. logit MR\_indicator `part\_penaltypoints\_lag\_all\_vars' `covariates' ib(freq).state ib(freq).time if sample\_pp, vce(cl mineid) offset(lnhours) iter(50) or

note: 9.state != 0 predicts success perfectly

9.state dropped and 9 obs not used

note: 17.state != 0 predicts success perfectly

17.state dropped and 9 obs not used

Iteration 0: log pseudolikelihood = -1600.2972

Iteration 1: log pseudolikelihood = -1525.0991

Iteration 2: log pseudolikelihood = -1520.1192

Iteration 3: log pseudolikelihood = -1520.08

Iteration 4: log pseudolikelihood = -1520.08

Logistic regression Number of obs = 3,315

Wald chi2(28) = .

Log pseudolikelihood = -1520.08 Prob > chi2 = .

(Std. Err. adjusted for 725 clusters in mineid)

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| Robust

MR\_indicator | Odds Ratio Std. Err. z P>|z| [95% Conf. Interval]

------------------+----------------------------------------------------------------

p47\_pp\_c\_lag\_all | .9994502 .0004532 -1.21 0.225 .9985624 1.000339

p48\_pp\_c\_lag\_all | 1.000095 .0001293 0.73 0.463 .9998415 1.000349

p71\_pp\_c\_lag\_all | 1.001345 .00082 1.64 0.101 .9997397 1.002954

p72\_pp\_c\_lag\_all | .9998901 .0003007 -0.37 0.715 .9993009 1.00048

p75\_pp\_c\_lag\_all | .9999998 8.50e-07 -0.19 0.851 .9999982 1.000002

p77\_pp\_c\_lag\_all | 1.000082 .0000529 1.55 0.122 .9999781 1.000186

mine\_time | .9948746 .0153662 -0.33 0.739 .9652087 1.025452

onsite\_insp\_hours | 1.000865 .0001724 5.02 0.000 1.000527 1.001203

|

state |

1 | 1.572315 .7399846 0.96 0.336 .6250794 3.954975

2 | 4.442836 .6282779 10.55 0.000 3.367353 5.861811

3 | .4480161 .2705703 -1.33 0.184 .13716 1.463388

4 | 2.285652 .6227422 3.03 0.002 1.339967 3.898755

5 | .964322 .3482995 -0.10 0.920 .4750946 1.95733

6 | .8660538 .1083137 -1.15 0.250 .6777799 1.106626

7 | 1.458592 .3000368 1.84 0.067 .9746281 2.182873

8 | .5335175 .0795132 -4.22 0.000 .3983723 .7145099

9 | 1 (empty)

10 | .506358 .2031194 -1.70 0.090 .2306792 1.111494

11 | .5144898 .2173152 -1.57 0.116 .2248216 1.177377

12 | .8826968 .2093903 -0.53 0.599 .5544884 1.405176

13 | 2.100415 1.165988 1.34 0.181 .7075932 6.234858

14 | .791112 .3303862 -0.56 0.575 .348945 1.793572

15 | .6461036 .0924958 -3.05 0.002 .4880279 .855381

17 | 1 (empty)

|

time |

2007 | 1.212471 .1852825 1.26 0.207 .8986612 1.635863

2009 | .516156 .0794708 -4.30 0.000 .381702 .6979713

2010 | .6897258 .1150174 -2.23 0.026 .4974297 .9563596

2011 | .8130543 .1218887 -1.38 0.167 .6060549 1.090755

2012 | .6907483 .1203252 -2.12 0.034 .4909581 .971841

2013 | .4664468 .0891576 -3.99 0.000 .320702 .6784259

2014 | .3842932 .0750727 -4.90 0.000 .2620463 .5635692

2015 | .5031416 .0976656 -3.54 0.000 .3439237 .7360686

|

\_cons | .0000123 1.96e-06 -71.03 0.000 9.01e-06 .0000168

lnhours | 1 (offset)

-----------------------------------------------------------------------------------

. lfit

Logistic model for MR\_indicator, goodness-of-fit test

number of observations = 3315

number of covariate patterns = 3315

Pearson chi2(3284) = 3129.74

Prob > chi2 = 0.9729

. linktest

Iteration 0: log likelihood = -2282.022

Iteration 1: log likelihood = -1518.837

Iteration 2: log likelihood = -1516.5089

Iteration 3: log likelihood = -1516.4715

Iteration 4: log likelihood = -1516.4715

Logistic regression Number of obs = 3,315

LR chi2(2) = 1531.10

Prob > chi2 = 0.0000

Log likelihood = -1516.4715 Pseudo R2 = 0.3355

------------------------------------------------------------------------------

MR\_indicator | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

\_hat | 1.101382 .0420788 26.17 0.000 1.018909 1.183855

\_hatsq | -.0321545 .0199691 -1.61 0.107 -.0712932 .0069843

\_cons | .0315945 .0507617 0.62 0.534 -.0678966 .1310855

------------------------------------------------------------------------------

. estat classification

Logistic model for MR\_indicator

-------- True --------

Classified | D ~D | Total

-----------+--------------------------+-----------

+ | 1471 398 | 1869

- | 348 1098 | 1446

-----------+--------------------------+-----------

Total | 1819 1496 | 3315

Classified + if predicted Pr(D) >= .5

True D defined as MR\_indicator != 0

--------------------------------------------------

Sensitivity Pr( +| D) 80.87%

Specificity Pr( -|~D) 73.40%

Positive predictive value Pr( D| +) 78.71%

Negative predictive value Pr(~D| -) 75.93%

--------------------------------------------------

False + rate for true ~D Pr( +|~D) 26.60%

False - rate for true D Pr( -| D) 19.13%

False + rate for classified + Pr(~D| +) 21.29%

False - rate for classified - Pr( D| -) 24.07%

--------------------------------------------------

Correctly classified 77.50%

--------------------------------------------------

. summ MR\_indicator pbpp4\_yhat

Variable | Obs Mean Std. Dev. Min Max

-------------+---------------------------------------------------------

MR\_indicator | 6,253 .5525348 .4972722 0 1

pbpp4\_yhat | 6,226 .5199883 .2849477 .0004138 .9999819