. logit MR\_indicator `part\_sig\_sub\_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 = -3080.1072

Iteration 1: log pseudolikelihood = -2914.5158

Iteration 2: log pseudolikelihood = -2903.8283

Iteration 3: log pseudolikelihood = -2903.748

Iteration 4: log pseudolikelihood = -2903.7479

Logistic regression Number of obs = 6,242

Wald chi2(35) = .

Log pseudolikelihood = -2903.7479 Prob > chi2 = .

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

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

| Robust

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

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

p47\_ss | .6352314 .3293265 -0.88 0.381 .2299528 1.75479

p48\_ss | 1.171684 .1327103 1.40 0.162 .9384246 1.462923

p71\_ss | .939042 .3661318 -0.16 0.872 .4373228 2.016359

p72\_ss | 1.709626 .7253851 1.26 0.206 .7442874 3.927004

p75\_ss | 1.012015 .0031055 3.89 0.000 1.005946 1.01812

p77\_ss | 1.099199 .0620249 1.68 0.094 .9841133 1.227743

mine\_time | .9987127 .0138107 -0.09 0.926 .9720077 1.026151

onsite\_insp\_hours | 1.001017 .000174 5.85 0.000 1.000676 1.001358

|

state |

1 | 1.542242 .5975242 1.12 0.263 .721712 3.295648

2 | 2.475664 .2293035 9.79 0.000 2.064671 2.968469

3 | .7908054 .2668313 -0.70 0.487 .4081874 1.532074

4 | 1.927857 .589763 2.15 0.032 1.05847 3.511327

5 | .82208 .2254894 -0.71 0.475 .4802163 1.407315

6 | .7066711 .063855 -3.84 0.000 .5919739 .8435913

7 | .8734609 .2659384 -0.44 0.657 .4809304 1.586371

8 | 1.434084 .1084697 4.77 0.000 1.236495 1.663247

9 | 2.642245 .2308683 11.12 0.000 2.226377 3.135794

10 | .5900099 .2212164 -1.41 0.159 .2829518 1.230286

11 | .6126293 .1723441 -1.74 0.082 .3529708 1.063302

12 | .9992131 .1726046 -0.00 0.996 .7122313 1.401829

13 | 2.008055 .7417101 1.89 0.059 .973575 4.141729

14 | .6333267 .1955112 -1.48 0.139 .3458258 1.15984

15 | .5729848 .061035 -5.23 0.000 .4650206 .7060151

17 | 1 (empty)

|

time |

2000 | .9763308 .137214 -0.17 0.865 .7412569 1.285953

2002 | .7513995 .1119382 -1.92 0.055 .5611319 1.006183

2003 | .8052271 .135797 -1.28 0.199 .5785861 1.120647

2004 | .5238199 .084673 -4.00 0.000 .3815832 .7190758

2005 | .5334796 .0800627 -4.19 0.000 .3975324 .7159177

2006 | .5716445 .0876631 -3.65 0.000 .4232454 .7720757

2007 | .567999 .0925365 -3.47 0.001 .4127363 .7816682

2008 | .4628924 .0752347 -4.74 0.000 .3366145 .6365424

2009 | .242954 .042545 -8.08 0.000 .1723716 .3424384

2010 | .3195651 .0585727 -6.22 0.000 .2231227 .4576938

2011 | .3966892 .0714844 -5.13 0.000 .2786518 .5647276

2012 | .3539807 .0681875 -5.39 0.000 .2426677 .5163535

2013 | .2457639 .0519789 -6.64 0.000 .1623639 .3720032

2014 | .1979514 .0440216 -7.28 0.000 .1280157 .3060934

2015 | .259384 .0576872 -6.07 0.000 .1677395 .4010985

|

\_cons | .0000218 2.78e-06 -84.26 0.000 .000017 .000028

lnhours | 1 (offset)

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

. lfit

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

number of observations = 6242

number of covariate patterns = 6226

Pearson chi2(6187) = 5780.99

Prob > chi2 = 0.9999

. linktest

Iteration 0: log likelihood = -4293.1367

Iteration 1: log likelihood = -2904.2004

Iteration 2: log likelihood = -2896.4235

Iteration 3: log likelihood = -2896.2586

Iteration 4: log likelihood = -2896.2584

Logistic regression Number of obs = 6,242

LR chi2(2) = 2793.76

Prob > chi2 = 0.0000

Log likelihood = -2896.2584 Pseudo R2 = 0.3254

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

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

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

\_hat | 1.116059 .0317027 35.20 0.000 1.053923 1.178195

\_hatsq | -.0266731 .015325 -1.74 0.082 -.0567097 .0033634

\_cons | .0217673 .0364235 0.60 0.550 -.0496214 .093156

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

. estat classification

Logistic model for MR\_indicator

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

Classified | D ~D | Total

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

+ | 2766 740 | 3506

- | 678 2058 | 2736

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

Total | 3444 2798 | 6242

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

True D defined as MR\_indicator != 0

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

Sensitivity Pr( +| D) 80.31%

Specificity Pr( -|~D) 73.55%

Positive predictive value Pr( D| +) 78.89%

Negative predictive value Pr(~D| -) 75.22%

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

False + rate for true ~D Pr( +|~D) 26.45%

False - rate for true D Pr( -| D) 19.69%

False + rate for classified + Pr(~D| +) 21.11%

False - rate for classified - Pr( D| -) 24.78%

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

Correctly classified 77.28%

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

. summ MR\_indicator pbssv1\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

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

pbssv1\_yhat | 6,242 .5517462 .2922274 .0003881 .9999785