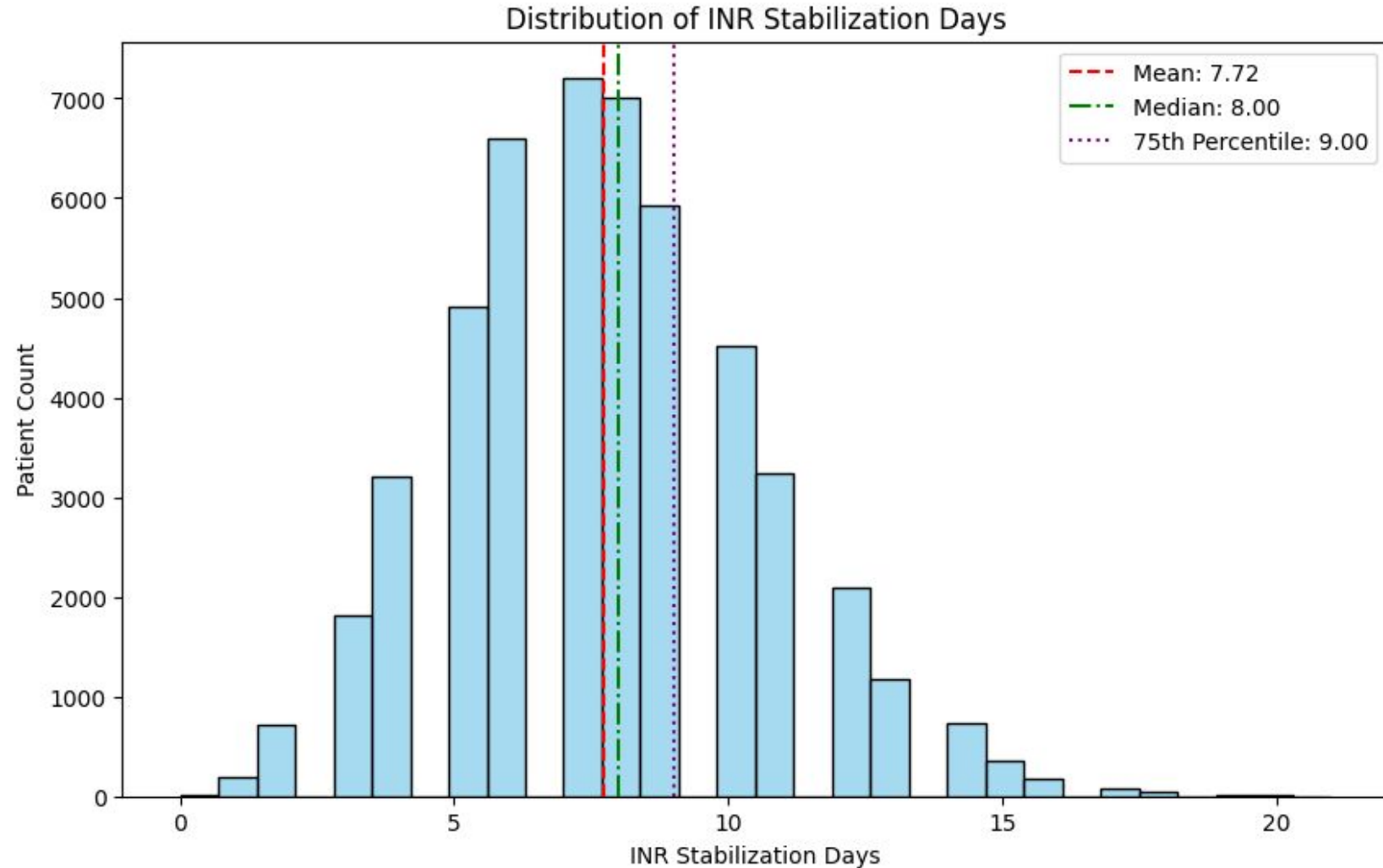


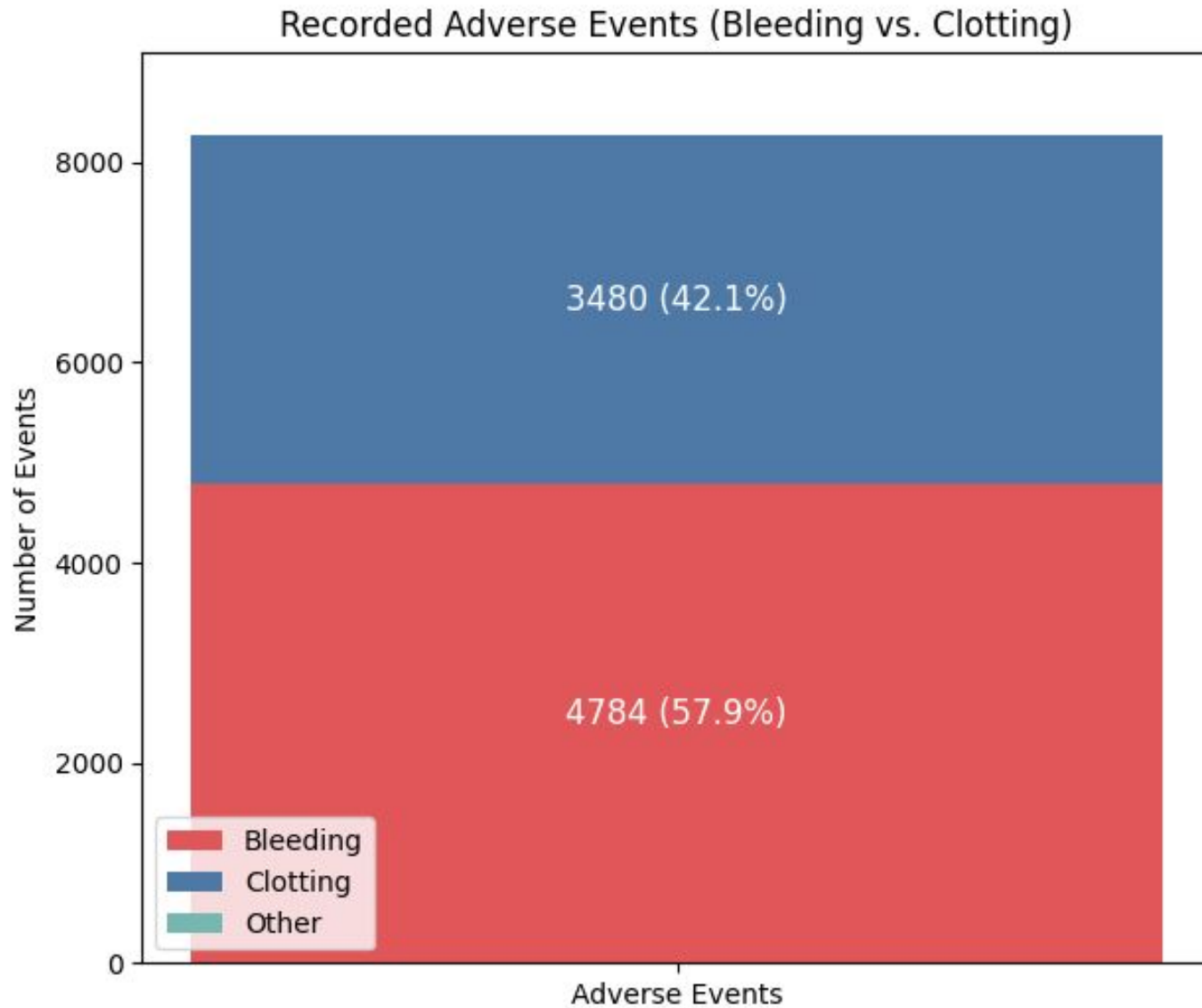
Smarter Anticoagulant Project: Quantifying the Need for AI-Guided Warfarin Dosing

Linking Data Insights to Business Case Requirements

How long does stabilization currently take?

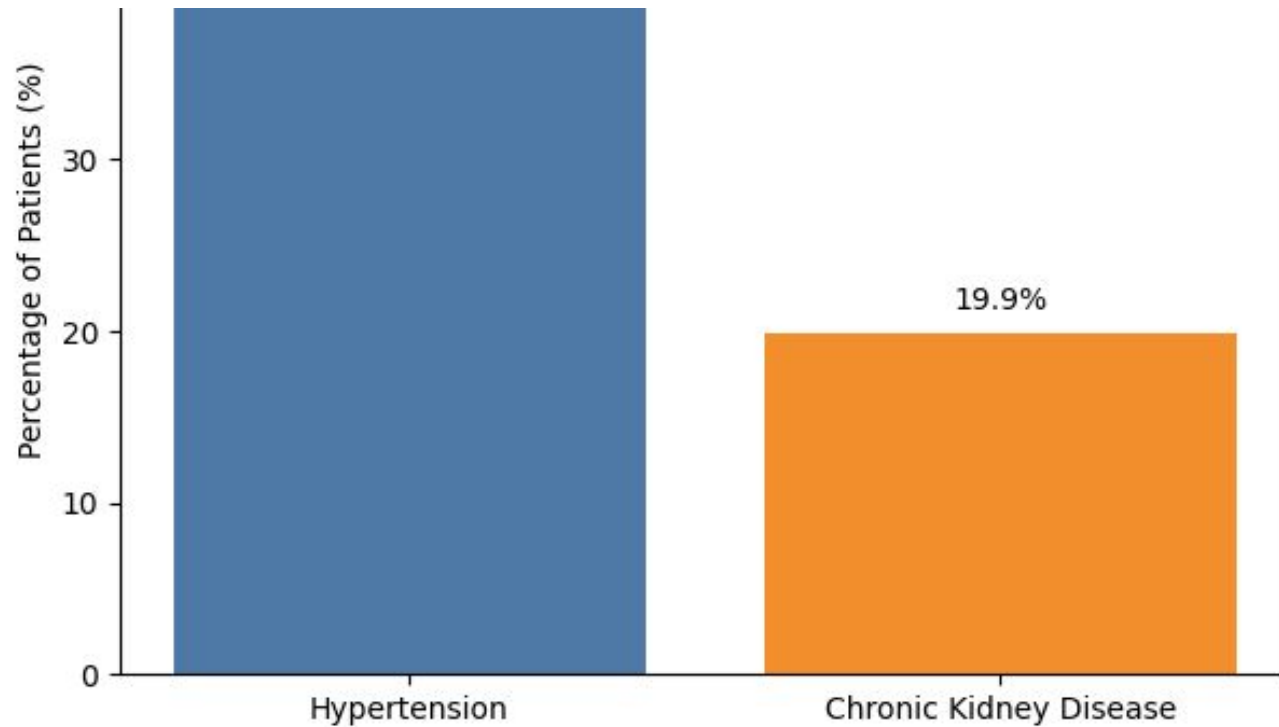
25% of patients wait 9 days or more.





What is the dominant patient safety risk?

83.5% of data was missing in this column suggesting the true risk is much higher.

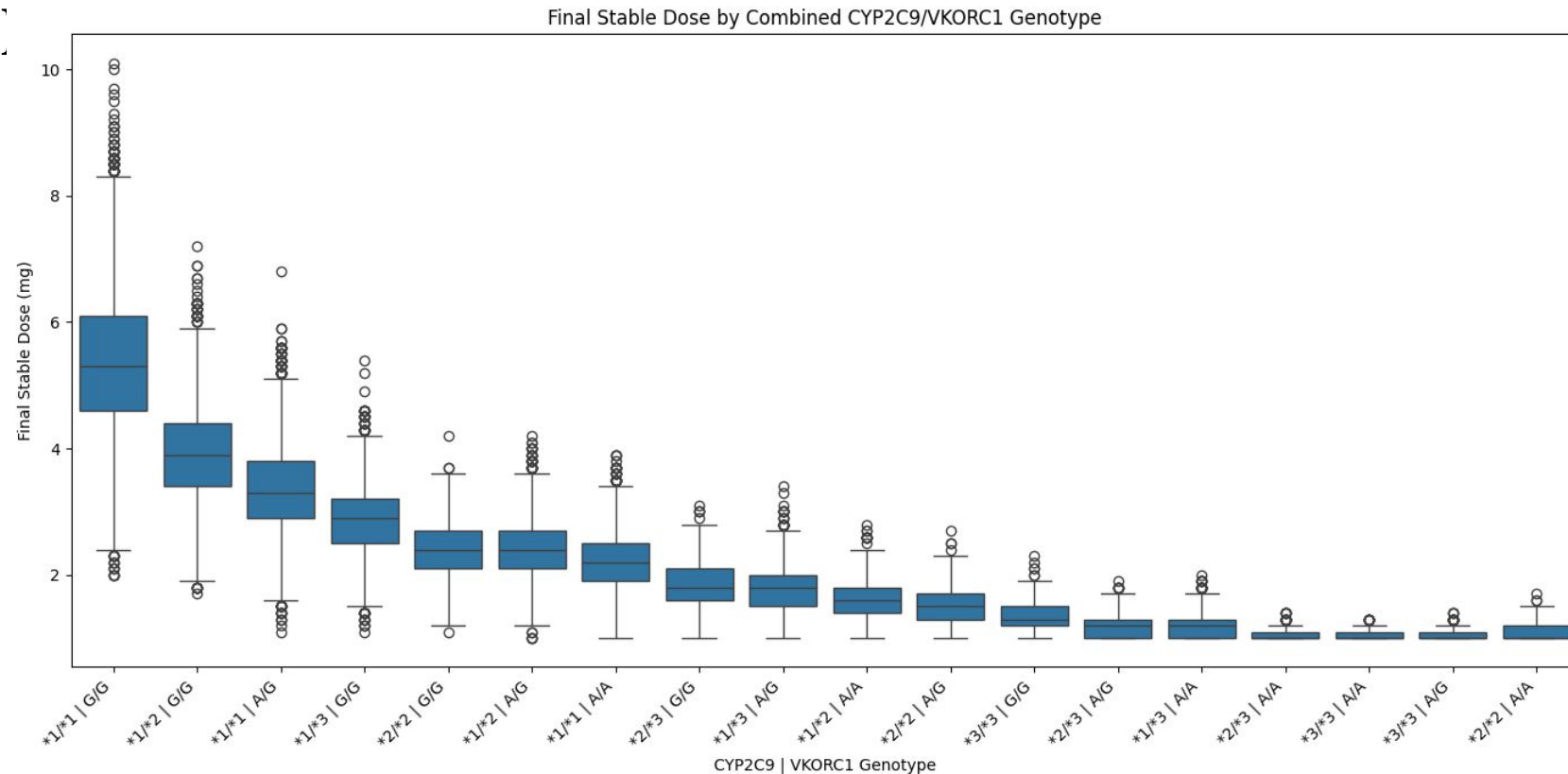


Where is the risk concentrated?

Reducing complications in these groups is key to achieving financial ROI.

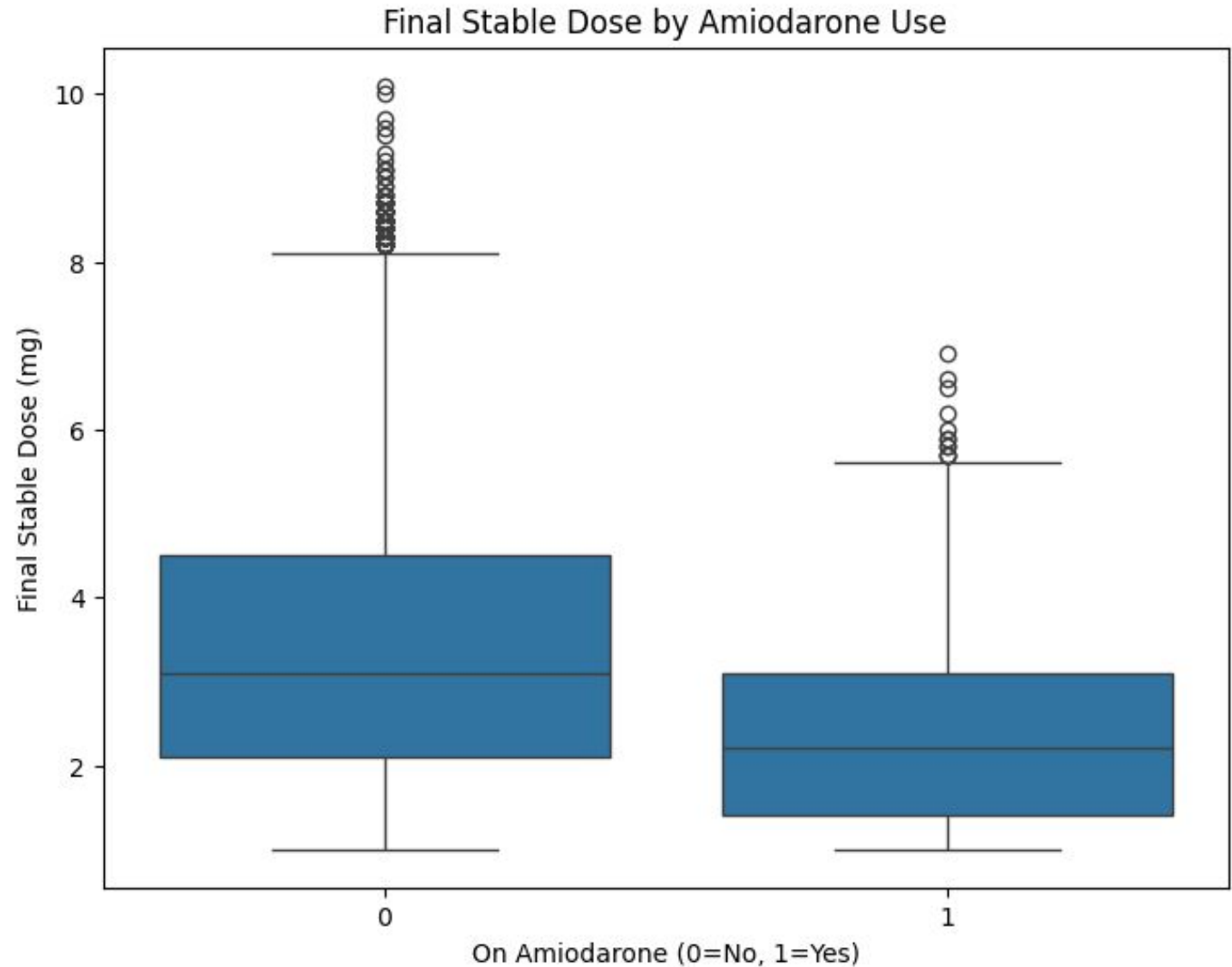
Does pharmacogenomics actually predict final dose?

YES. Genotype (CYP2C9/VKORC1) exhibits the strongest signal, showing significant differences in Final Dose between genetic subgroups.



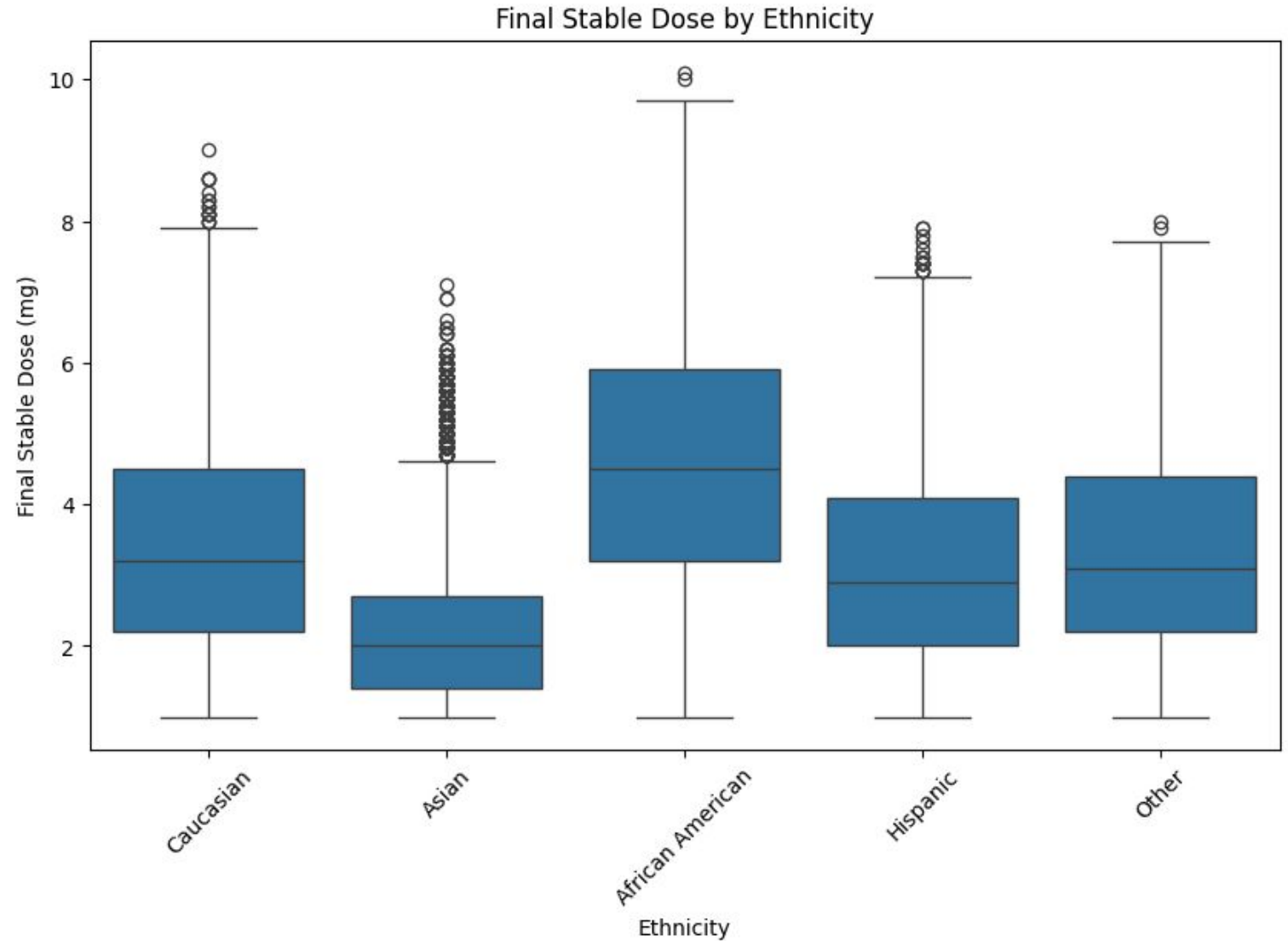
How large is the Amiodarone effect?

Comparison plots show a significant dose reduction is required for this group.



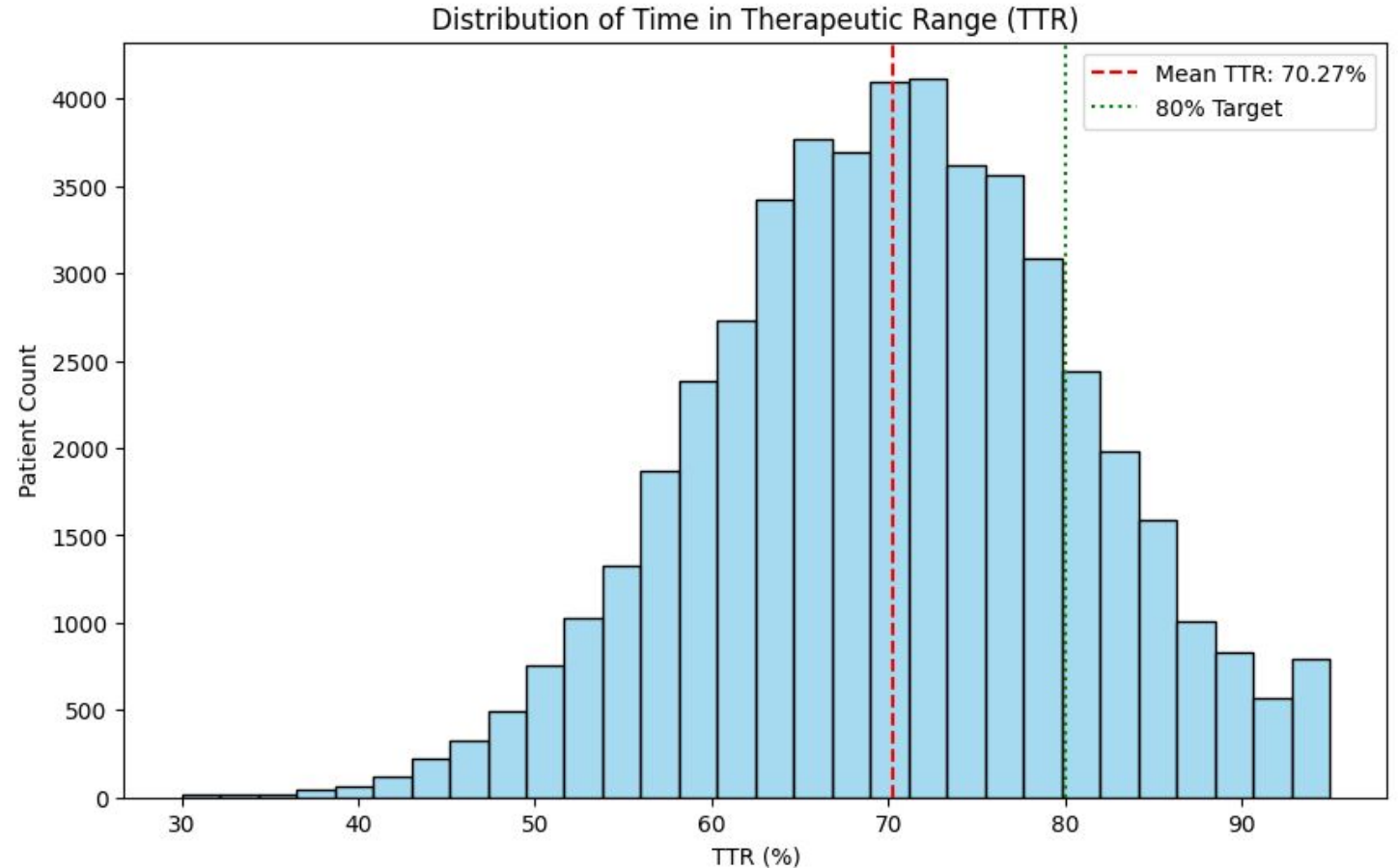
How does Ethnicity affect the final dosage?

Data shows significant variations across several ethnic groups



What is the current quality of anticoagulation control?

The project's success and ROI depend on improving this baseline (e.g., aiming for 75–80%) to reduce complications and strengthen payer confidence





Key Features for the AI Model

A. Genomic Features (High Feature Importance)

- **Dose Prediction:** Genotype (CYP2C9/VKORC1) exhibits the strongest signal

B. Clinical & Drug Interaction Features

- **Amiodarone:** The AI must accurately model this drug interaction, as it is known to significantly affect Warfarin dose.
- **Weight**
- **Age**