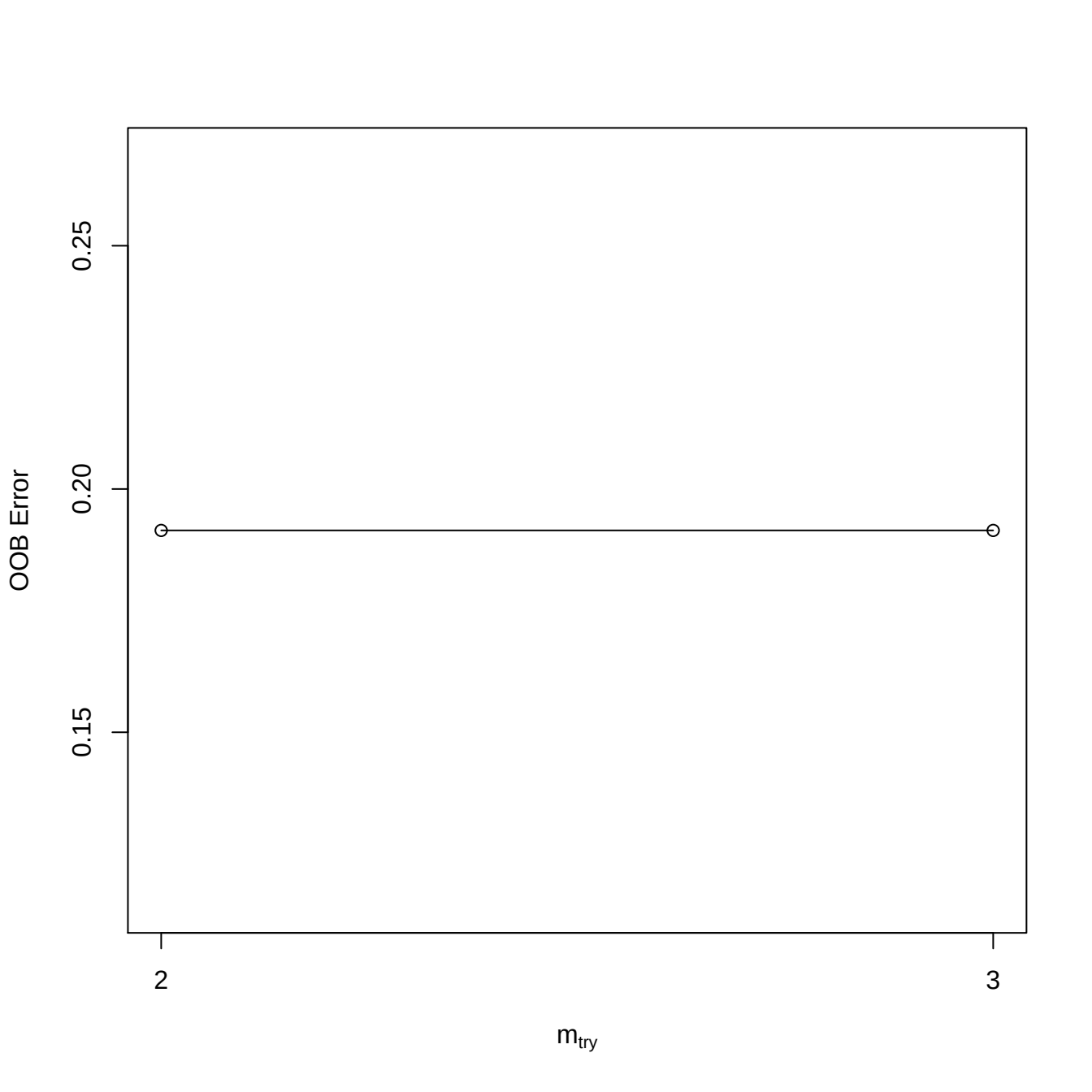
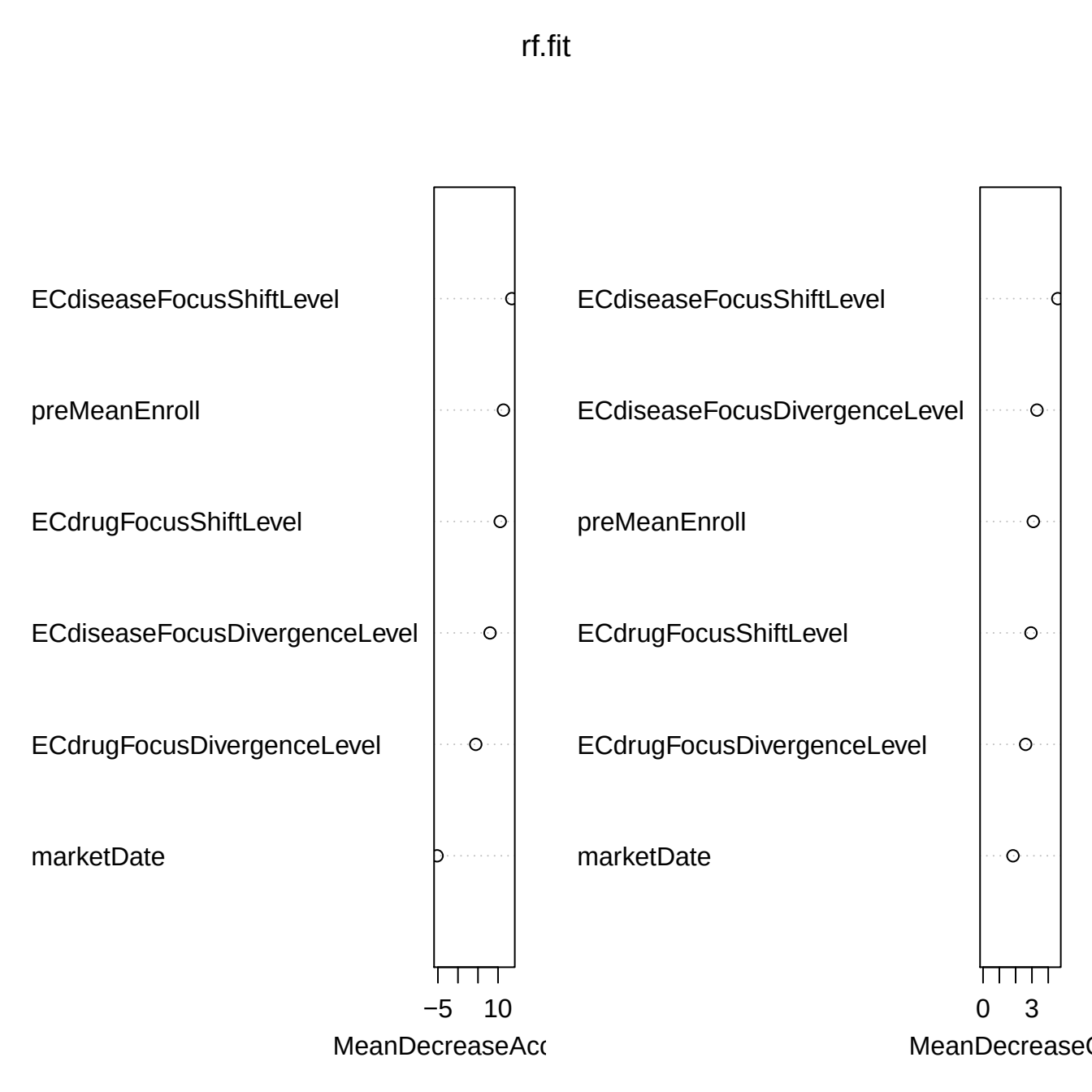
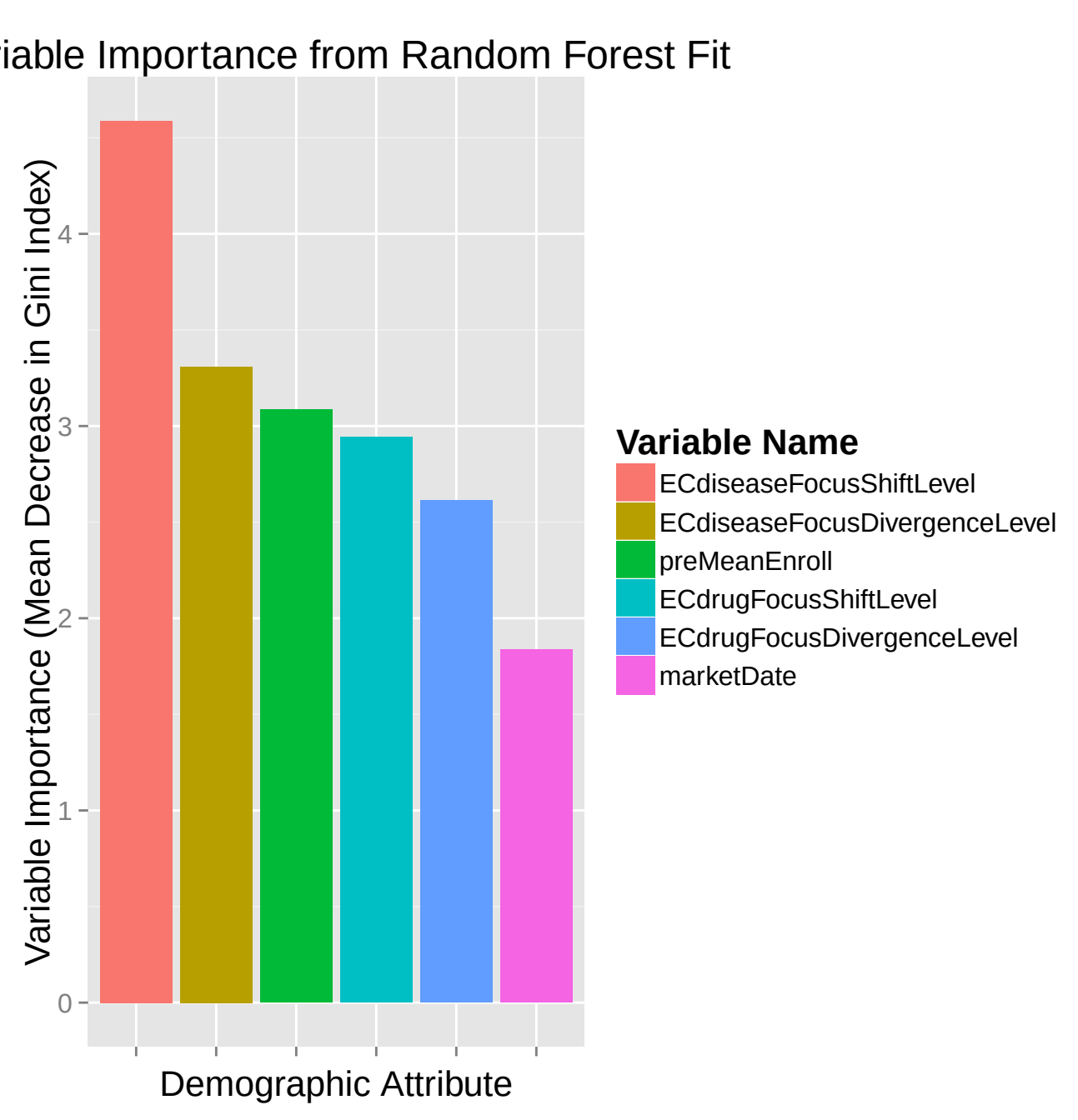
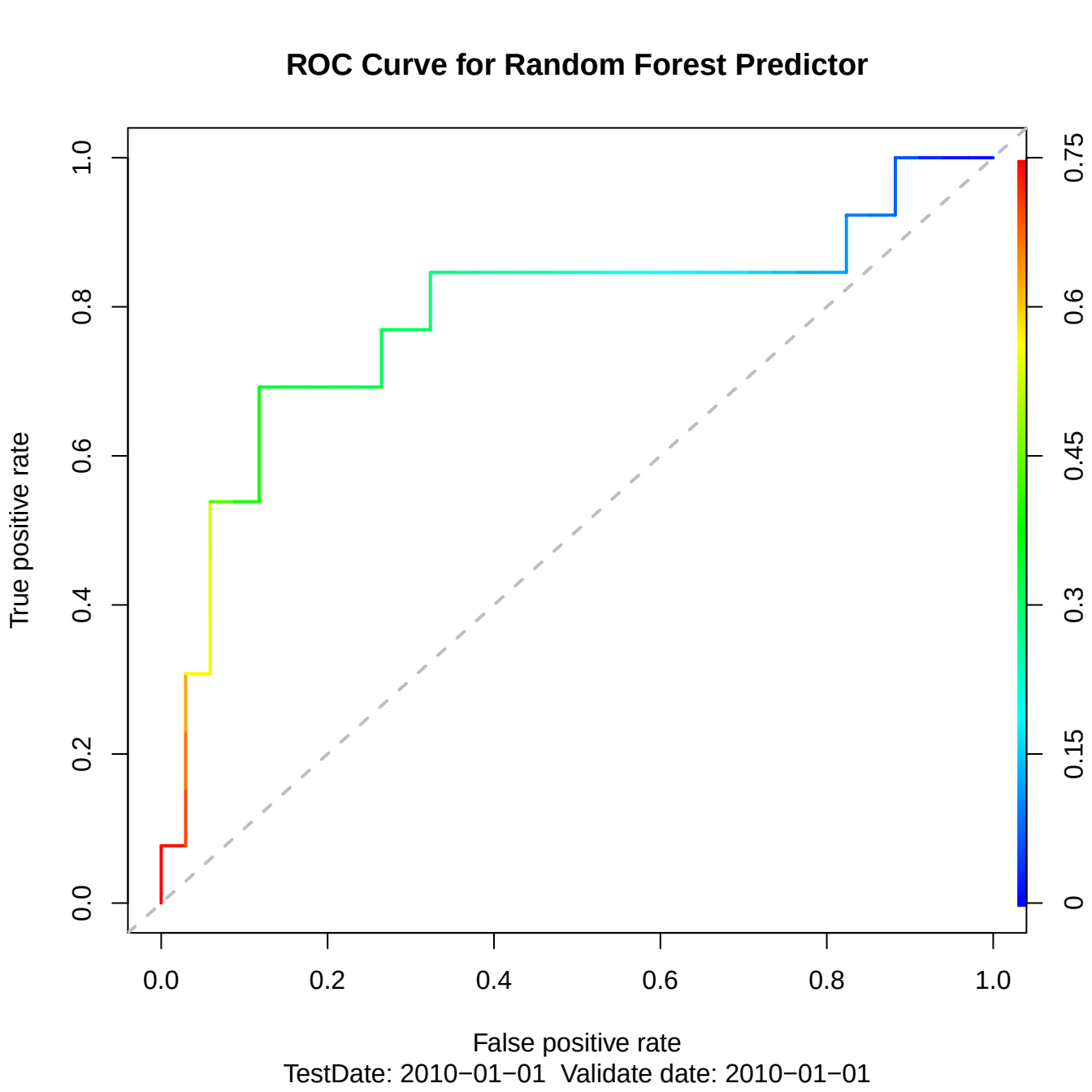

OOB Error
0.15
0.20
0.25
2
3
m_{try}

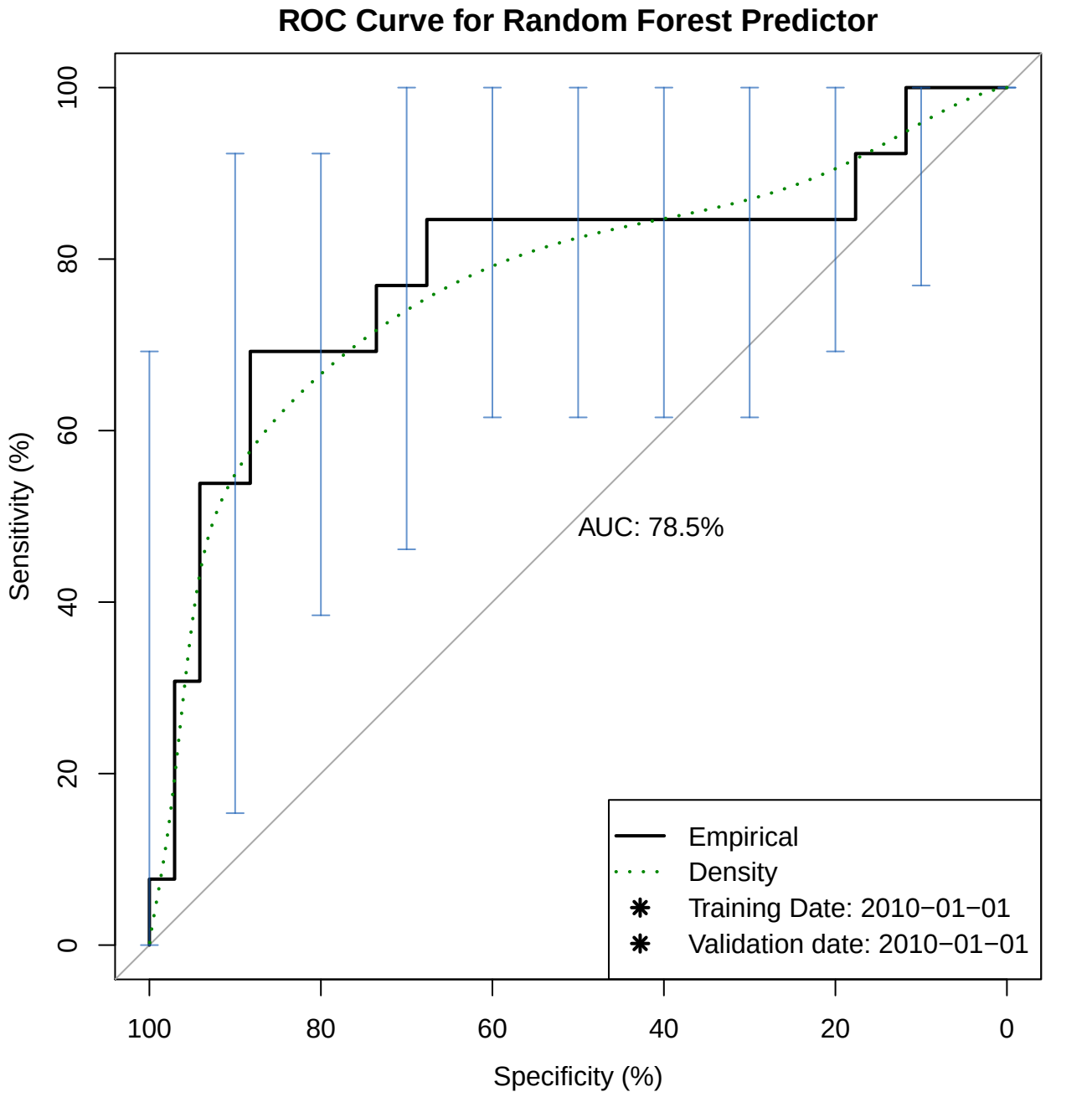

rf.fit
ECdiseaseFocusShiftLevel
preMeanEnroll
ECdrugFocusShiftLevel
ECdiseaseFocusDivergenceLevel
ECdrugFocusDivergenceLevel
marketDate
−5
10
MeanDecreaseAcc
ECdiseaseFocusShiftLevel
ECdiseaseFocusDivergenceLevel
preMeanEnroll
ECdrugFocusShiftLevel
ECdrugFocusDivergenceLevel
marketDate
0
3
MeanDecreaseG

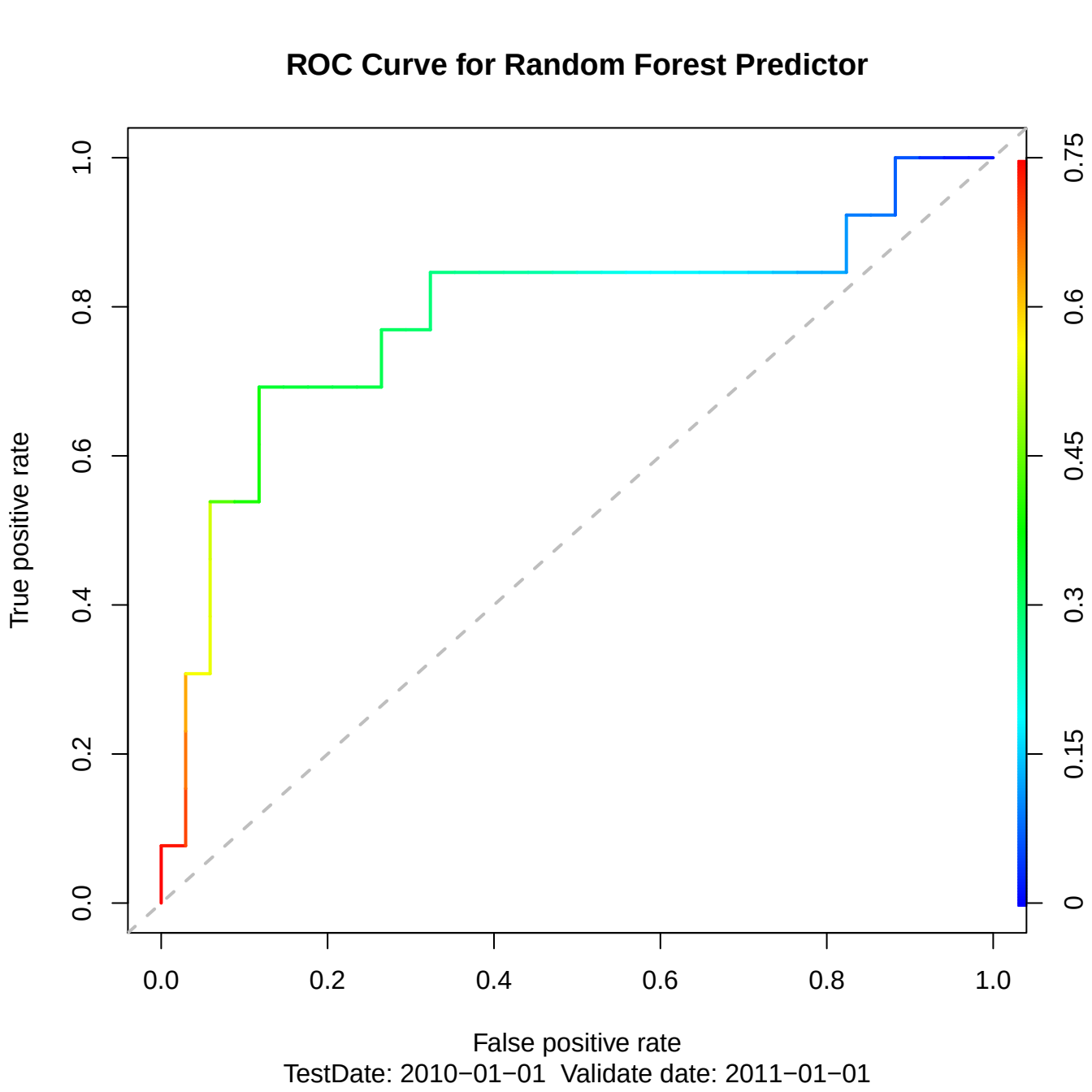
	MeanDecreaseAccuracy	MeanDecreaseGini
marketDate	−5.21464126422323	1.8374526582602
preMeanEnroll	11.3451525199732	3.08627976389636
ECdiseaseFocusDivergenceLevel	8.0018375925377	3.3095380625252
ECdiseaseFocusShiftLevel	13.4361794172786	4.58817149833747
ECdrugFocusDivergenceLevel	4.44329466208002	2.61402517272711
ECdrugFocusShiftLevel	10.543218270875	2.94214986553026

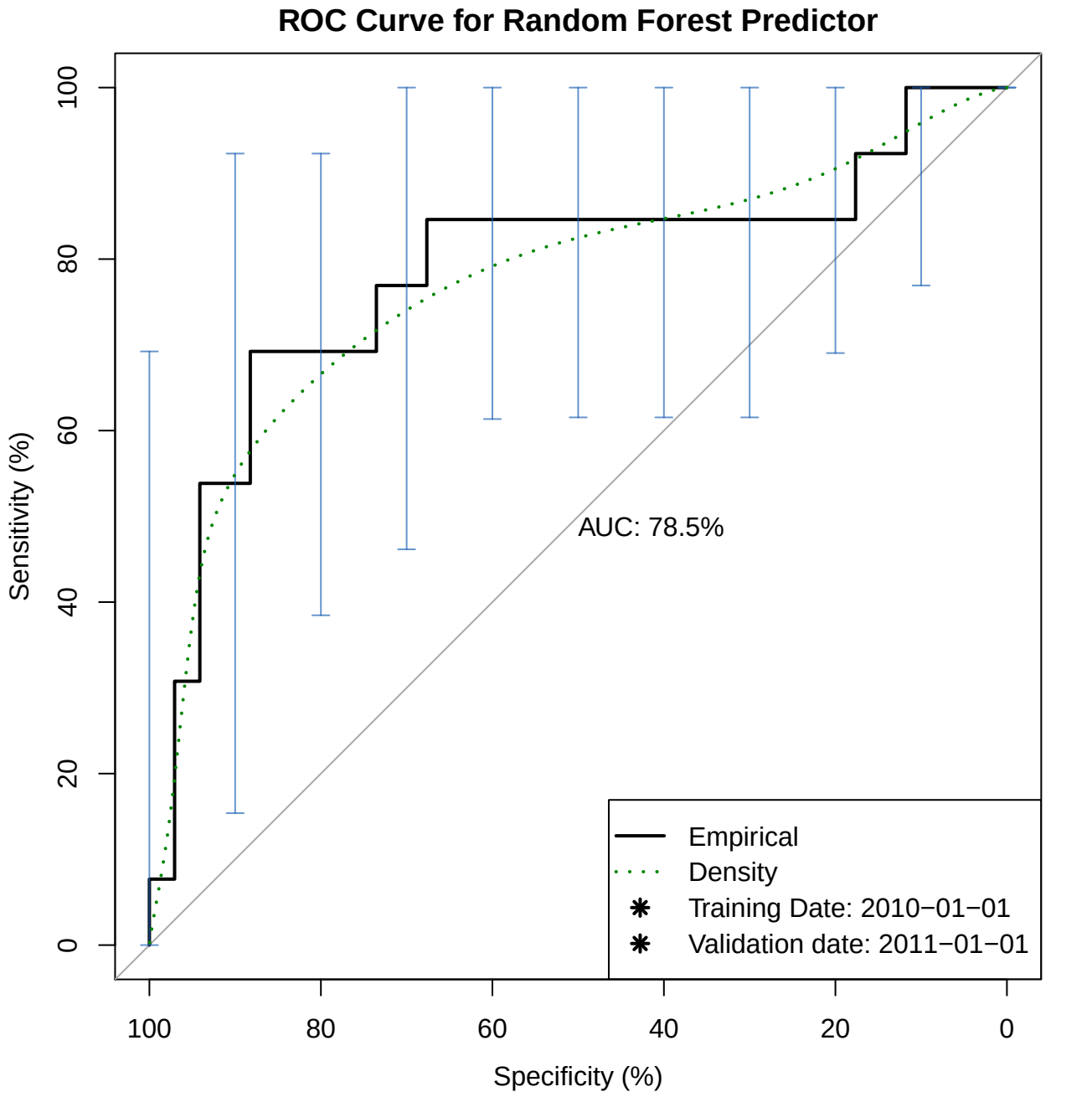

iable Importance from Random Forest Fit
Variable Importance (Mean Decrease in Gini Index)
0
1
2
3
4
Demographic Attribute
Variable Name
ECdiseaseFocusShiftLevel
ECdiseaseFocusDivergenceLevel
preMeanEnroll
ECdrugFocusShiftLevel
ECdrugFocusDivergenceLevel
marketDate

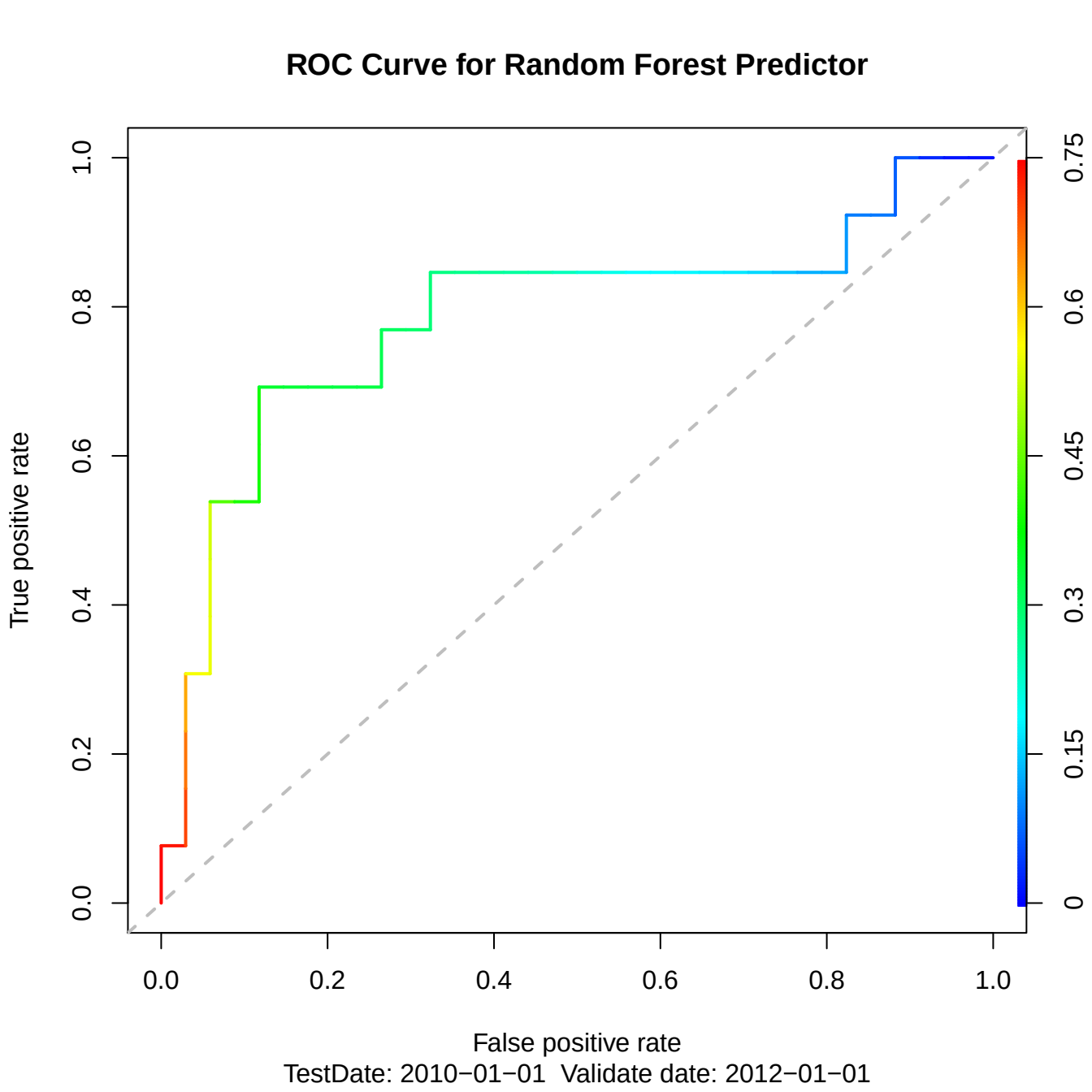
	0	1	MeanDecreaseAccuracy	MeanDecreaseGi
marketDate	−3.91316942704087	−4.39389163330181	−5.21464126422323	1.83745265826(
preMeanEnroll	7.06483335918709	10.6263611611848	11.3451525199732	3.0862797638963
ECdiseaseFocusDivergenceLevel	2.02815238634162	10.4163377520576	8.0018375925377	3.309538062525
ECdiseaseFocusShiftLevel	11.0895097766684	11.0757862436281	13.4361794172786	4.5881714983374
ECdrugFocusDivergenceLevel	3.24109281234643	3.3441125207552	4.44329466208002	2.6140251727271
ECdrugFocusShiftLevel	10.0597395068773	4.74371510469722	10.543218270875	2.9421498655302

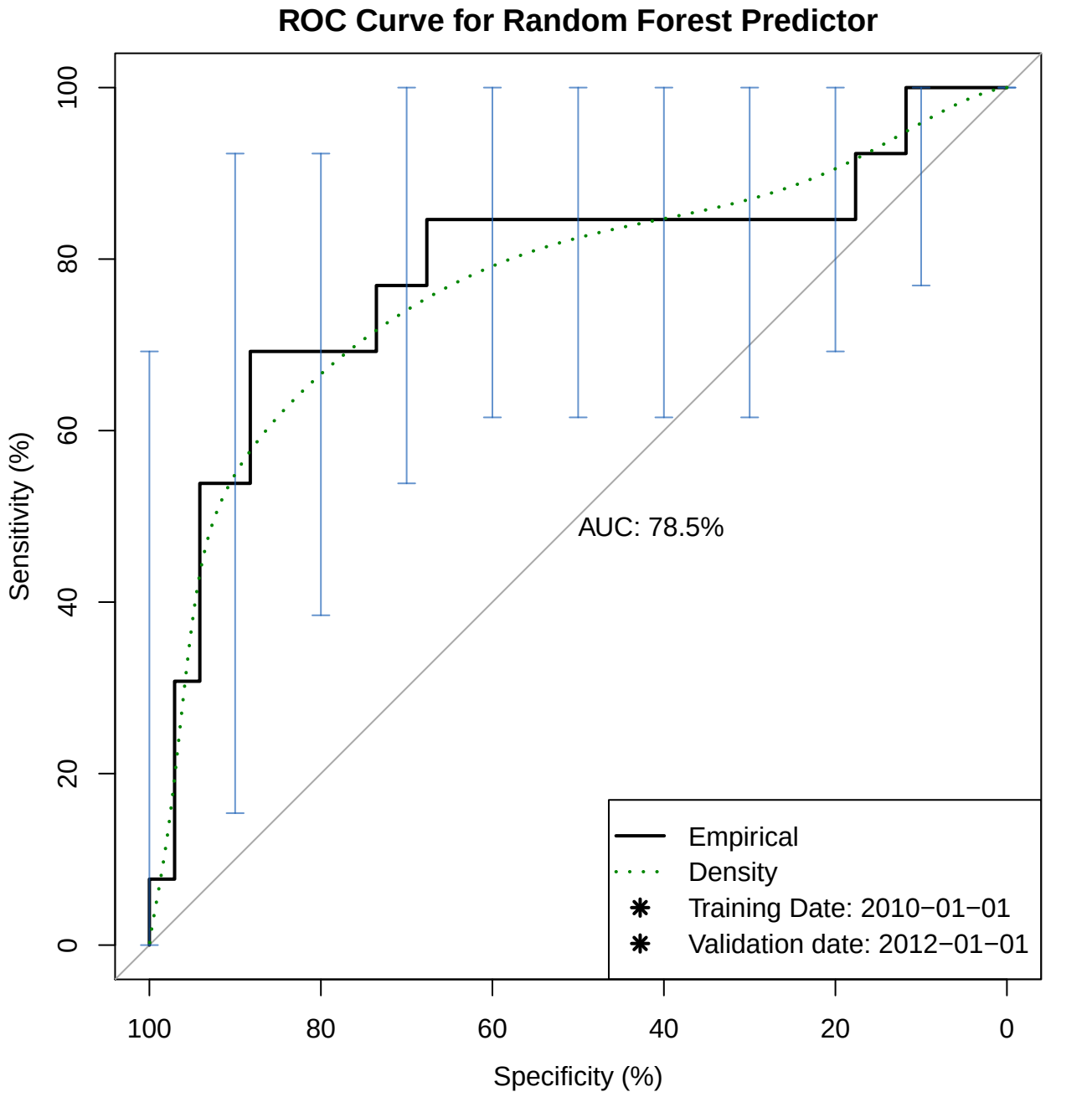

ROC Curve for Random Forest Predictor
True positive rate
False positive rate
TestDate: 2010−01−01 Validate date: 2010−01−01
0.0
0.2
0.4
0.6
0.8
1.0
0
0.15
0.3
0.45
0.6
0.75

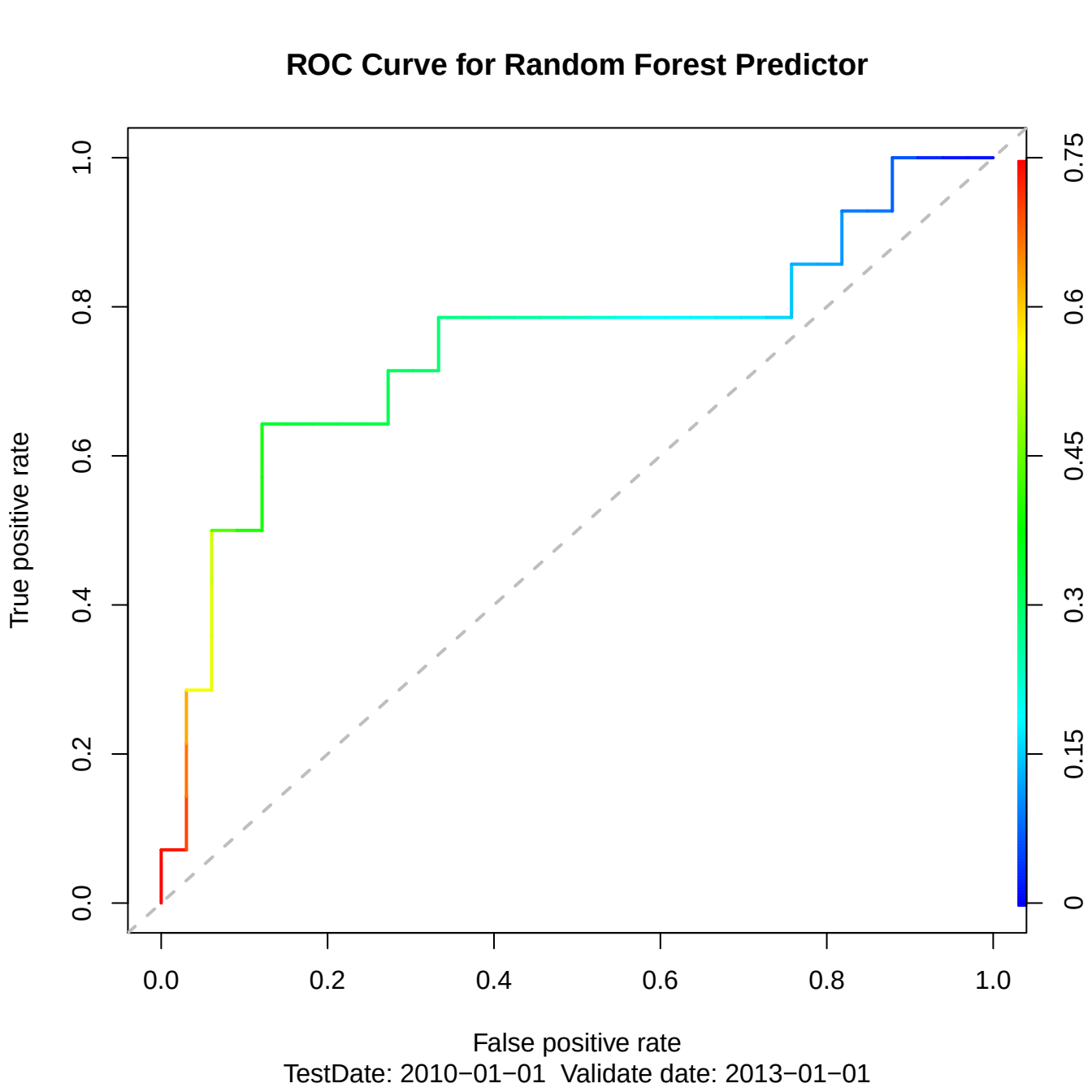

ROC Curve for Random Forest Predictor
Sensitivity (%)
Specificity (%)
100
80
60
40
20
0
AUC: 78.5%
Empirical
Density
Training Date: 2010−01−01
Validation date: 2010−01−01

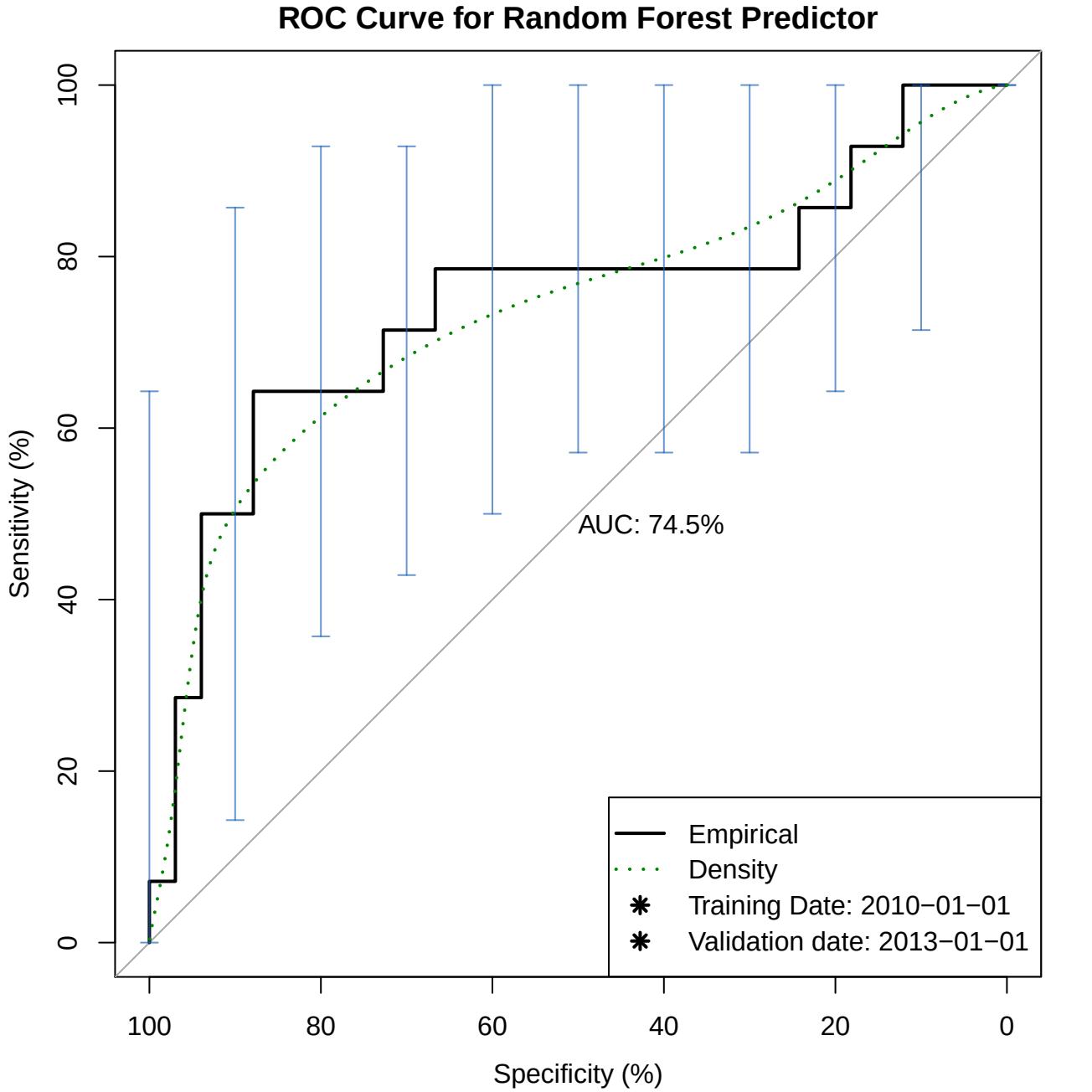

ROC Curve for Random Forest Predictor
True positive rate
False positive rate
TestDate: 2010−01−01 Validate date: 2011−01−01
0.0
0.2
0.4
0.6
0.8
1.0
0
0.15
0.3
0.45
0.6
0.75

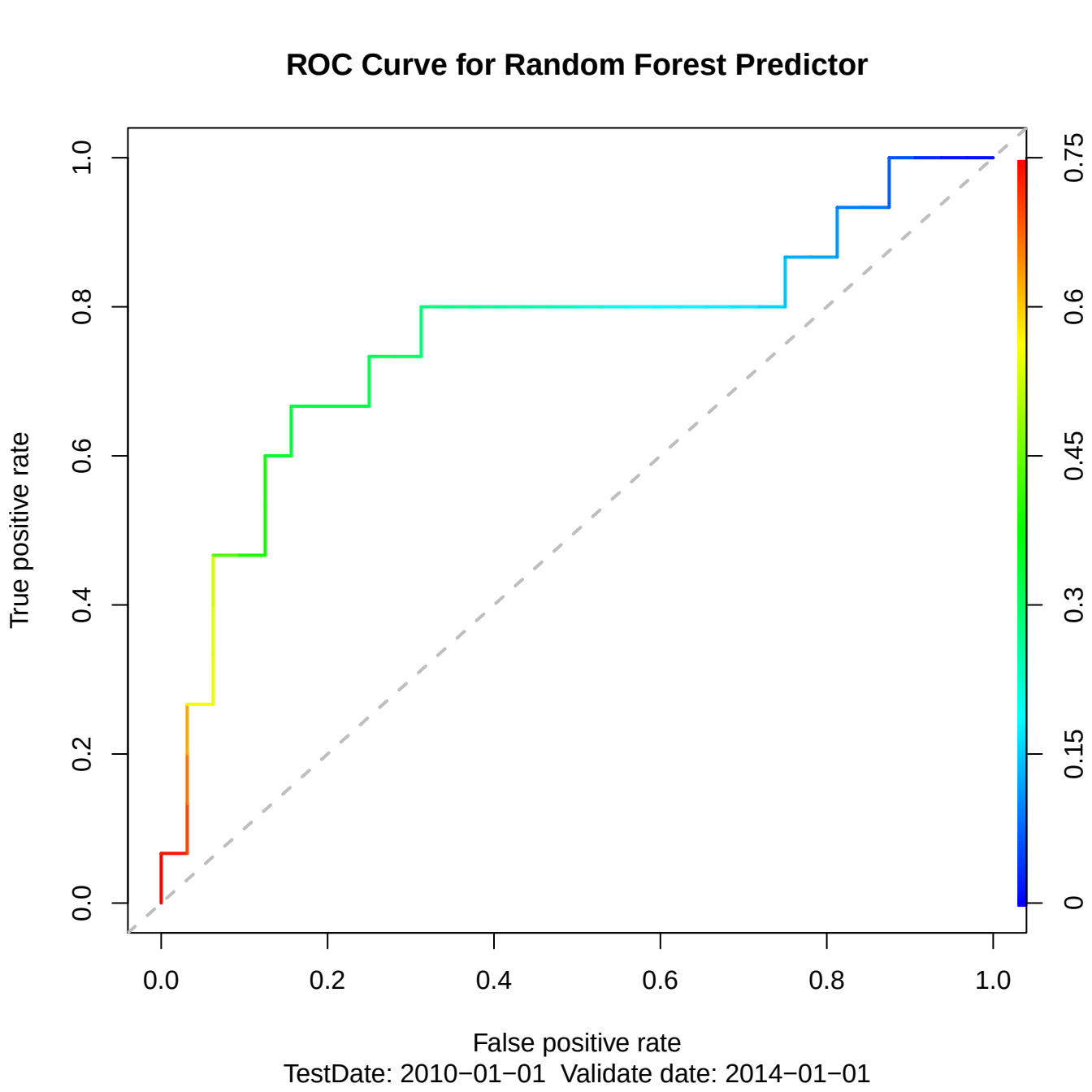

ROC Curve for Random Forest Predictor
Sensitivity (%)
Specificity (%)
100
80
60
40
20
0
AUC: 78.5%
Empirical
Density
Training Date: 2010−01−01
Validation date: 2011−01−01

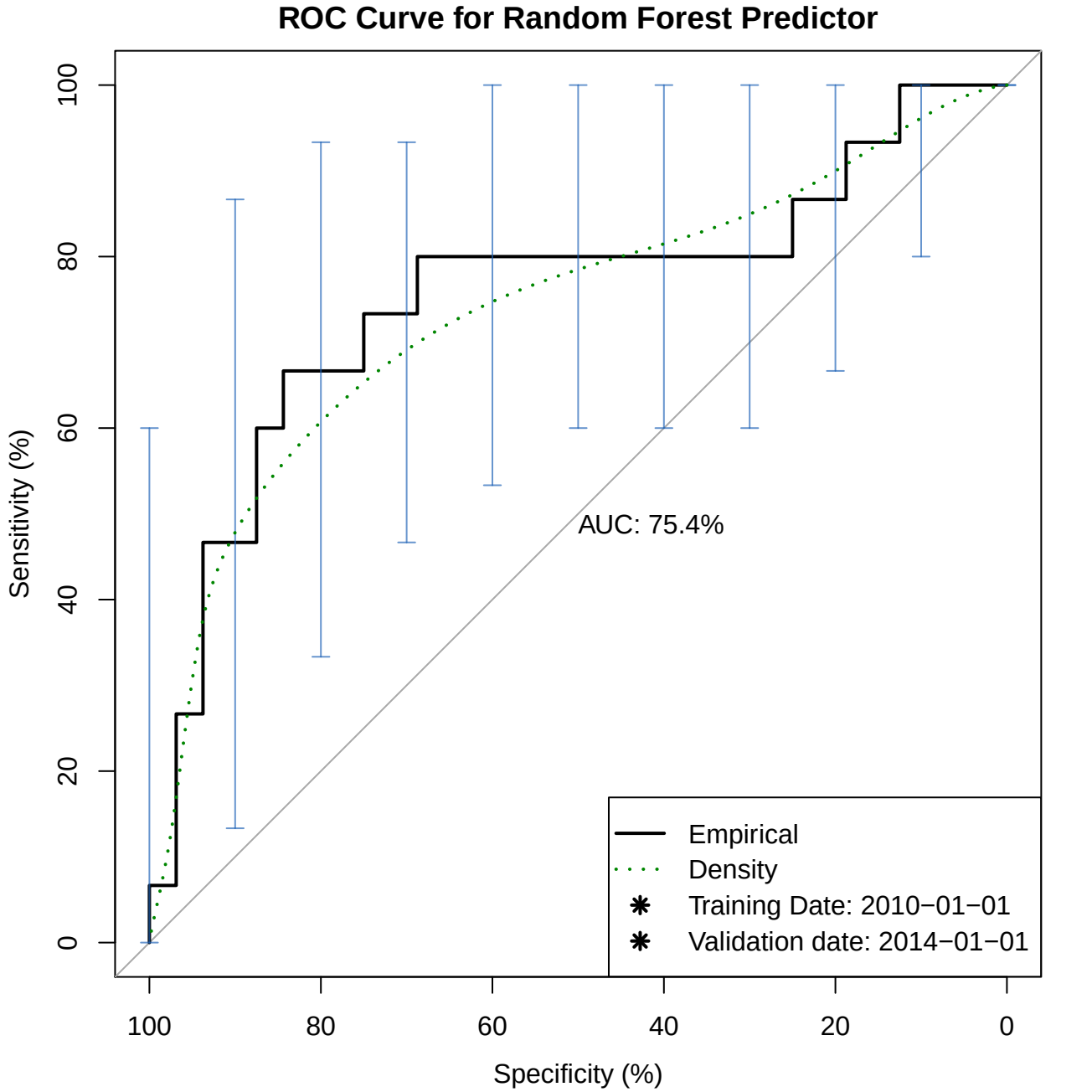

ROC Curve for Random Forest Predictor
True positive rate
False positive rate
TestDate: 2010−01−01 Validate date: 2012−01−01
0.0
0.2
0.4
0.6
0.8
1.0
0
0.15
0.3
0.45
0.6
0.75


ROC Curve for Random Forest Predictor
Sensitivity (%)
Specificity (%)
100
80
60
40
20
0
AUC: 78.5%
Empirical
Density
Training Date: 2010−01−01
Validation date: 2012−01−01


ROC Curve for Random Forest Predictor
True positive rate
False positive rate
TestDate: 2010−01−01 Validate date: 2013−01−01
0.0
0.2
0.4
0.6
0.8
1.0
0.75
0.6
0.45
0.3
0.15
0


ROC Curve for Random Forest Predictor
Sensitivity (%)
Specificity (%)
100
80
60
40
20
0
AUC: 74.5%
Empirical
Density
Training Date: 2010−01−01
Validation date: 2013−01−01


ROC Curve for Random Forest Predictor
True positive rate
False positive rate
TestDate: 2010−01−01 Validate date: 2014−01−01
0.0
0.2
0.4
0.6
0.8
1.0
0
0.15
0.3
0.45
0.6
0.75


ROC Curve for Random Forest Predictor
Sensitivity (%)
Specificity (%)
100
80
60
40
20
0
AUC: 75.4%
Empirical
Density
Training Date: 2010−01−01
Validation date: 2014−01−01