



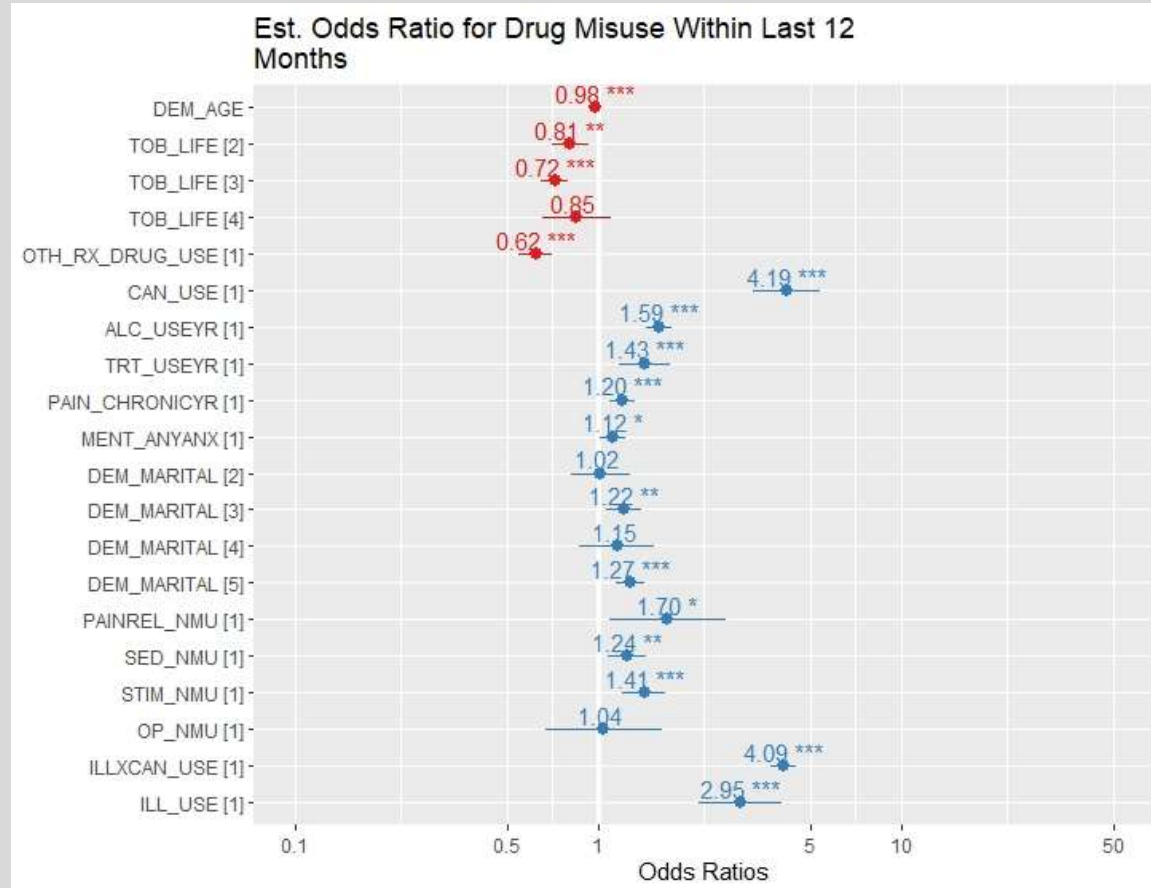
RISK FACTORS ASSOCIATED WITH DRUG MISUSE & FEATURE REDUCTION

Surprised Pikachu (ID: #15)

Motivation & Methodology

- Public Health POV
- Interpretability is more important than complexity (sparsity)
- Intervention vs. Prediction
- Penalized Multiple Logistic Regression
 - Lasso
- Mathew's Correlation Coefficient

Findings



Confusion Matrix and Statistics

Prediction	Reference	
	No	Yes
No	7797	691
Yes	176	297

MCC ~ 0.39

Accuracy : 0.9032
 95% CI : (0.8969, 0.9093)
 No Information Rate : 0.8897
 P-Value [Acc > NIR] : 1.765e-05

Kappa : 0.3609

Mcnemar's Test P-Value : < 2.2e-16

Sensitivity : 0.30061
 Specificity : 0.97793
 Pos Pred Value : 0.62791
 Neg Pred Value : 0.91859
 Prevalence : 0.11026
 Detection Rate : 0.03314
 Detection Prevalence : 0.05278
 Balanced Accuracy : 0.63927

'Positive' Class : Yes

- Tobacco Use
 - Protective Factor ?
- Chronic Pain
 - Increases odds of misuse
- Divorced*
 - Increases odds
- Mental Anxiety
 - Increases odds of misuse
- Misuse of Any Class of Drug in general
 - Increases odds of misuse