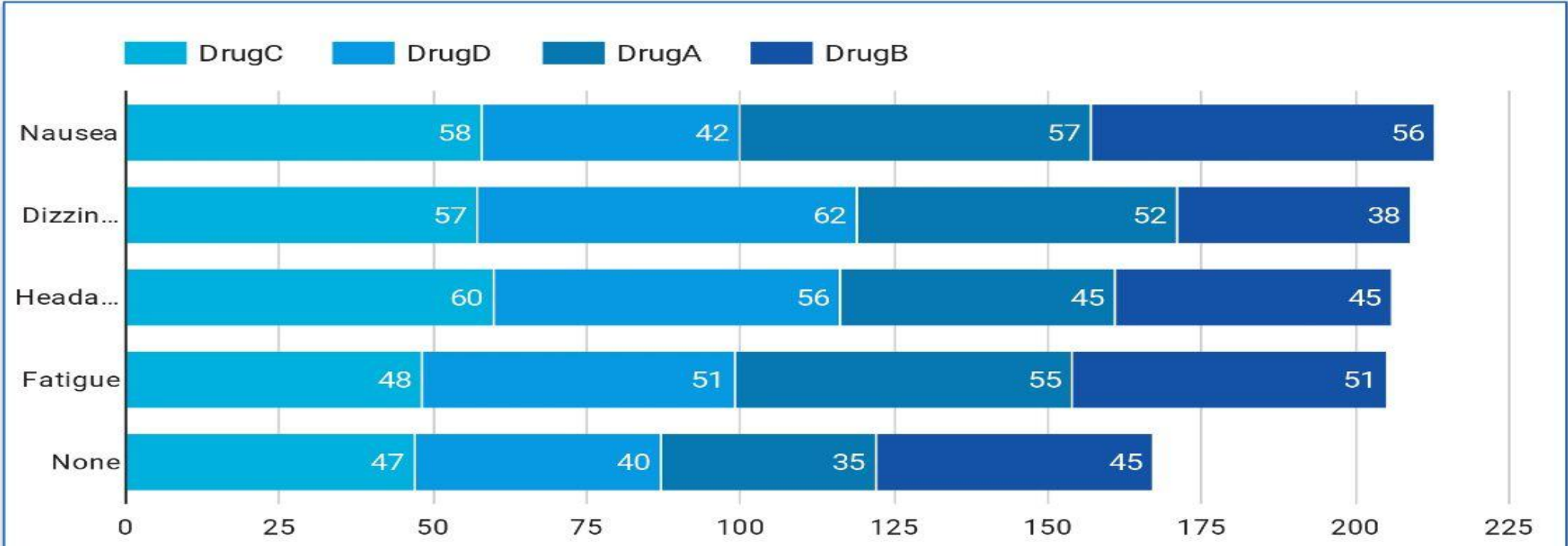
11.59



Survival Rate Over Time



Side Effect by Drug



Average Efficacy Score by Drugs





# Pfizer Personalized Medicine Dashboard

Gender

Side\_Effects

Total Positive Mutations

Mutation\_Status

471



Success Rate

Success Rate %

34.7%



Average Survival

Survival Rate(in Months)

14.96



Average Efficacy Score

Efficacy\_Score

5.4



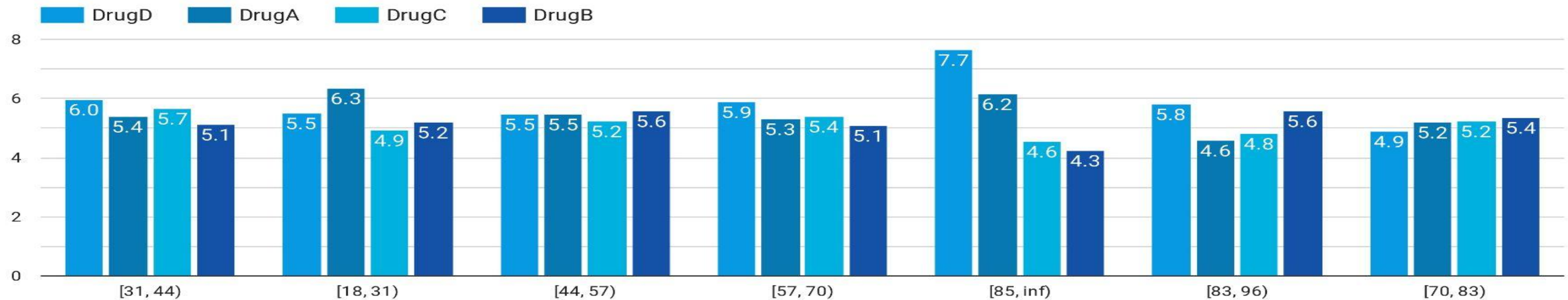
Average PFS

Progression\_Free\_Survival

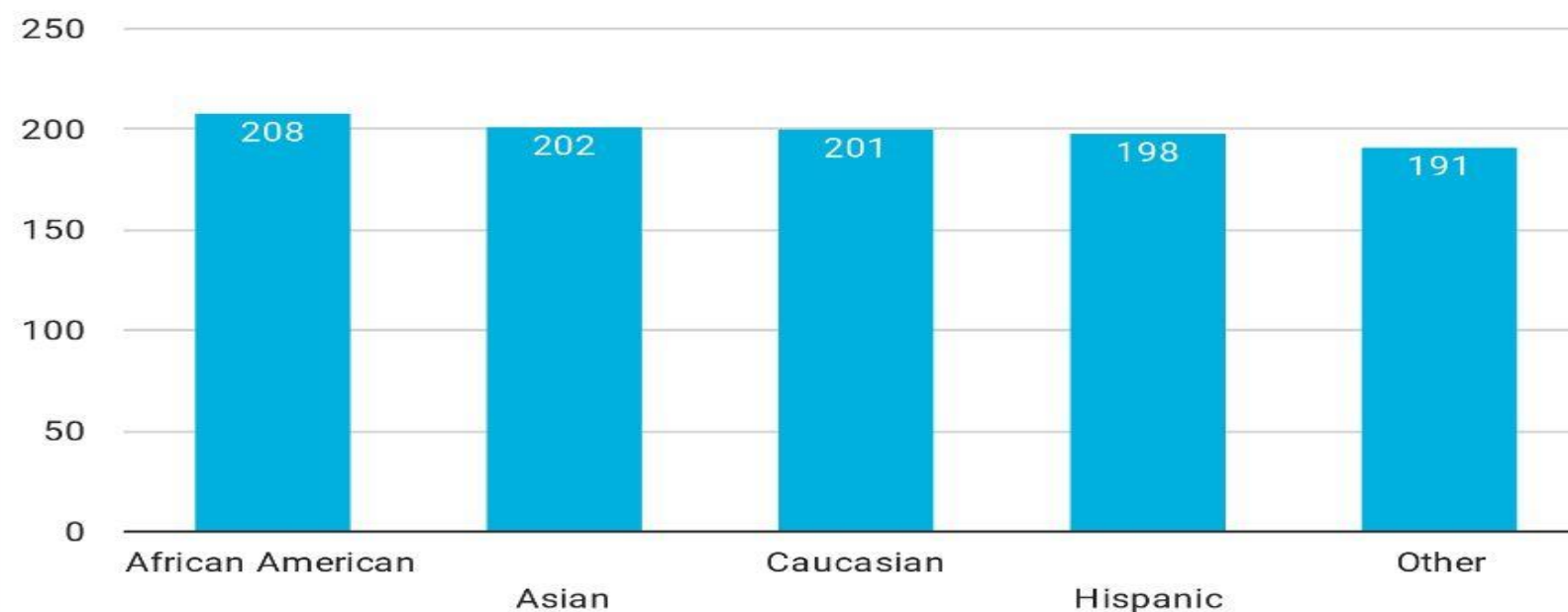
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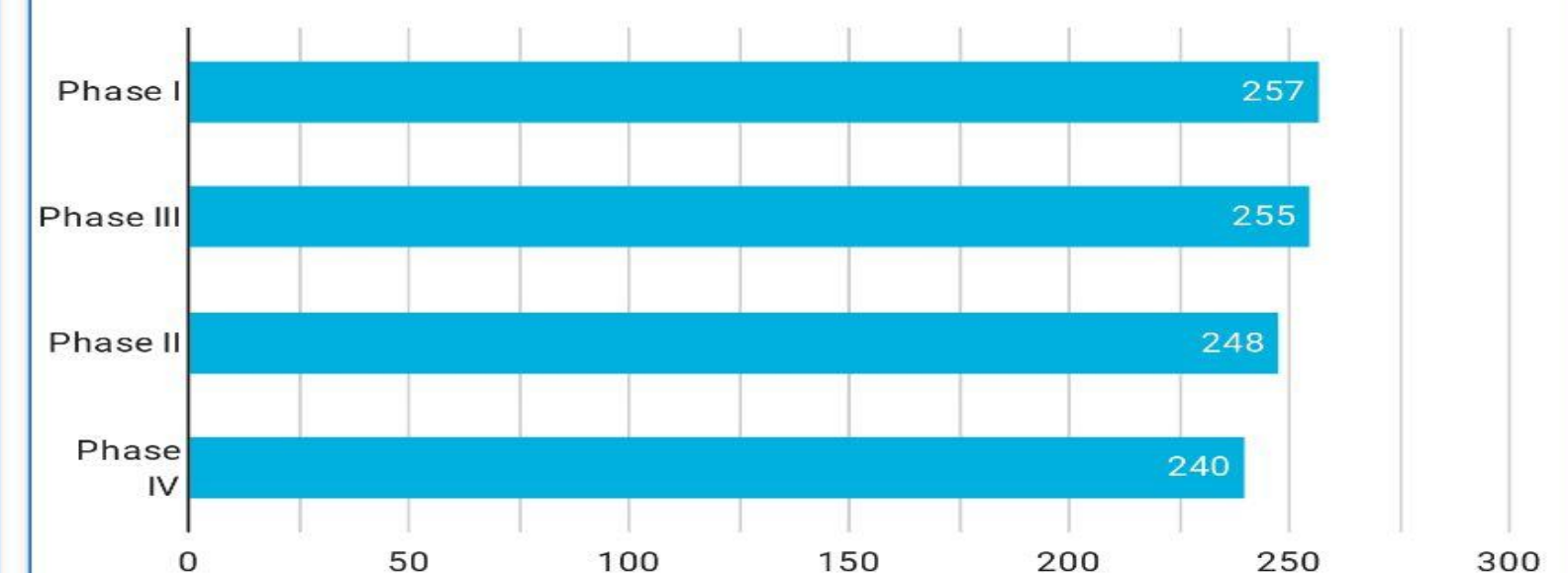
Avg Ethnicity by Drug and Age Group



No. of Patients by Ethnicity



Drug Distribution by Trial Phase





# Pfizer Personalized Medicine Dashboard

Ethnicity

Side\_Effects

Total Positive Mutations

Mutation\_Status

471



Success Rate

Success Rate %

34.7%



Average Survival

Survival Rate(in Months)

14.96



Average Efficacy Score

Efficacy\_Score

5.4



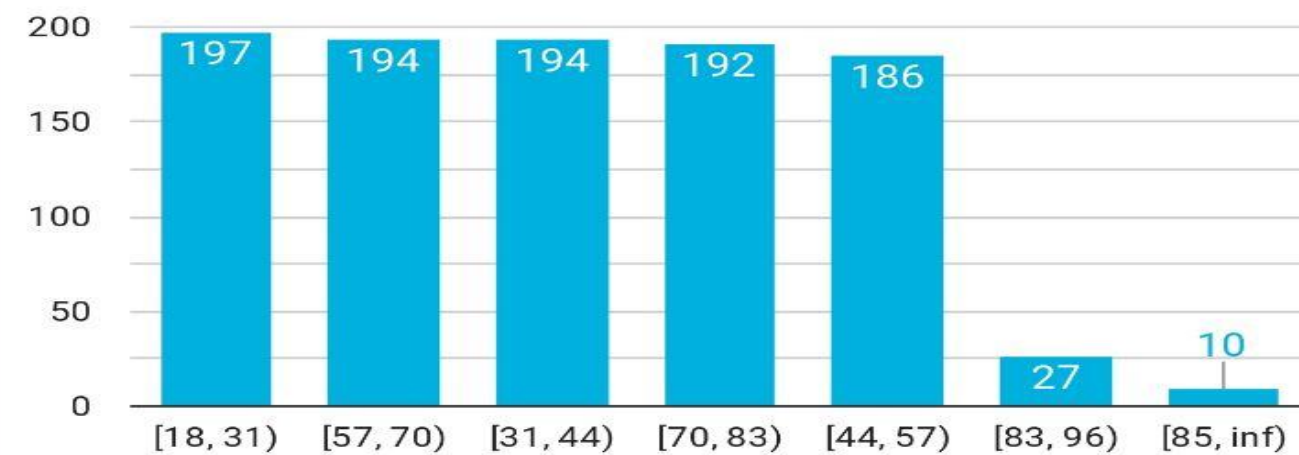
Average PFS

Progression\_Free\_Survival

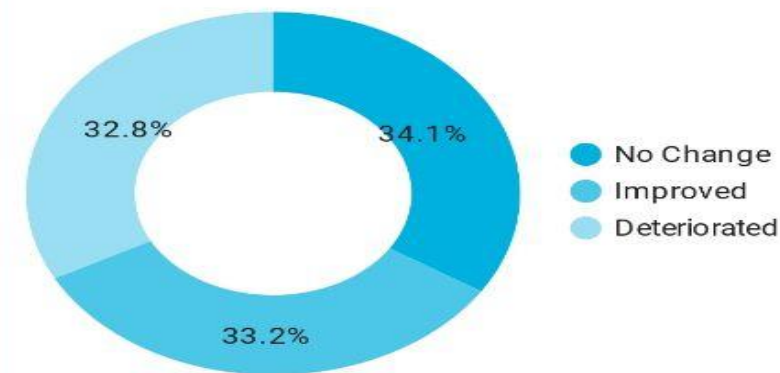
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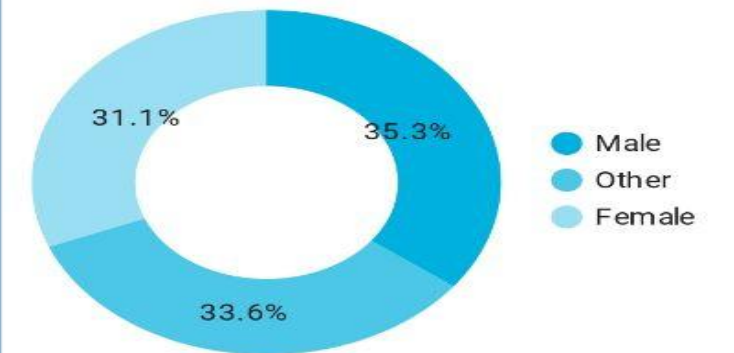
No. of Patients by Age Group



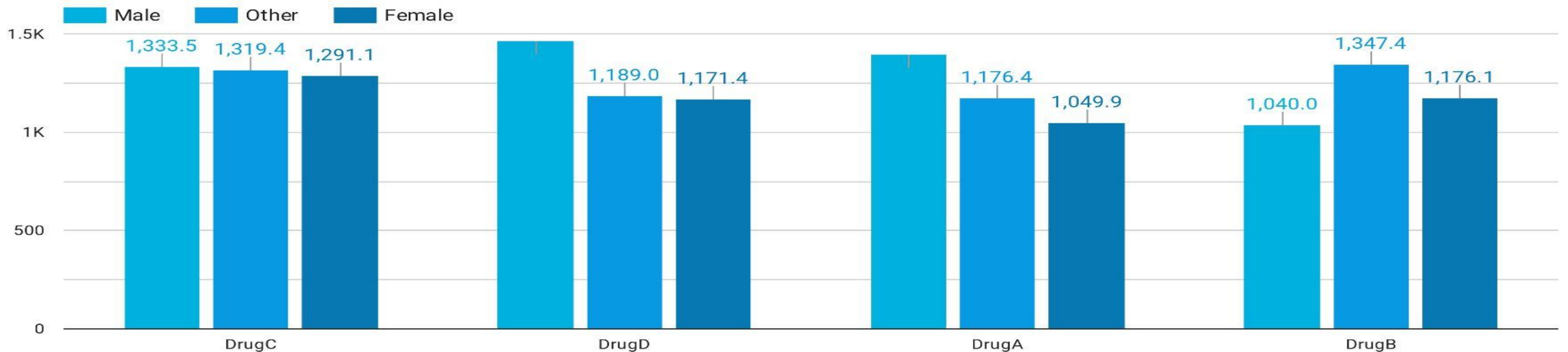
Biomarker Level by Treatment



No. of Patients by Gender



Avg Survival Rate by Gender and Drugs





# Pfizer Personalized Medicine Dashboard

Drug\_Name

Genomic\_Profile

Total Positive Mutations

Mutation\_Status

471



Success Rate

Success Rate %

34.7%



Average Survival

Survival Rate(in Months)

14.96



Average Efficacy Score

Efficacy\_Score

5.4



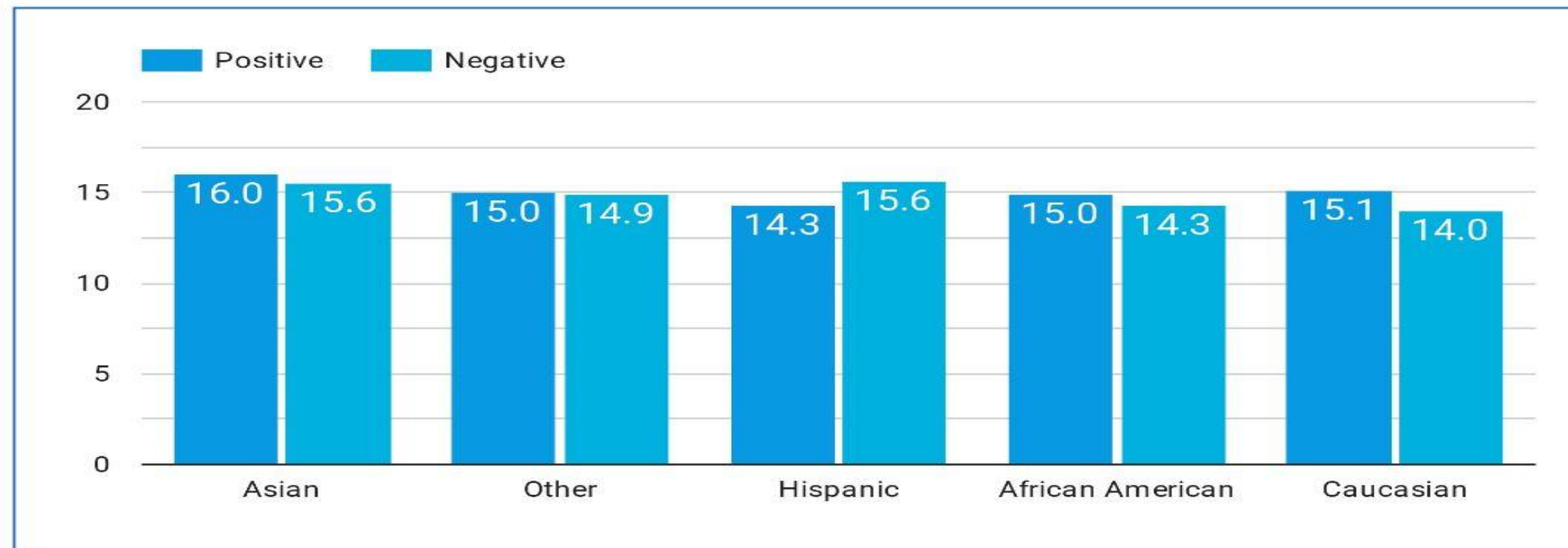
Average PFS

Progression\_Free\_Survival

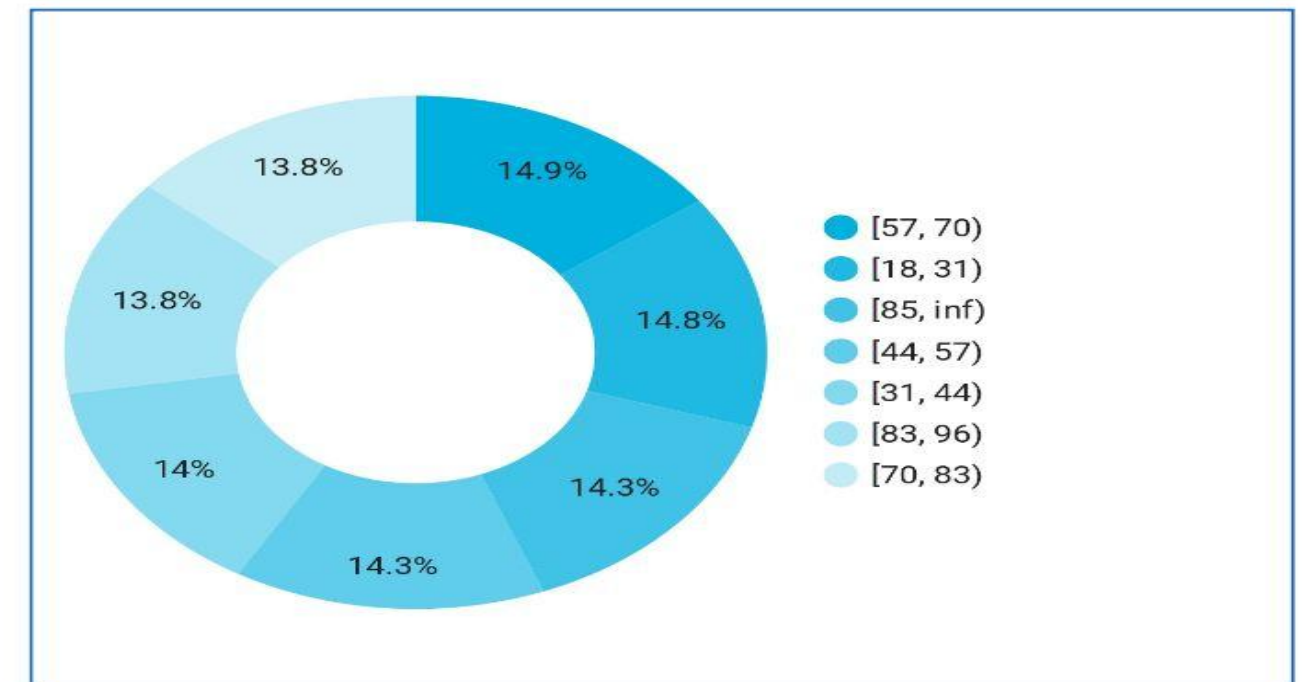
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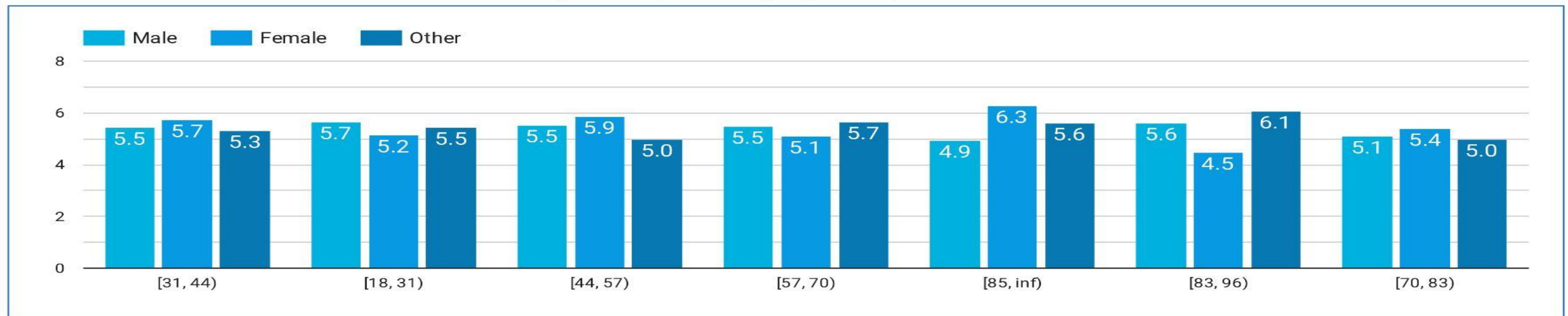
Avg Survival Rate by Ethnicity and Mutations




Avg Dose by Age Group



Avg Efficacy Score by Age Group and Gender





**THANK YOU**

