. // Model B.PP.2

.

. eststo clear

. eststo: logit dv\_indicator `pp\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) offset(lnhours) iter(50) or

note: 17.state != 0 predicts success perfectly

17.state dropped and 11 obs not used

Iteration 0: log pseudolikelihood = -1977.2679

Iteration 1: log pseudolikelihood = -1771.6201

Iteration 2: log pseudolikelihood = -1734.425

Iteration 3: log pseudolikelihood = -1733.4022

Iteration 4: log pseudolikelihood = -1733.3994

Iteration 5: log pseudolikelihood = -1733.3994

Logistic regression Number of obs = 6,242

Wald chi2(31) = .

Log pseudolikelihood = -1733.3994 Prob > chi2 = .

(Std. Err. adjusted for 1,237 clusters in mineid)

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

| Robust

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

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

p48\_pp\_1lag | 1.003593 .0018958 1.90 0.058 .9998844 1.007316

p75\_pp\_1lag | .9999873 .0000299 -0.42 0.672 .9999286 1.000046

mine\_time | 1.020792 .0200119 1.05 0.294 .9823134 1.060778

onsite\_insp\_hours | 1.00391 .0004545 8.62 0.000 1.003019 1.004801

|

state |

1 | 1.133752 .8645849 0.16 0.869 .2543329 5.053981

2 | .6803683 .0942612 -2.78 0.005 .518579 .8926337

3 | 1.426759 .6289501 0.81 0.420 .6013399 3.385174

4 | 4.616936 3.579692 1.97 0.048 1.010145 21.10201

5 | .9217505 .4645228 -0.16 0.872 .3432767 2.475042

6 | .4806351 .069055 -5.10 0.000 .3626766 .6369588

7 | 2.190248 2.172338 0.79 0.429 .3135105 15.30152

8 | .7520483 .1040214 -2.06 0.039 .5734687 .9862381

9 | .2129427 .0288945 -11.40 0.000 .1632157 .2778201

10 | .6804501 .2852879 -0.92 0.358 .2991704 1.547654

11 | 3.411732 2.94934 1.42 0.156 .6268109 18.57006

12 | .5057854 .1099352 -3.14 0.002 .3303338 .7744254

13 | 1.855964 1.241132 0.92 0.355 .5004359 6.883202

14 | .4148004 .1747606 -2.09 0.037 .1816424 .9472421

15 | .6353671 .1096962 -2.63 0.009 .452965 .8912198

17 | 1 (empty)

|

time |

2000 | 1.010042 .1909256 0.05 0.958 .697331 1.462985

2002 | .6815021 .1316332 -1.99 0.047 .4667199 .995126

2003 | .9061582 .2064505 -0.43 0.665 .5797948 1.41623

2004 | .526282 .1135313 -2.98 0.003 .3448216 .8032347

2005 | .4779703 .1001452 -3.52 0.000 .3169974 .720686

2006 | .4949616 .1081068 -3.22 0.001 .3225944 .7594273

2007 | .3235591 .0696897 -5.24 0.000 .2121376 .4935025

2008 | .2312668 .0518072 -6.54 0.000 .1490841 .3587527

2009 | .268506 .0676274 -5.22 0.000 .1638949 .4398883

2010 | .2035987 .0515384 -6.29 0.000 .1239665 .3343842

2011 | .2443572 .0613085 -5.62 0.000 .149438 .3995667

2012 | .1683071 .0417403 -7.19 0.000 .1035151 .2736536

2013 | .2488382 .0722749 -4.79 0.000 .1408271 .4396913

2014 | .154657 .0449618 -6.42 0.000 .0874801 .27342

2015 | .1046829 .0324769 -7.27 0.000 .0569899 .1922885

|

\_cons | .0001238 .0000226 -49.27 0.000 .0000866 .0001771

lnhours | 1 (offset)

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

Note: 0 failures and 25 successes completely determined.

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.B.PP.2.csv"', replace plain wide p eform

(note: file C:\Users\jbodson\Dropbox (Stanford Law School)\R-code\Injury-Classification\PS Model Summaries 10-10\Estout\Model.PS.Y.P.B.PP.2.csv not found)

(output written to C:\Users\jbodson\Dropbox (Stanford Law School)\R-code\Injury-Classification\PS Model Summaries 10-10\Estout\Model.PS.Y.P.B.PP.2.csv)

.

. pause "next"

.

. // diagnostics/assessment

. lfit

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

number of observations = 6242

number of covariate patterns = 6227

Pearson chi2(6192) = 8918.98

Prob > chi2 = 0.0000

.

. pause "next"

.

. linktest

Iteration 0: log likelihood = -2826.3083

Iteration 1: log likelihood = -1953.7523

Iteration 2: log likelihood = -1760.1221

Iteration 3: log likelihood = -1745.6173

Iteration 4: log likelihood = -1736.5544

Iteration 5: log likelihood = -1722.0974

Iteration 6: log likelihood = -1721.6738

Iteration 7: log likelihood = -1721.6734

Iteration 8: log likelihood = -1721.6734

Logistic regression Number of obs = 6,242

LR chi2(2) = 2209.27

Prob > chi2 = 0.0000

Log likelihood = -1721.6734 Pseudo R2 = 0.3908

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

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

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

\_hat | .9636226 .0406176 23.72 0.000 .8840135 1.043232

\_hatsq | .0737576 .0171376 4.30 0.000 .0401685 .1073467

\_cons | -.1450885 .0568743 -2.55 0.011 -.25656 -.033617

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

Note: 0 failures and 274 successes completely determined.

.

. pause "next"

.

. estat classification

Logistic model for dv\_indicator

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

Classified | D ~D | Total

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

+ | 5027 610 | 5637

- | 166 439 | 605

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

Total | 5193 1049 | 6242

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

True D defined as dv\_indicator != 0

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

Sensitivity Pr( +| D) 96.80%

Specificity Pr( -|~D) 41.85%

Positive predictive value Pr( D| +) 89.18%

Negative predictive value Pr(~D| -) 72.56%

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

False + rate for true ~D Pr( +|~D) 58.15%

False - rate for true D Pr( -| D) 3.20%

False + rate for classified + Pr(~D| +) 10.82%

False - rate for classified - Pr( D| -) 27.44%

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

Correctly classified 87.57%

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

.

. pause "next"

.

. predict bpp2\_yhat

(option pr assumed; Pr(dv\_indicator))

(11 missing values generated)

. gen bpp2\_res = dv\_indicator - bpp2\_yhat

(11 missing values generated)

.

. summ dv\_indicator bpp2\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv\_indicator | 6,253 .8322405 .3736824 0 1

bpp2\_yhat | 6,242 .8319449 .2241338 .0023251 1

. /\*

> pause "next"

>

> scatter dv\_indicator bpp2\_yhat

>

> pause "next"

>

> scatter bpp2\_res dv\_indicator

>

> pause "next"

>

> scatter bpp2\_res bpp2\_yhat

> \*/

. pause "complete: B.PP.2"

.