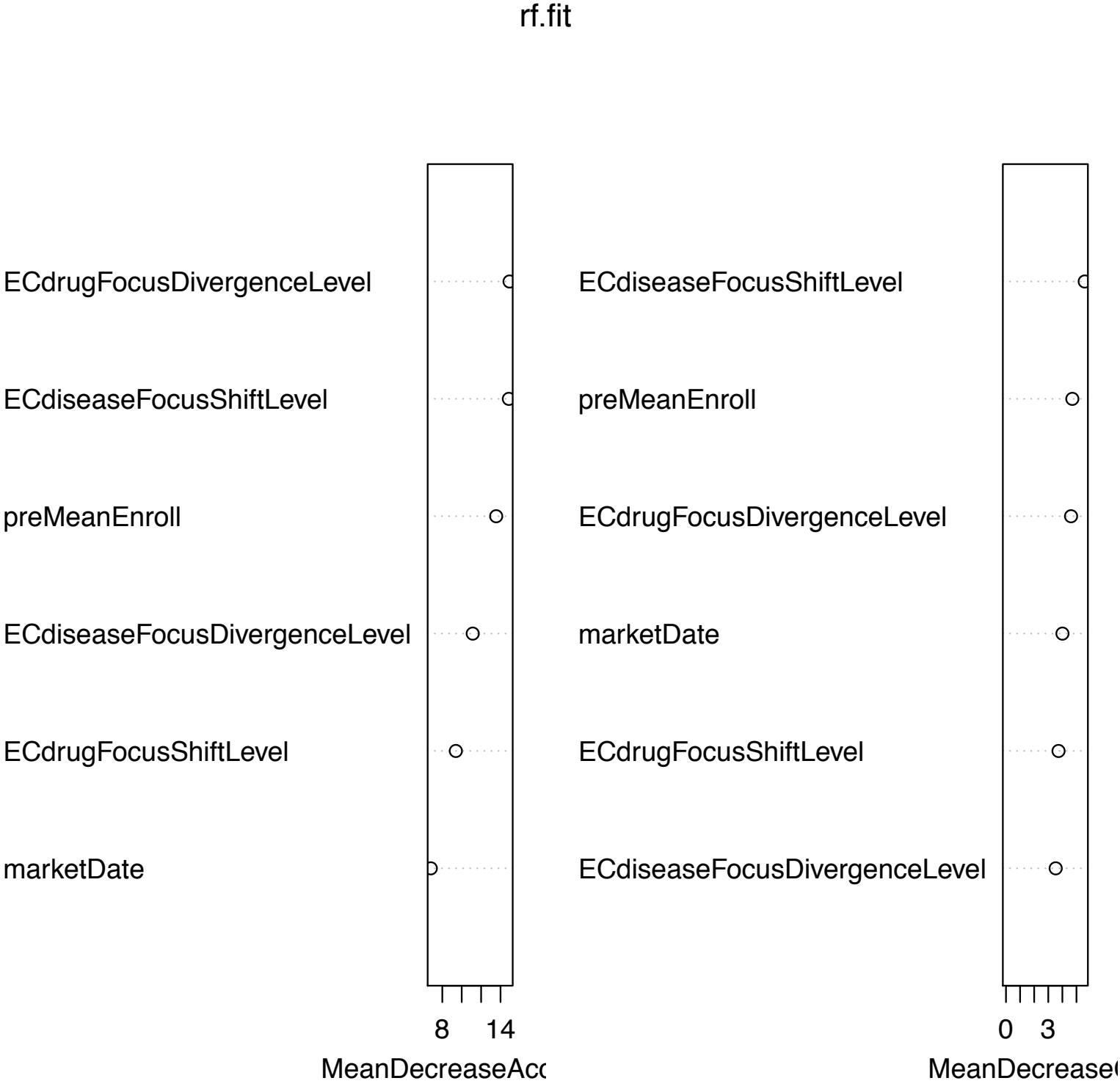
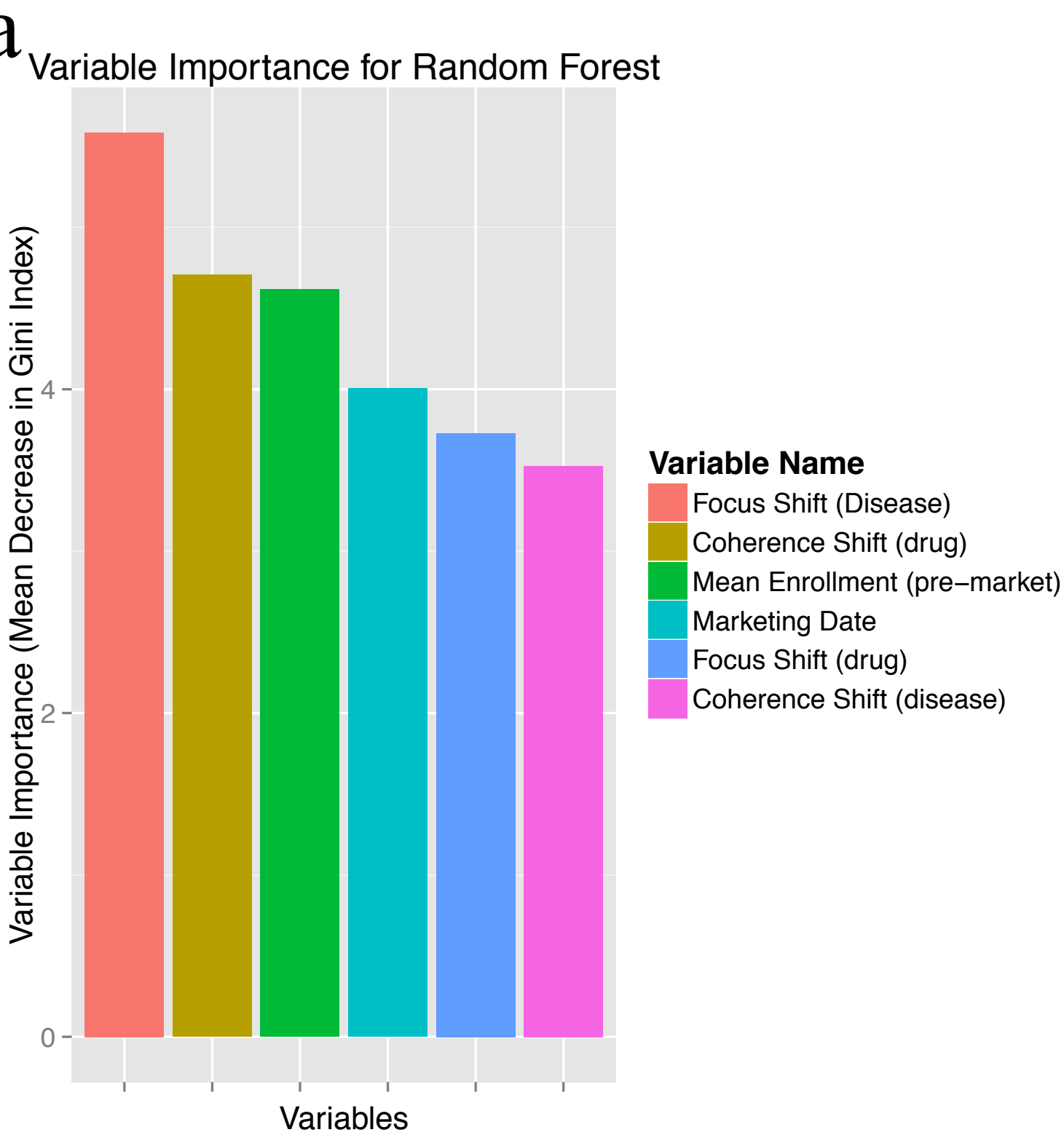
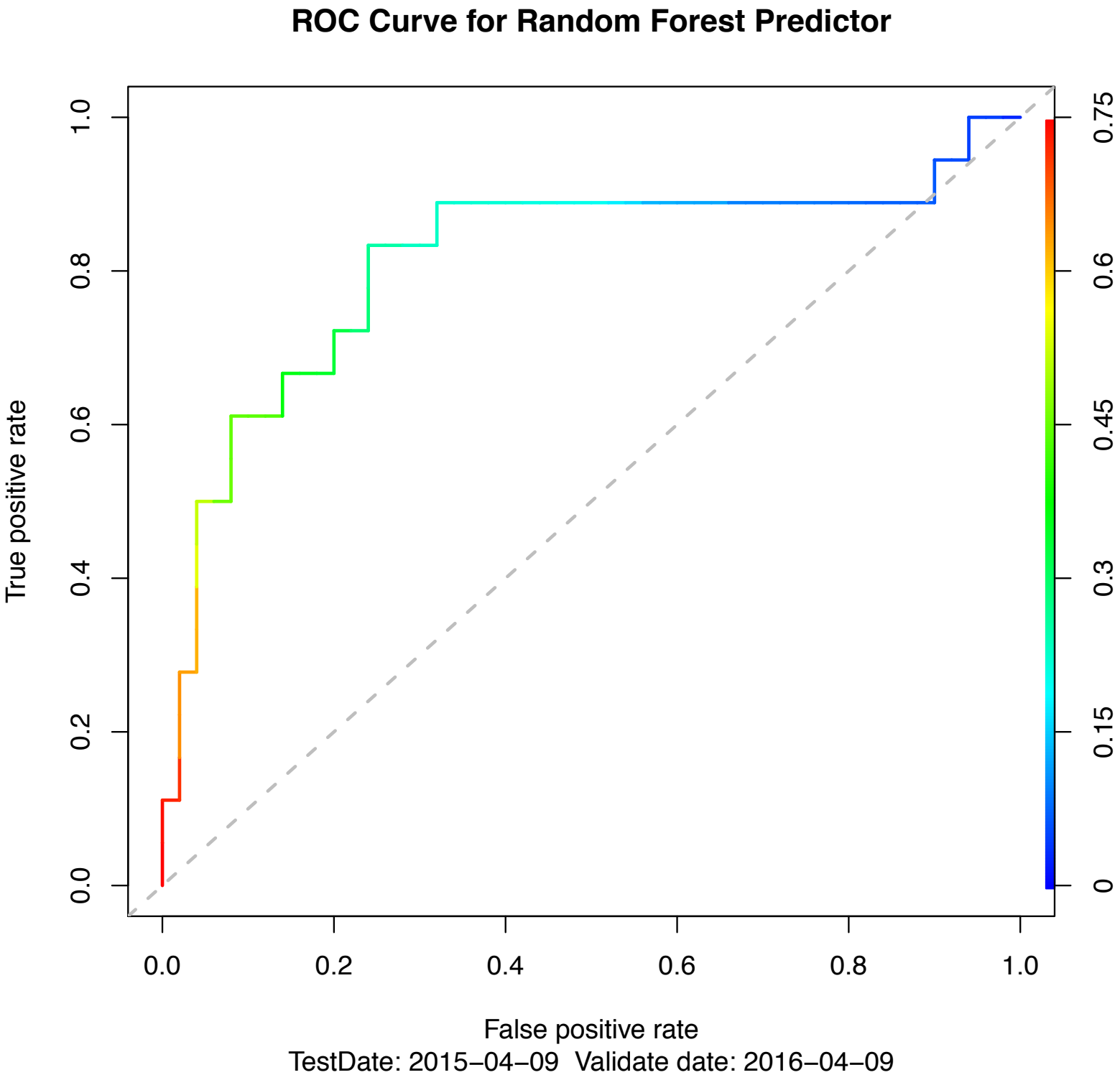

rf.fit
ECdrugFocusDivergenceLevel
ECdiseaseFocusShiftLevel
preMeanEnroll
ECdiseaseFocusDivergenceLevel
ECdrugFocusShiftLevel
marketDate
8
14
MeanDecreaseAcc
ECdiseaseFocusShiftLevel
preMeanEnroll
ECdrugFocusDivergenceLevel
marketDate
ECdrugFocusShiftLevel
ECdiseaseFocusDivergenceLevel
0
3
MeanDecrease

	MeanDecreaseAccuracy	MeanDecreaseGini
marketDate	6.81474703575876	4.00548740947611
preMeanEnroll	13.5529901223481	4.70757058235962
ECdiseaseFocusDivergenceLevel	11.1366611874991	3.52695935756552
ECdiseaseFocusShiftLevel	14.8602156045556	5.5861732513963
ECdrugFocusDivergenceLevel	14.9311033009671	4.6159203024758
ECdrugFocusShiftLevel	9.39630970753612	3.72833027319727

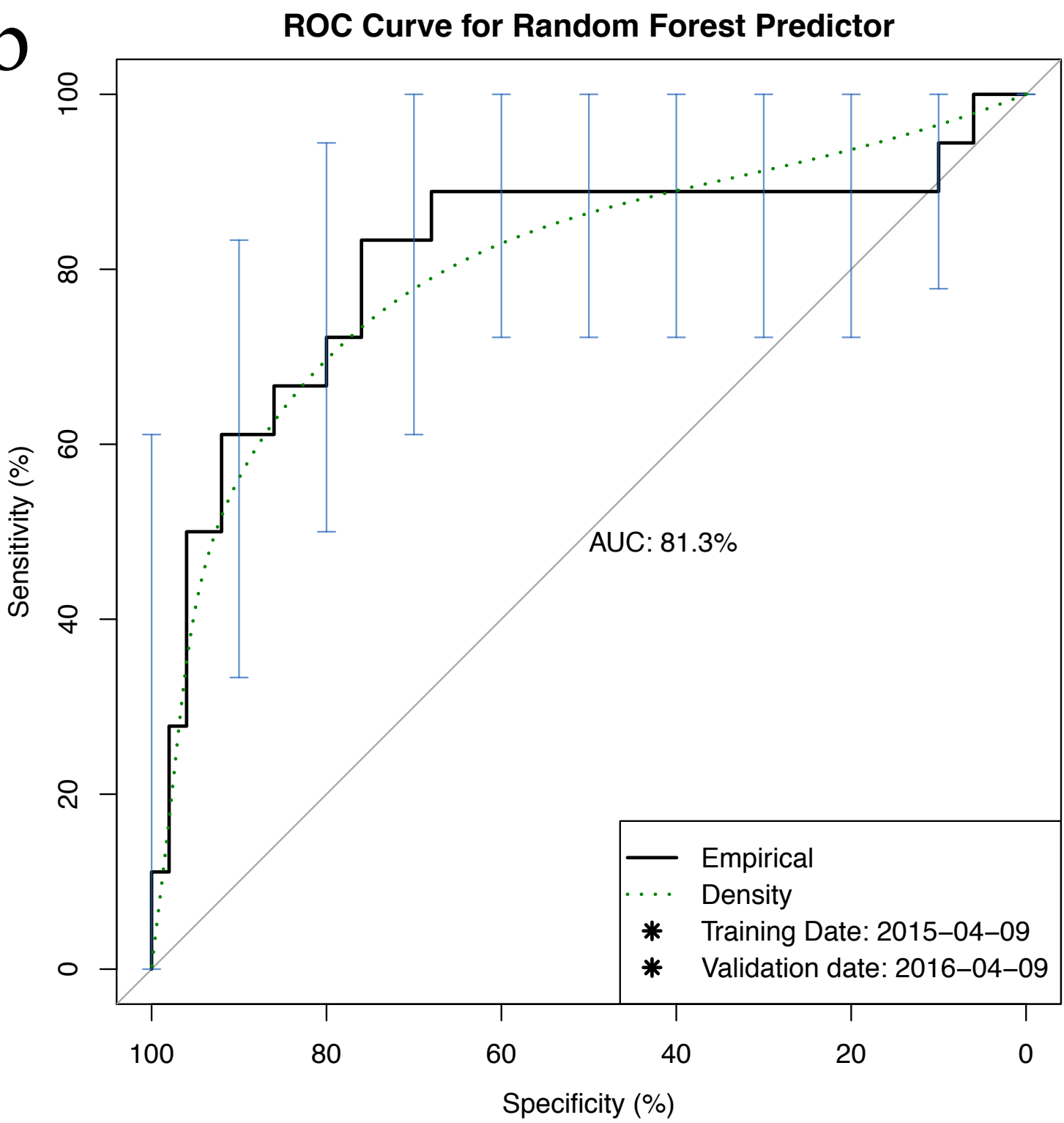
a


Variable Importance for Random Forest
Variable Importance (Mean Decrease in Gini Index)
0
2
4
Variables
Variable Name
Focus Shift (Disease)
Coherence Shift (drug)
Mean Enrollment (pre−market)
Marketing Date
Focus Shift (drug)
Coherence Shift (disease)

	0	1	MeanDecreaseAccuracy	MeanDecreaseGini
marketDate	6.84536105003088	2.73419995217188	6.81474703575876	4.00548740947611
preMeanEnroll	11.0312374106824	10.3362901460366	13.5529901223481	4.70757058235962
ECdiseaseFocusDivergenceLevel	11.4028405816897	4.00794892942307	11.1366611874991	3.52695935756552
ECdiseaseFocusShiftLevel	10.5536011129545	13.5393502023385	14.8602156045556	5.5861732513963
ECdrugFocusDivergenceLevel	13.8083579975802	9.76143902761819	14.9311033009671	4.6159203024758
ECdrugFocusShiftLevel	7.05933029372593	7.06535339744897	9.39630970753612	3.72833027319727


ROC Curve for Random Forest Predictor
True positive rate
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.2
0.4
0.6
0.8
1.0
False positive rate
0
0.15
0.3
0.45
0.6
0.75
TestDate: 2015–04–09 Validate date: 2016–04–09

b


ROC Curve for Random Forest Predictor
Sensitivity (%)
100
80
60
40
20
0
AUC: 81.3%
Empirical
Density
Training Date: 2015–04–09
Validation date: 2016–04–09
100
80
60
40
20
0
Specificity (%)