.

. // Model B.PP.3

.

. eststo clear

. eststo: logit dv\_indicator `pp\_lag\_4\_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 = -1770.7579

Iteration 2: log pseudolikelihood = -1733.5216

Iteration 3: log pseudolikelihood = -1732.5176

Iteration 4: log pseudolikelihood = -1732.5149

Iteration 5: log pseudolikelihood = -1732.5149

Logistic regression Number of obs = 6,242

Wald chi2(31) = .

Log pseudolikelihood = -1732.5149 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\_c\_4lag | 1.001404 .0006389 2.20 0.028 1.000153 1.002657

p75\_pp\_c\_4lag | .9999939 7.48e-06 -0.82 0.414 .9999792 1.000009

mine\_time | 1.021586 .0200945 1.09 0.278 .9829507 1.061739

onsite\_insp\_hours | 1.00395 .000456 8.68 0.000 1.003057 1.004844

|

state |

1 | 1.140875 .8713159 0.17 0.863 .25536 5.097097

2 | .6743649 .093271 -2.85 0.004 .51424 .8843499

3 | 1.407374 .614294 0.78 0.434 .5982393 3.310884

4 | 4.620183 3.602111 1.96 0.050 1.002357 21.29589

5 | .921375 .4660042 -0.16 0.871 .3419195 2.482841

6 | .4804383 .0690478 -5.10 0.000 .362497 .6367528

7 | 2.234728 2.196952 0.82 0.413 .3253958 15.34749

8 | .7900628 .1065399 -1.75 0.081 .6065647 1.029073

9 | .2105957 .028585 -11.48 0.000 .1614033 .274781

10 | .687786 .2897975 -0.89 0.374 .3011626 1.570745

11 | 3.408702 2.951079 1.42 0.157 .6246868 18.60012

12 | .5040748 .1094132 -3.16 0.002 .3294089 .7713557

13 | 1.841827 1.234367 0.91 0.362 .495205 6.850345

14 | .4176883 .1764256 -2.07 0.039 .1825228 .9558455

15 | .6377114 .1103888 -2.60 0.009 .4542344 .8952997

17 | 1 (empty)

|

time |

2000 | 1.009161 .1909883 0.05 0.962 .6964131 1.46236

2002 | .6809732 .1315974 -1.99 0.047 .4662686 .9945437

2003 | .904013 .206094 -0.44 0.658 .5782564 1.413282

2004 | .5242785 .1131783 -2.99 0.003 .3434072 .800414

2005 | .4760398 .0997576 -3.54 0.000 .315695 .7178254

2006 | .4917992 .1076618 -3.24 0.001 .3202194 .7553146

2007 | .323742 .0700282 -5.21 0.000 .2118736 .4946765

2008 | .2316356 .0513643 -6.60 0.000 .1499874 .3577304

2009 | .2696733 .0677331 -5.22 0.000 .164833 .4411963

2010 | .2044938 .0512978 -6.33 0.000 .1250702 .3343539

2011 | .2459369 .0614331 -5.62 0.000 .1507302 .4012795

2012 | .1686855 .0414525 -7.24 0.000 .1042089 .2730554

2013 | .2490776 .0723713 -4.78 0.000 .1409327 .4402076

2014 | .1548201 .0450037 -6.42 0.000 .0875784 .2736893

2015 | .1040021 .0321445 -7.32 0.000 .0567487 .1906022

|

\_cons | .0001232 .0000226 -49.09 0.000 .000086 .0001764

lnhours | 1 (offset)

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

Note: 0 failures and 24 successes completely determined.

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.B.PP.3.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.3.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.3.csv)

.

. pause "next"

.

. // diagnostics/assessment

. lfit

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

number of observations = 6242

number of covariate patterns = 6226

Pearson chi2(6191) = 9854.76

Prob > chi2 = 0.0000

.

. pause "next"

.

. linktest

Iteration 0: log likelihood = -2826.3083

Iteration 1: log likelihood = -1953.3993

Iteration 2: log likelihood = -1759.1875

Iteration 3: log likelihood = -1744.4641

Iteration 4: log likelihood = -1735.8644

Iteration 5: log likelihood = -1721.4738

Iteration 6: log likelihood = -1721.0474

Iteration 7: log likelihood = -1721.047

Iteration 8: log likelihood = -1721.047

Logistic regression Number of obs = 6,242

LR chi2(2) = 2210.52

Prob > chi2 = 0.0000

Log likelihood = -1721.047 Pseudo R2 = 0.3911

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

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

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

\_hat | .9649205 .0407524 23.68 0.000 .8850472 1.044794

\_hatsq | .0726395 .0171532 4.23 0.000 .0390199 .1062592

\_cons | -.1438216 .0568362 -2.53 0.011 -.2552184 -.0324248

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

Note: 0 failures and 264 successes completely determined.

.

. pause "next"

.

. estat classification

Logistic model for dv\_indicator

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

Classified | D ~D | Total

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

+ | 5029 610 | 5639

- | 164 439 | 603

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

Total | 5193 1049 | 6242

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

True D defined as dv\_indicator != 0

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

Sensitivity Pr( +| D) 96.84%

Specificity Pr( -|~D) 41.85%

Positive predictive value Pr( D| +) 89.18%

Negative predictive value Pr(~D| -) 72.80%

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

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

False - rate for true D Pr( -| D) 3.16%

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

False - rate for classified - Pr( D| -) 27.20%

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

Correctly classified 87.60%

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

.

. pause "next"

.

. predict bpp3\_yhat

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

(11 missing values generated)

. gen bpp3\_res = dv\_indicator - bpp3\_yhat

(11 missing values generated)

.

. summ dv\_indicator bpp3\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

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

bpp3\_yhat | 6,242 .8319449 .2242192 .0023187 1

. /\*

> pause "next"

>

> scatter dv\_indicator bpp3\_yhat

>

> pause "next"

>

> scatter bpp3\_res dv\_indicator

>

> pause "next"

>

> scatter bpp3\_res bpp3\_yhat

> \*/

. pause "complete: B.PP.3"

.