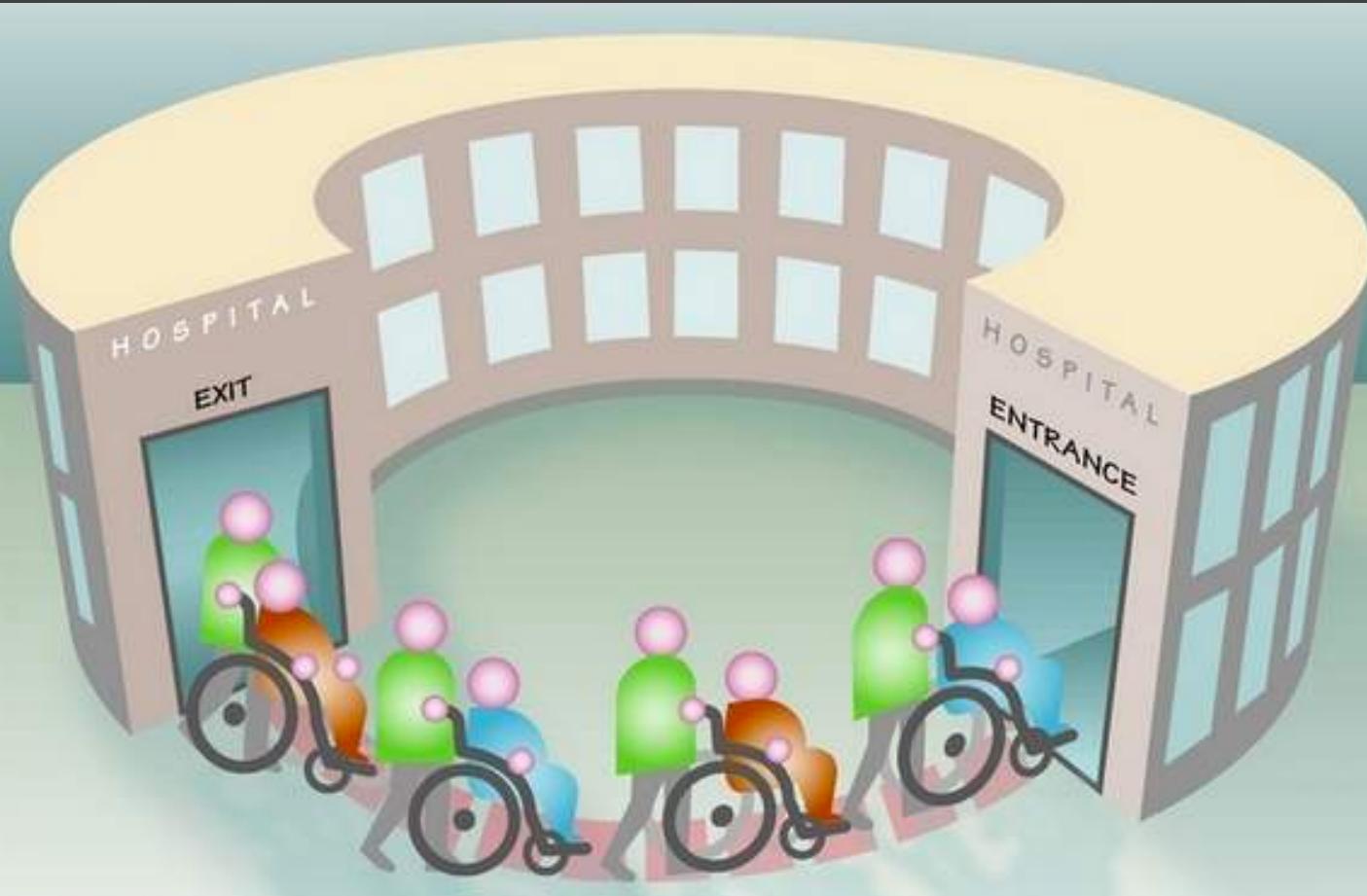


Predicting Hospital Readmissions After Heart Failure



Sheena Sharma

A tool to inform Medicare advantage insurance companies target their next market



Readmissions are **very** costly:

Government estimates put
medicare readmissions to be
\$26 billion per year with
\$17 billion of that
considered avoidable.

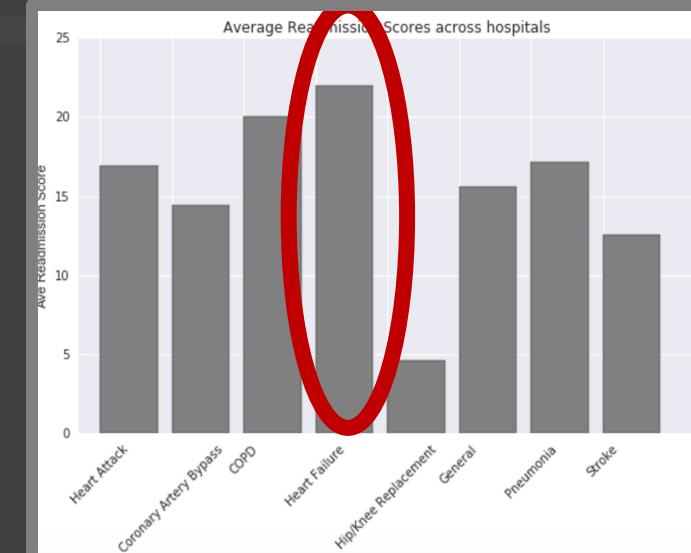
Pipeline

Data Wrangling/ Cleaning

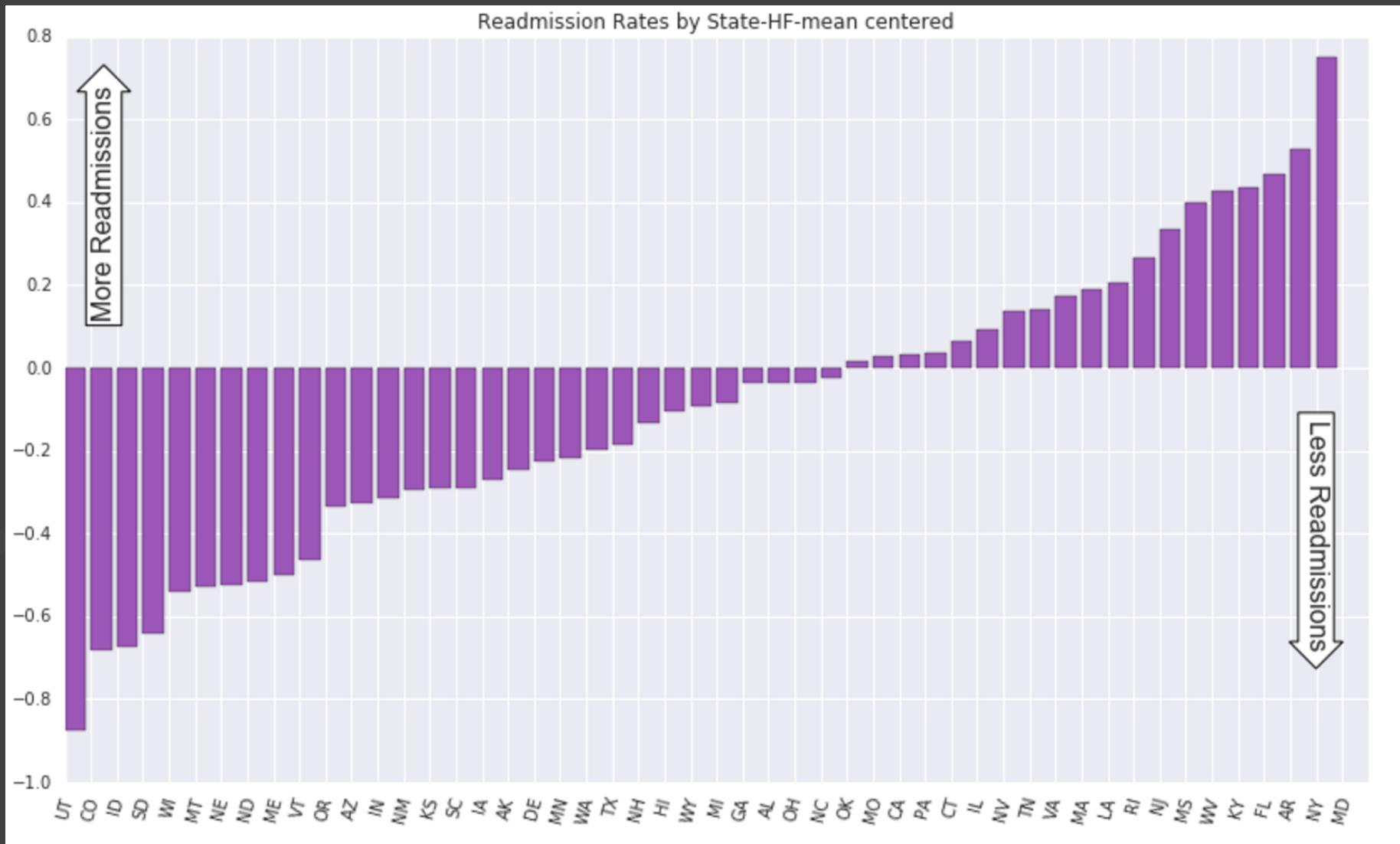
- 6 unique Medicare data sets
- Spending per claim, infection rates, patient satisfaction

- Mean imputation of missing values

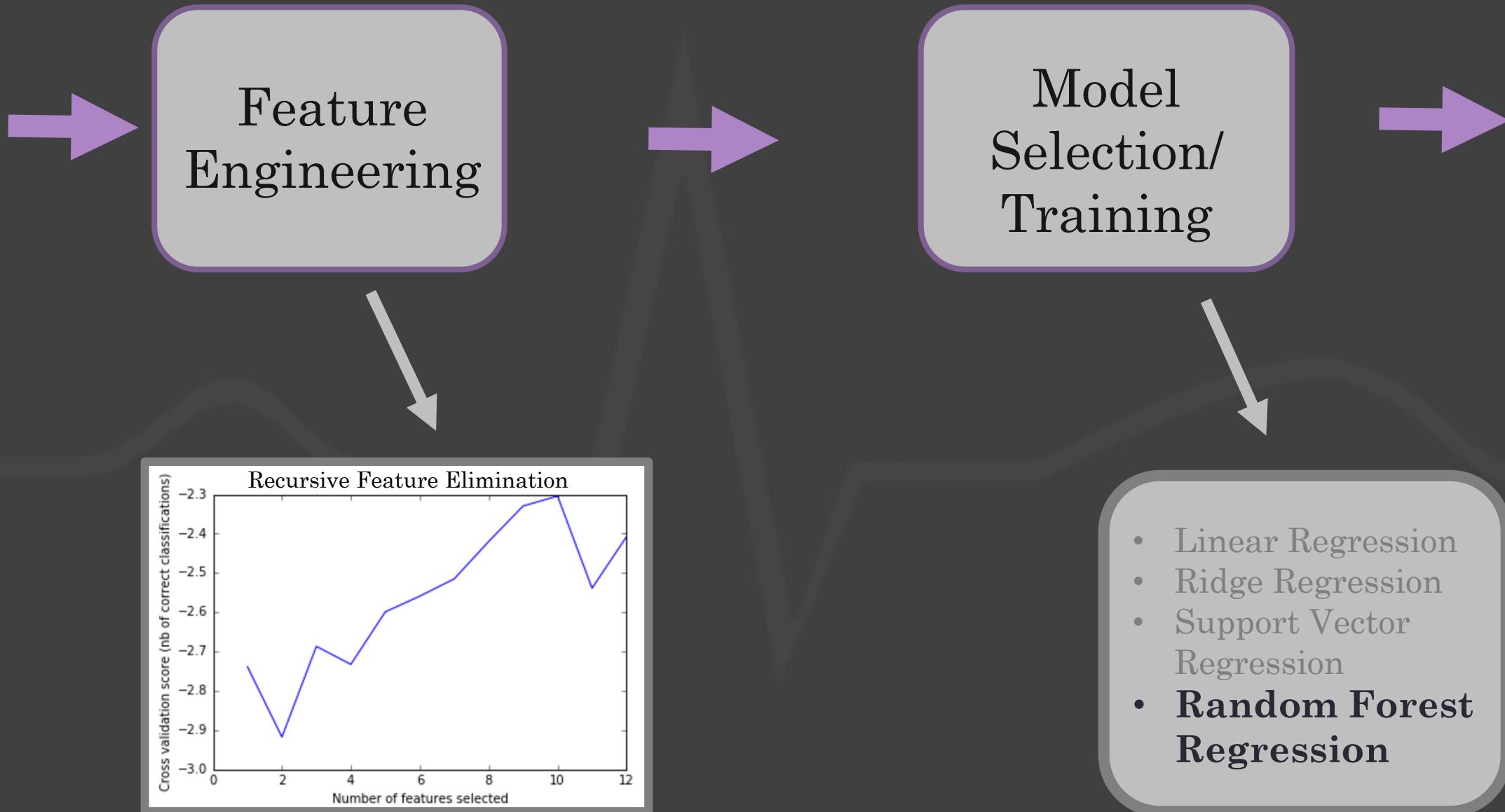
Data Exploration



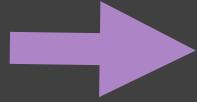
Datasets and Exploration



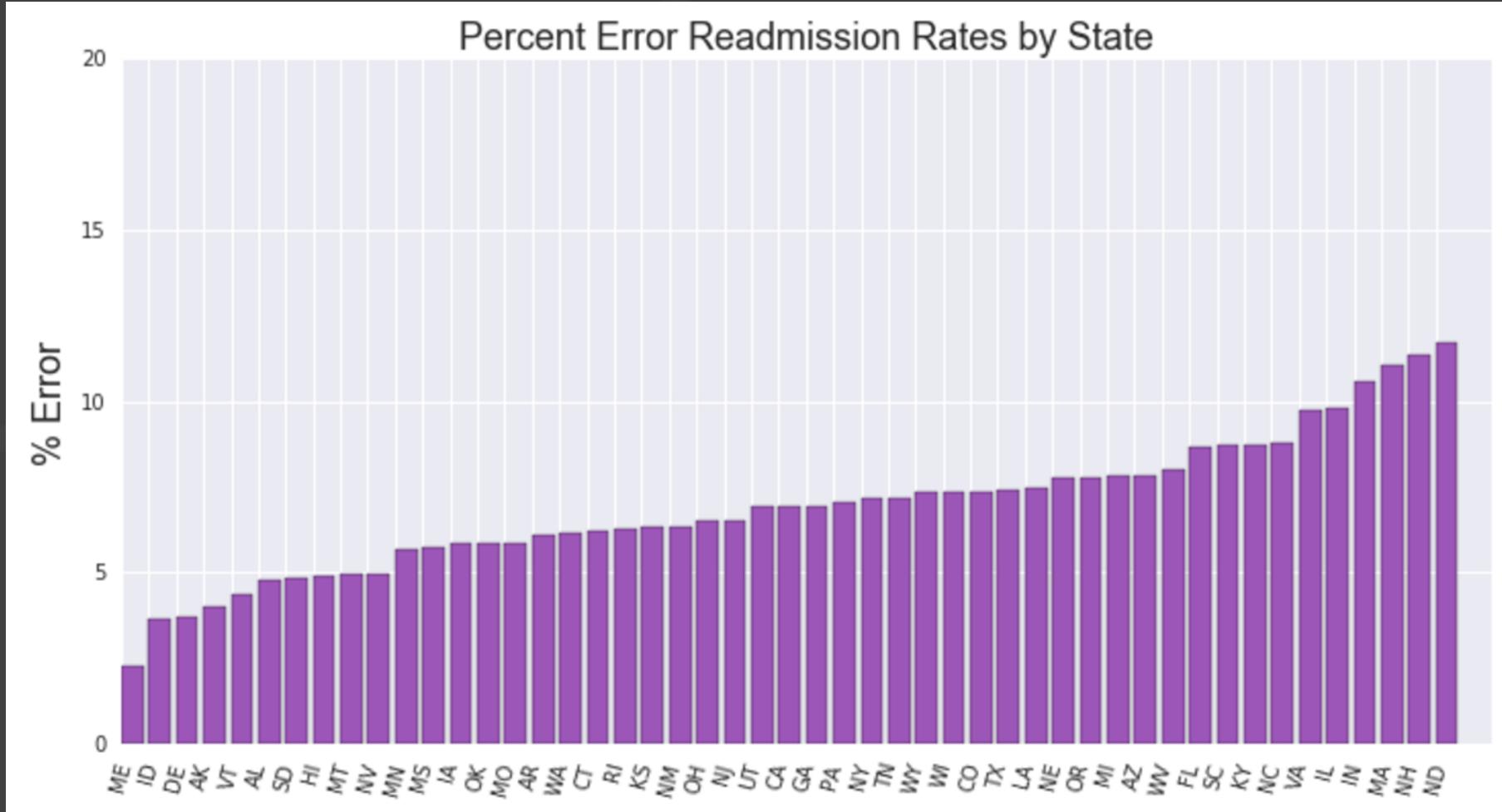
Model Story



Model Story



Testing and Validation

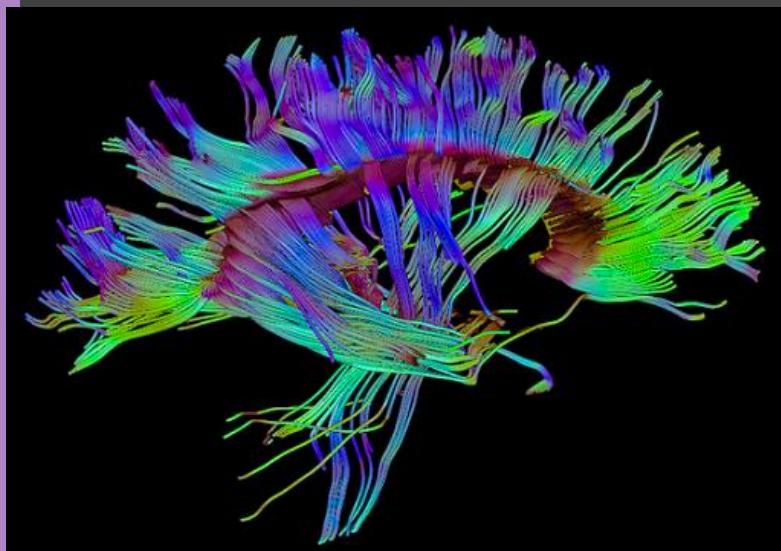




Not sure how to get
down...



AUT
UNIVERSITY



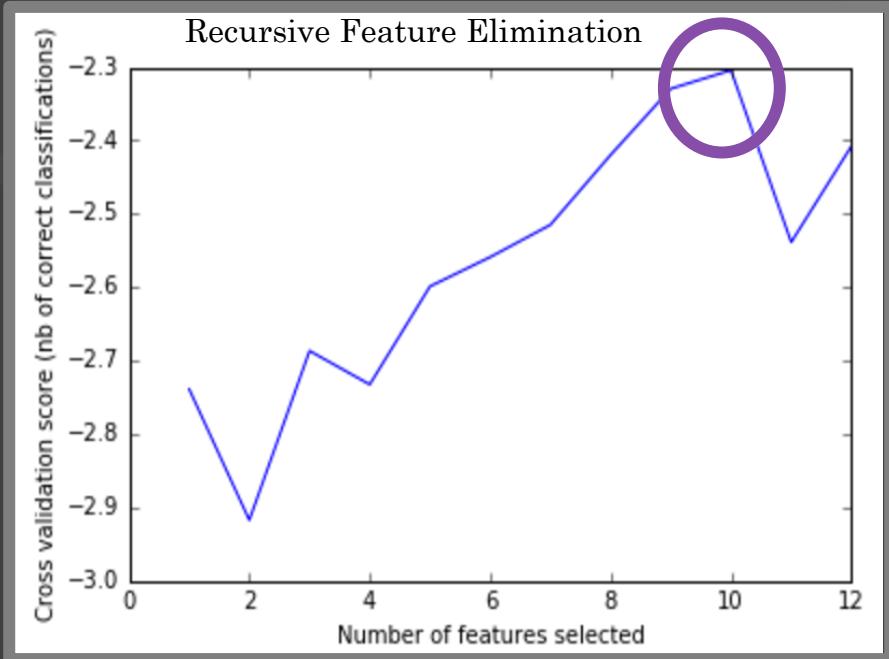
Northwestern
University



THE UNIVERSITY OF
CHICAGO

R² of Important Features

- Important features were selected by a recursive elimination search – coefficients assigned to features (greedy algorithm)



- Correlations of important features and target (Ex. AR)

PSI_12_POSTOP_PULMEMB_DVT_high	-0.135631
PSI_14_POSTOP_DEHIS_high	-0.213236
PSI_90_SAFETY_high	0.172367
PAYM_30_HF	0.180093
PAYM_30_AMI_low	-0.018820

