

Predicting the Risk of Recurrent MI

SIBS Hackathon Presentation

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Outline

- 1 Introduction
- 2 Descriptive Analysis
- 3 Inferential Analysis
- 4 Discussion
- 5 Conclusion

Background

- Bullet 1
- Bullet 2
- Bullet 3

Research Question

Question 1

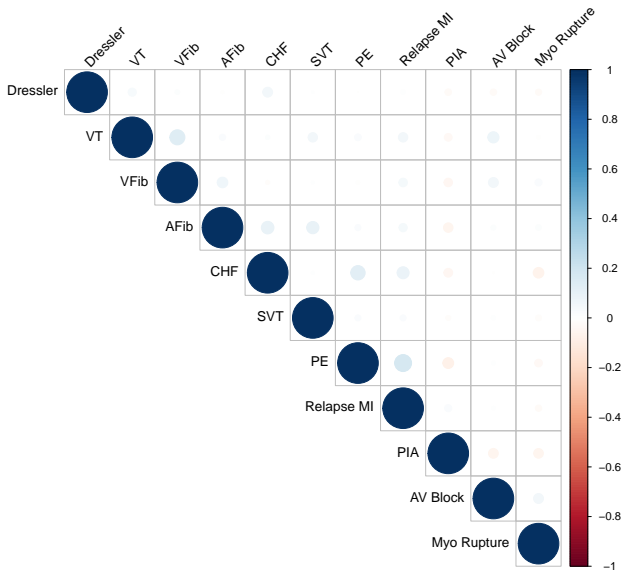
What can we look at either during admission or the hospital stay in patients post-heart attack (myocardial infarction) to predict the risk of having a relapse?

Question 2

Which risk prediction model is best at predicting a recurrent heart attack?

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Model Building

Logistic regression is the basis

- Response variable (recurrent MI) is binary
- Multiple predictors
 - > 100 covariates to begin
 - Several removed from consideration due to missingness

Model Building

Two methods to select significant predictors:

- ① Backwards Elimination using AIC (`stepAIC`)
- ② Elastic Net Penalized Regression (`glmnet`)

Model

$$REC_IM = \beta_0 + \beta_1 x_1$$

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Questions??