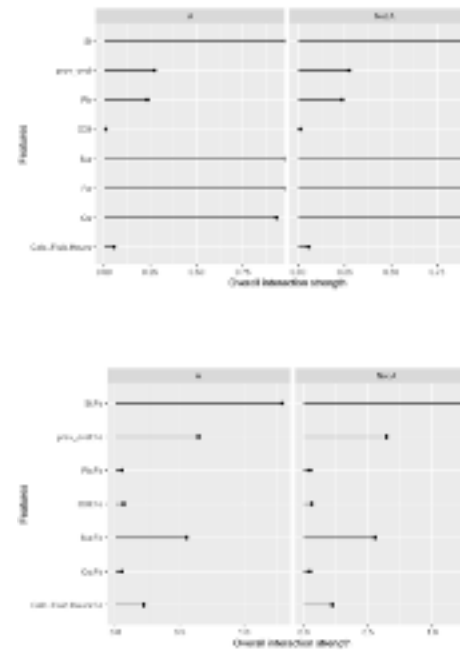
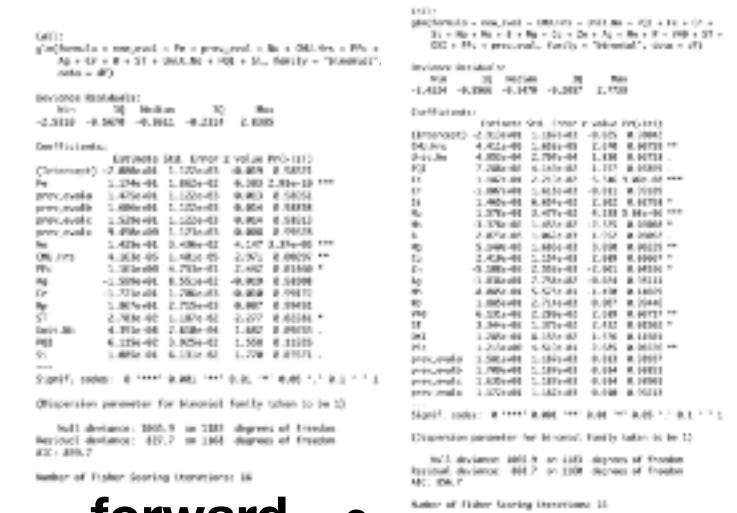


variable importance

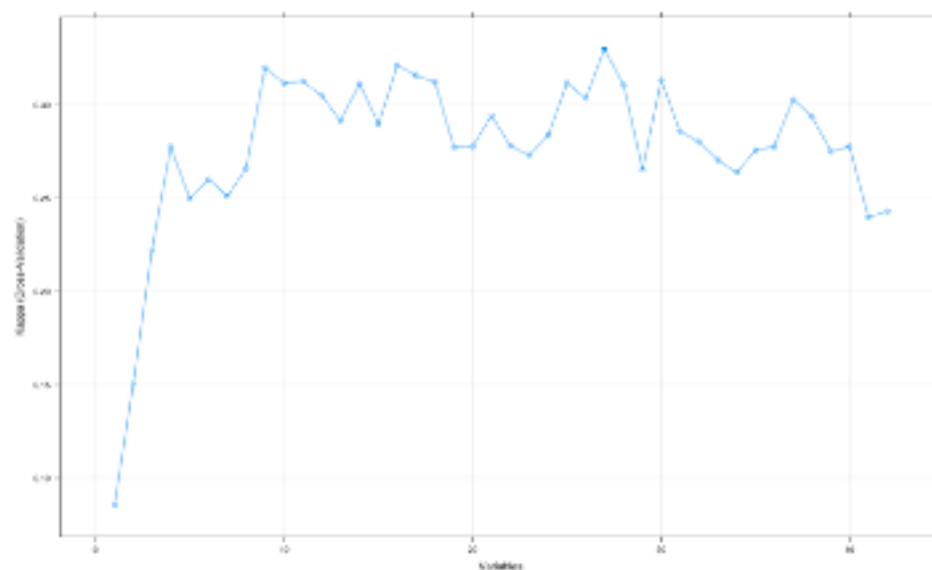


interactions



forward & backward selection

My spin on things...



“best” # of variables



model specific importance measures

Deviance Residuals:

Min	1Q	Median	3Q	Max
-2.0260	-0.5795	-0.4078	-0.2680	2.8794

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-6.265e+00	6.454e-01	-9.707	< 2e-16	***
CMU.Hrs	5.280e-05	1.469e-05	3.593	0.000327	***
Fe	1.944e-01	4.025e-02	4.830	1.36e-06	***
Si	4.491e-01	1.249e-01	3.595	0.000324	***
Na	1.428e-01	3.996e-02	3.574	0.000351	***
ST	2.764e-02	1.266e-02	2.184	0.028994	*
PFc	1.541e+00	5.713e-01	2.697	0.007007	**
'Fe:Si'	-2.358e-02	8.633e-03	-2.731	0.006307	**

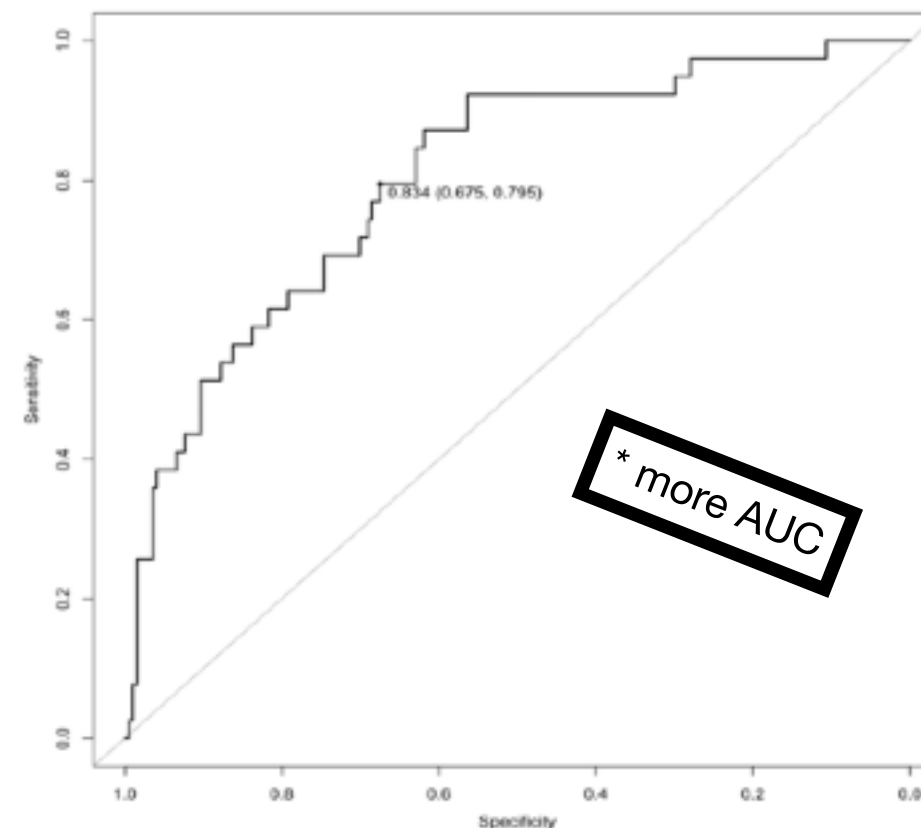
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 854.26 on 947 degrees of freedom
Residual deviance: 703.34 on 940 degrees of freedom
AIC: 719.34

Number of Fisher Scoring iterations: 6

* I know significance isn't everything but hey, it's at least a little reassuring



... model's final form

Confusion Matrix and Statistics

	Reference	
Prediction	A	Not A
A	193	29
Not A	4	10

Accuracy : 0.8602
95% CI : (0.8093, 0.9018)
No Information Rate : 0.8347
P-Value [Acc > NIR] : 0.1678

Kappa : 0.3178

McNemar's Test P-Value : 2.943e-05

Sensitivity : 0.9797
Specificity : 0.2564
Pos Pred Value : 0.8694
Neg Pred Value : 0.7143
Prevalence : 0.8347
Detection Rate : 0.8178
Detection Prevalence : 0.9407
Balanced Accuracy : 0.6181

unhealthy >= 50%

Confusion Matrix and Statistics

	Reference	
Prediction	A	Not A
A	175	19
Not A	22	20

Accuracy : 0.8263
95% CI : (0.7718, 0.8724)
No Information Rate : 0.8347
P-Value [Acc > NIR] : 0.6750

Kappa : 0.3891

McNemar's Test P-Value : 0.7548

Sensitivity : 0.8883
Specificity : 0.5128
Pos Pred Value : 0.9021
Neg Pred Value : 0.4762
Prevalence : 0.8347
Detection Rate : 0.7415
Detection Prevalence : 0.8220
Balanced Accuracy : 0.7006

unhealthy >= 30%

Confusion Matrix and Statistics

	Reference	
Prediction	A	Not A
A	98	3
Not A	99	36

Accuracy : 0.5678
95% CI : (0.502, 0.6319)
No Information Rate : 0.8347
P-Value [Acc > NIR] : 1

Kappa : 0.2116

McNemar's Test P-Value : <2e-16

Sensitivity : 0.4975
Specificity : 0.9231
Pos Pred Value : 0.9703
Neg Pred Value : 0.2667
Prevalence : 0.8347
Detection Rate : 0.4153
Detection Prevalence : 0.4280
Balanced Accuracy : 0.7103

unhealthy >= 15%

* better performance in general, especially when adjusting the probability cut-off