. // Model C.SSV.1

.

. // poisson model

. glm dv `ss\_vars' `covariates' ib(freq).state ib(freq).time, family(poisson) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -53400.862

Iteration 1: log pseudolikelihood = -49203.15

Iteration 2: log pseudolikelihood = -49166.366

Iteration 3: log pseudolikelihood = -49165.995

Iteration 4: log pseudolikelihood = -49165.96

Iteration 5: log pseudolikelihood = -49165.952

Iteration 6: log pseudolikelihood = -49165.95

Iteration 7: log pseudolikelihood = -49165.95

Iteration 8: log pseudolikelihood = -49165.95

Iteration 9: log pseudolikelihood = -49165.95

Generalized linear models No. of obs = 28,337

Optimization : ML Residual df = 28,175

Scale parameter = 1

Deviance = 50691.49513 (1/df) Deviance = 1.799166

Pearson = 1021104.951 (1/df) Pearson = 36.24152

Variance function: V(u) = u [Poisson]

Link function : g(u) = ln(u) [Log]

AIC = 3.481522

Log pseudolikelihood = -49165.95003 BIC = -238156.5

(Std. Err. adjusted for 1,544 clusters in mineid)

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

| Robust

dv | IRR Std. Err. z P>|z| [95% Conf. Interval]

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

sp48\_11\_ss | 1.01975 .0564826 0.35 0.724 .9148437 1.136686

sp48\_25\_ss | .8660785 .0629009 -1.98 0.048 .7511675 .9985681

sp48\_26\_ss | 1.197905 .0884282 2.45 0.014 1.036543 1.384386

sp48\_27\_ss | 1.067953 .0810217 0.87 0.386 .9203956 1.239167

sp48\_28\_ss | .9029688 .0732706 -1.26 0.208 .7701986 1.058627

sp48\_4\_ss | .5628072 .0644131 -5.02 0.000 .4497177 .7043351

sp48\_5\_ss | 1.125322 .1485283 0.89 0.371 .8688179 1.457554

sp48\_6\_ss | 1.106524 .1017825 1.10 0.271 .9239829 1.325128

sp48\_7\_ss | 1.101896 .0563203 1.90 0.058 .9968595 1.218001

sp48\_8\_ss | .9466369 .094804 -0.55 0.584 .7779239 1.15194

sp75\_100\_ss | .8233856 .1860026 -0.86 0.390 .5288313 1.282004

sp75\_1002\_ss | 1.001965 .0420519 0.05 0.963 .9228434 1.08787

sp75\_1003\_ss | .9047313 .0397005 -2.28 0.023 .830172 .985987

sp75\_1003\_2\_ss | .9740682 .0700022 -0.37 0.715 .846091 1.121403

sp75\_1311\_ss | .9098457 .090264 -0.95 0.341 .7490687 1.105131

sp75\_1315\_ss | 1.890191 .8382464 1.44 0.151 .7925414 4.508059

sp75\_1316\_ss | 1.001722 .1649547 0.01 0.992 .7254026 1.383298

sp75\_1318\_ss | 3.410759 .1880043 22.26 0.000 3.061484 3.799882

sp75\_1322\_ss | 5.247428 .6258419 13.90 0.000 4.15362 6.629278

sp75\_1400\_ss | 1.076135 .0548958 1.44 0.150 .973745 1.189291

sp75\_1400\_1\_ss | .7884654 .3511398 -0.53 0.594 .3293849 1.88739

sp75\_1403\_10\_ss | 1.09416 .0226562 4.35 0.000 1.050644 1.139479

sp75\_1403\_5\_ss | .9545944 .0174731 -2.54 0.011 .9209548 .9894627

sp75\_1403\_6\_ss | .9824006 .0129264 -1.35 0.177 .9573893 1.008065

sp75\_1403\_7\_ss | 1.069199 .0630615 1.13 0.257 .952477 1.200224

sp75\_1403\_8\_ss | .9497029 .0194497 -2.52 0.012 .9123371 .988599

sp75\_1404\_ss | 1.190945 .5174619 0.40 0.688 .5082151 2.790848

sp75\_1404\_1\_ss | 1.070896 .1169447 0.63 0.531 .8645568 1.32648

sp75\_1405\_ss | .9641207 .0170598 -2.06 0.039 .9312572 .9981439

sp75\_1405\_1\_ss | .6963875 .2535059 -0.99 0.320 .3411836 1.421392

sp75\_153\_ss | 1.212607 .1106188 2.11 0.035 1.014076 1.450007

sp75\_155\_ss | .6230976 .0622937 -4.73 0.000 .5122216 .757974

sp75\_156\_ss | 1.197624 .2365274 0.91 0.361 .8132243 1.763723

sp75\_1719\_2\_ss | 1.261282 .2921251 1.00 0.316 .8010614 1.985906

sp75\_1719\_4\_ss | 1.117828 .089014 1.40 0.162 .9562972 1.306644

sp75\_1720\_ss | 1.095996 .0388261 2.59 0.010 1.02248 1.174798

sp75\_1725\_ss | .997033 .0063931 -0.46 0.643 .9845812 1.009642

sp75\_1906\_ss | 1.17728 .3172669 0.61 0.545 .6942059 1.996509

sp75\_1916\_ss | 1.137521 .0767005 1.91 0.056 .9967013 1.298238

sp75\_203\_ss | 1.029953 .0191722 1.59 0.113 .9930529 1.068223

sp75\_204\_ss | 1.096876 .0332599 3.05 0.002 1.033587 1.16404

sp75\_205\_ss | 1.386193 .2721492 1.66 0.096 .9434276 2.036755

sp75\_207\_ss | 1.433611 .2923689 1.77 0.077 .9612544 2.138082

sp75\_208\_ss | 1.053876 .01982 2.79 0.005 1.015737 1.093447

sp75\_209\_ss | 1.068496 .0832313 0.85 0.395 .9172081 1.244738

sp75\_212\_ss | 1.203677 .0491802 4.54 0.000 1.111044 1.304033

sp75\_213\_ss | 1.031848 .0243854 1.33 0.185 .9851436 1.080767

sp75\_215\_ss | 1.209467 .131421 1.75 0.080 .977467 1.496531

sp75\_332\_ss | .845645 .0784413 -1.81 0.071 .7050686 1.01425

sp75\_334\_ss | 1.007663 .0496461 0.15 0.877 .9149092 1.109821

sp75\_337\_ss | .9791669 .040616 -0.51 0.612 .902711 1.062098

sp75\_340\_ss | 1.004517 .0177522 0.25 0.799 .9703186 1.03992

sp75\_343\_ss | .9273924 .1812427 -0.39 0.700 .6322823 1.360242

sp75\_373\_ss | .0000217 .0000183 -12.69 0.000 4.13e-06 .0001137

sp75\_388\_ss | 1.214705 .0842191 2.81 0.005 1.060363 1.391512

sp75\_389\_ss | 1.144131 .2983527 0.52 0.606 .6862928 1.9074

sp75\_500\_ss | .9147332 .0707079 -1.15 0.249 .7861357 1.064367

sp75\_500\_1\_ss | .7343697 .2889778 -0.78 0.433 .3395964 1.588058

sp75\_501\_ss | 1.210265 .1859395 1.24 0.214 .8955832 1.635517

sp75\_501\_2\_ss | 1.538721 .5022113 1.32 0.187 .8116011 2.917272

sp75\_502\_ss | 1.268491 .3293126 0.92 0.360 .7626181 2.109928

sp75\_503\_ss | 1.012811 .0069969 1.84 0.065 .99919 1.026618

sp75\_505\_ss | .5232738 .10989 -3.08 0.002 .3467149 .7897423

sp75\_506\_1\_ss | 1.068385 .2024338 0.35 0.727 .7369618 1.548854

sp75\_507\_ss | 1.023302 .083733 0.28 0.778 .871672 1.201308

sp75\_507\_1\_ss | 1.079613 .0369172 2.24 0.025 1.009628 1.154449

sp75\_509\_ss | 1.186018 .1212069 1.67 0.095 .9707367 1.449042

sp75\_512\_1\_ss | 2.134334 .3238304 5.00 0.000 1.585311 2.873495

sp75\_523\_ss | .9390756 .0325556 -1.81 0.070 .8773872 1.005101

sp75\_523\_3\_ss | .9649658 .014736 -2.34 0.020 .9365117 .9942845

sp75\_524\_ss | .9775004 .1200583 -0.19 0.853 .7683709 1.243549

sp75\_602\_ss | 1.027971 .0516276 0.55 0.583 .9316037 1.134307

sp75\_603\_ss | 1.134141 .0626133 2.28 0.023 1.017827 1.263746

sp75\_604\_ss | 1.011496 .0075707 1.53 0.127 .9967662 1.026444

sp75\_605\_ss | 1.006306 .0317485 0.20 0.842 .9459645 1.070496

sp75\_606\_ss | 1.018645 .0259077 0.73 0.468 .9691117 1.07071

sp75\_607\_ss | .9997334 .064166 -0.00 0.997 .8815592 1.133749

sp75\_703\_3\_ss | 1.008231 .0757941 0.11 0.913 .8701033 1.168287

sp75\_807\_ss | 1.009875 .0239681 0.41 0.679 .9639744 1.057961

sp75\_810\_ss | 1.159853 .1110734 1.55 0.121 .9613633 1.399324

sp75\_811\_ss | .7003559 .1011293 -2.47 0.014 .5277252 .929458

sp75\_812\_ss | .8952321 .1391712 -0.71 0.477 .6600995 1.214121

sp75\_816\_ss | 1.017231 .0874732 0.20 0.843 .8594555 1.20397

sp75\_817\_ss | 1.178657 .5861744 0.33 0.741 .4446976 3.123996

sp75\_906\_ss | .4703935 .108936 -3.26 0.001 .2987693 .740605

mine\_time | 1.001523 .0014273 1.07 0.286 .9987297 1.004325

onsite\_insp\_hours | .999515 .0001171 -4.14 0.000 .9992855 .9997446

|

state |

AL | .9757531 .0822669 -0.29 0.771 .8271307 1.151081

AR | 1.758205 .0832717 11.91 0.000 1.602342 1.92923

CO | .6896589 .0716798 -3.57 0.000 .5625545 .8454814

IL | 1.267978 .0818994 3.68 0.000 1.117203 1.439101

IN | 1.103924 .1198261 0.91 0.362 .8923702 1.365631

MD | 1.152236 .147145 1.11 0.267 .8970977 1.479937

MT | .508227 .0225818 -15.23 0.000 .4658399 .5544709

NM | .7077376 .0298669 -8.19 0.000 .6515551 .7687647

OH | 1.037502 .0931621 0.41 0.682 .8700728 1.23715

OK | 1.779391 .343252 2.99 0.003 1.219189 2.596999

PA | 1.044114 .1004492 0.45 0.654 .8646852 1.260776

TN | 1.586379 .1467258 4.99 0.000 1.323362 1.901672

UT | .4569436 .0679509 -5.27 0.000 .341415 .6115651

VA | .8634101 .0663347 -1.91 0.056 .742712 1.003723

WV | 1.099388 .0540737 1.93 0.054 .998354 1.210647

WY | .730912 .0366977 -6.24 0.000 .6624116 .806496

|

time |

2000 | .9836509 .0558687 -0.29 0.772 .8800251 1.099479

2000.25 | 1.105557 .0623941 1.78 0.075 .9897875 1.234867

2000.5 | 1.266373 .0656297 4.56 0.000 1.144058 1.401765

2000.75 | .9275065 .0483525 -1.44 0.149 .8374183 1.027286

2001 | .9229406 .0431384 -1.72 0.086 .8421481 1.011484

2001.5 | 1.160311 .0557792 3.09 0.002 1.055978 1.274952

2001.75 | .9327241 .0537903 -1.21 0.227 .8330369 1.04434

2002 | .9703882 .0517765 -0.56 0.573 .8740342 1.077364

2002.25 | .9578771 .0528182 -0.78 0.435 .8597532 1.0672

2002.5 | 1.05286 .0659568 0.82 0.411 .9312083 1.190404

2002.75 | .9336773 .0557804 -1.15 0.251 .8305078 1.049663

2003 | .8100602 .0466531 -3.66 0.000 .7235937 .9068591

2003.25 | .8772649 .0518077 -2.22 0.027 .7813799 .9849162

2003.5 | .981283 .0578574 -0.32 0.749 .8741916 1.101493

2003.75 | .7583071 .0407856 -5.14 0.000 .6824379 .8426109

2004 | .7765261 .045868 -4.28 0.000 .6916351 .8718365

2004.25 | .831788 .0473563 -3.23 0.001 .7439625 .9299813

2004.5 | .9081162 .0526505 -1.66 0.096 .8105703 1.017401

2004.75 | .7305078 .0444873 -5.16 0.000 .6483171 .8231183

2005 | .7100284 .0418602 -5.81 0.000 .6325466 .7970011

2005.25 | .7897723 .0471929 -3.95 0.000 .702487 .887903

2005.5 | .8469756 .0496103 -2.84 0.005 .7551149 .9500112

2005.75 | .729448 .0460805 -4.99 0.000 .6444992 .8255935

2006 | .7440162 .0477439 -4.61 0.000 .6560853 .8437319

2006.25 | .7043953 .0447447 -5.52 0.000 .621937 .7977863

2006.5 | .8585001 .0624237 -2.10 0.036 .7444704 .9899957

2006.75 | .667255 .0470324 -5.74 0.000 .5811573 .766108

2007 | .6915559 .0492105 -5.18 0.000 .601529 .7950566

2007.25 | .720486 .059463 -3.97 0.000 .6128785 .8469868

2007.5 | .8113077 .0577224 -2.94 0.003 .7057077 .9327094

2007.75 | .7113794 .0491455 -4.93 0.000 .6212927 .8145286

2008 | .6751596 .0428496 -6.19 0.000 .5961893 .7645902

2008.25 | .6485255 .0448135 -6.27 0.000 .5663809 .742584

2008.5 | .7803622 .0584685 -3.31 0.001 .6737831 .9037999

2008.75 | .6046738 .0463672 -6.56 0.000 .5202952 .7027365

2009 | .6202449 .0429169 -6.90 0.000 .5415838 .710331

2009.25 | .5770441 .043598 -7.28 0.000 .4976193 .6691458

2009.5 | .651008 .0487673 -5.73 0.000 .5621115 .7539634

2009.75 | .5664204 .0406285 -7.92 0.000 .492134 .6519201

2010 | .5823645 .0544167 -5.79 0.000 .4849062 .6994103

2010.25 | .5750537 .0486432 -6.54 0.000 .4871987 .6787514

2010.5 | .6602935 .0443096 -6.19 0.000 .5789171 .7531086

2010.75 | .5364369 .0413624 -8.08 0.000 .4611965 .6239521

2011 | .5451502 .0398625 -8.30 0.000 .4723615 .6291552

2011.25 | .5150452 .0385064 -8.87 0.000 .4448432 .5963261

2011.5 | .6002803 .0424455 -7.22 0.000 .522596 .6895123

2011.75 | .4628124 .0339456 -10.50 0.000 .4008413 .5343645

2012 | .5073302 .0379858 -9.06 0.000 .4380845 .5875213

2012.25 | .4520262 .034055 -10.54 0.000 .3899737 .5239525

2012.5 | .5109775 .0407224 -8.42 0.000 .4370843 .597363

2012.75 | .4156293 .0347962 -10.49 0.000 .3527315 .4897429

2013 | .4541245 .0376462 -9.52 0.000 .3860216 .5342422

2013.25 | .4509967 .0407456 -8.81 0.000 .3778078 .5383637

2013.5 | .517289 .0457006 -7.46 0.000 .4350434 .6150831

2013.75 | .3979277 .0363507 -10.09 0.000 .3326954 .4759501

2014 | .4492006 .043049 -8.35 0.000 .3722766 .5420195

2014.25 | .47007 .0466701 -7.60 0.000 .3869479 .571048

2014.5 | .505012 .0444005 -7.77 0.000 .4250738 .5999832

2014.75 | .4702037 .0434796 -8.16 0.000 .3922615 .563633

2015 | .442506 .0425127 -8.49 0.000 .3665574 .5341907

2015.25 | .4047198 .0379147 -9.66 0.000 .3368315 .486291

2015.5 | .5269239 .0472291 -7.15 0.000 .4420315 .62812

2015.75 | .4118191 .043262 -8.45 0.000 .3351868 .5059716

2016 | .4513821 .0472411 -7.60 0.000 .3676703 .5541535

|

\_cons | .0000878 4.79e-06 -171.20 0.000 .0000789 .0000977

ln(hours) | 1 (exposure)

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

.

. quietly poisson dv `count\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

. est store pois

. estat gof

Deviance goodness-of-fit = 50302.3

Prob > chi2(28165) = 0.0000

Pearson goodness-of-fit = 1195827

Prob > chi2(28165) = 0.0000

.

. pause "next"

.

. // negative binomial model

. glm dv `ss\_vars' `covariates' ib(freq).state ib(freq).time, family(nbinomial) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -47659.793

Iteration 1: log pseudolikelihood = -47055.352

Iteration 2: log pseudolikelihood = -47050.034

Iteration 3: log pseudolikelihood = -47049.975

Iteration 4: log pseudolikelihood = -47049.961

Iteration 5: log pseudolikelihood = -47049.958

Iteration 6: log pseudolikelihood = -47049.958

Iteration 7: log pseudolikelihood = -47049.958

Iteration 8: log pseudolikelihood = -47049.958

Generalized linear models No. of obs = 28,337

Optimization : ML Residual df = 28,177

Scale parameter = 1

Deviance = 22225.34638 (1/df) Deviance = .7887762

Pearson = 562644.4497 (1/df) Pearson = 19.96822

Variance function: V(u) = u+(1)u^2 [Neg. Binomial]

Link function : g(u) = ln(u) [Log]

AIC = 3.332036

Log pseudolikelihood = -47049.95764 BIC = -266643.1

(Std. Err. adjusted for 1,544 clusters in mineid)

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

| Robust

dv | IRR Std. Err. z P>|z| [95% Conf. Interval]

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

sp48\_11\_ss | 1.110724 .0789414 1.48 0.140 .9662945 1.276741

sp48\_25\_ss | .8489514 .0742309 -1.87 0.061 .7152456 1.007652

sp48\_26\_ss | 1.229739 .1293725 1.97 0.049 1.000608 1.51134

sp48\_27\_ss | .9595699 .0890491 -0.44 0.657 .7999894 1.150983

sp48\_28\_ss | .870808 .1123383 -1.07 0.284 .6762595 1.121325

sp48\_4\_ss | .4835255 .0737026 -4.77 0.000 .3586516 .6518775

sp48\_5\_ss | 1.50968 .2780015 2.24 0.025 1.0523 2.165859

sp48\_6\_ss | 1.114398 .114977 1.05 0.294 .910371 1.364151

sp48\_7\_ss | 1.150155 .0859727 1.87 0.061 .993414 1.331627

sp48\_8\_ss | 1.213248 .2168435 1.08 0.279 .8547018 1.722204

sp75\_100\_ss | 1.153699 .319013 0.52 0.605 .6710025 1.983632

sp75\_1002\_ss | .9209808 .0559504 -1.35 0.175 .817597 1.037437

sp75\_1003\_ss | .8454791 .0505143 -2.81 0.005 .7520501 .9505151

sp75\_1003\_2\_ss | .9238786 .0816693 -0.90 0.370 .776909 1.098651

sp75\_1311\_ss | .8208993 .1221157 -1.33 0.185 .6132909 1.098786

sp75\_1315\_ss | 1.284753 .5867105 0.55 0.583 .5249285 3.144412

sp75\_1316\_ss | .790888 .2087465 -0.89 0.374 .471465 1.326724

sp75\_1318\_ss | 3.372732 .1992179 20.58 0.000 3.004026 3.786691

sp75\_1322\_ss | 4.364695 .4651693 13.83 0.000 3.541904 5.378623

sp75\_1400\_ss | 1.134992 .0910444 1.58 0.114 .9698682 1.328228

sp75\_1400\_1\_ss | .6643465 .3062131 -0.89 0.375 .269188 1.639584

sp75\_1403\_10\_ss | 1.092206 .0347118 2.78 0.006 1.026248 1.162404

sp75\_1403\_5\_ss | .9419492 .0220955 -2.55 0.011 .8996233 .9862666

sp75\_1403\_6\_ss | .9795835 .0154171 -1.31 0.190 .9498278 1.010271

sp75\_1403\_7\_ss | 1.021307 .0705046 0.31 0.760 .8920611 1.169278

sp75\_1403\_8\_ss | .9420051 .018266 -3.08 0.002 .9068761 .9784948

sp75\_1404\_ss | 1.766414 .8971272 1.12 0.263 .6528058 4.779706

sp75\_1404\_1\_ss | .8108906 .114051 -1.49 0.136 .6155191 1.068275

sp75\_1405\_ss | .9453485 .0199985 -2.66 0.008 .9069536 .9853687

sp75\_1405\_1\_ss | 1.638297 1.559763 0.52 0.604 .25351 10.58743

sp75\_153\_ss | 1.007454 .1176304 0.06 0.949 .8013806 1.266518

sp75\_155\_ss | .6118327 .0777688 -3.87 0.000 .476912 .7849231

sp75\_156\_ss | 1.076852 .2014773 0.40 0.692 .746273 1.55387

sp75\_1719\_2\_ss | .9338303 .5234386 -0.12 0.903 .3112756 2.801501

sp75\_1719\_4\_ss | 1.022976 .1235441 0.19 0.851 .807358 1.296177

sp75\_1720\_ss | 1.130346 .0434136 3.19 0.001 1.048381 1.21872

sp75\_1725\_ss | 1.016799 .0089475 1.89 0.058 .9994126 1.034488

sp75\_1906\_ss | 1.219561 .3358675 0.72 0.471 .7108571 2.092304

sp75\_1916\_ss | 1.14069 .1076383 1.39 0.163 .9480827 1.372426

sp75\_203\_ss | 1.018133 .0229797 0.80 0.426 .9740753 1.064184

sp75\_204\_ss | 1.119127 .0407691 3.09 0.002 1.042007 1.201954

sp75\_205\_ss | 1.442579 .2309391 2.29 0.022 1.054078 1.974269

sp75\_207\_ss | 4.420247 10.38255 0.63 0.527 .0442682 441.3683

sp75\_208\_ss | 1.074106 .0270675 2.84 0.005 1.022344 1.12849

sp75\_209\_ss | 1.089745 .0807995 1.16 0.246 .9423502 1.260194

sp75\_212\_ss | 1.120887 .0509895 2.51 0.012 1.025275 1.225415

sp75\_213\_ss | 1.006946 .0534078 0.13 0.896 .9075254 1.117258

sp75\_215\_ss | .8552725 .2675871 -0.50 0.617 .463224 1.57913

sp75\_332\_ss | .7687678 .0838796 -2.41 0.016 .6207566 .9520703

sp75\_334\_ss | .9796056 .0509763 -0.40 0.692 .8846201 1.08479

sp75\_337\_ss | .9746597 .0395731 -0.63 0.527 .9001038 1.055391

sp75\_340\_ss | 1.024204 .0316148 0.77 0.438 .9640777 1.088081

sp75\_343\_ss | .9282244 .1235193 -0.56 0.576 .7151269 1.204822

sp75\_373\_ss | .0000316 .0000275 -11.91 0.000 5.74e-06 .0001737

sp75\_388\_ss | 1.252902 .1108223 2.55 0.011 1.05348 1.490075

sp75\_389\_ss | 1.166153 .3854502 0.47 0.642 .6101081 2.228971

sp75\_500\_ss | .958461 .0926189 -0.44 0.661 .7930861 1.15832

sp75\_500\_1\_ss | .750979 .3085477 -0.70 0.486 .3356623 1.680169

sp75\_501\_ss | 1.008508 .1719762 0.05 0.960 .7219847 1.40874

sp75\_501\_2\_ss | 1.309775 .4010045 0.88 0.378 .7187708 2.386729

sp75\_502\_ss | 1.13886 .2392474 0.62 0.536 .7544893 1.719046

sp75\_503\_ss | 1.034345 .0160947 2.17 0.030 1.003276 1.066376

sp75\_505\_ss | .6410076 .1550434 -1.84 0.066 .3990058 1.029786

sp75\_506\_1\_ss | 1.09625 .2483957 0.41 0.685 .7031348 1.709152

sp75\_507\_ss | .9718838 .0923084 -0.30 0.764 .8068044 1.17074

sp75\_507\_1\_ss | 1.034028 .0506089 0.68 0.494 .9394457 1.138133

sp75\_509\_ss | 1.461647 .2103418 2.64 0.008 1.102423 1.937924

sp75\_512\_1\_ss | 1.372749 .3388485 1.28 0.199 .8462161 2.226903

sp75\_523\_ss | .9253371 .0352958 -2.03 0.042 .8586812 .9971671

sp75\_523\_3\_ss | .9918492 .0203395 -0.40 0.690 .952775 1.032526

sp75\_524\_ss | .9665908 .16641 -0.20 0.844 .6897604 1.354525

sp75\_602\_ss | 1.123253 .1716336 0.76 0.447 .832556 1.51545

sp75\_603\_ss | 1.108154 .0719193 1.58 0.114 .9757913 1.258471

sp75\_604\_ss | 1.014798 .0096504 1.54 0.122 .9960591 1.03389

sp75\_605\_ss | 1.083666 .0539485 1.61 0.107 .9829238 1.194734

sp75\_606\_ss | 1.016352 .0222207 0.74 0.458 .9737203 1.060851

sp75\_607\_ss | .9681923 .0665369 -0.47 0.638 .8461838 1.107793

sp75\_703\_3\_ss | .9879801 .0875312 -0.14 0.891 .8304913 1.175334

sp75\_807\_ss | 1.007253 .0304774 0.24 0.811 .9492552 1.068794

sp75\_810\_ss | 1.129295 .1326671 1.04 0.301 .8970362 1.421689

sp75\_811\_ss | .7083563 .1232937 -1.98 0.048 .5036108 .9963422

sp75\_812\_ss | .9394485 .1790916 -0.33 0.743 .6465533 1.365028

sp75\_816\_ss | .9636674 .0950678 -0.38 0.708 .7942448 1.16923

sp75\_817\_ss | 1.725569 1.156316 0.81 0.416 .4640197 6.416945

sp75\_906\_ss | .3994762 .1526324 -2.40 0.016 .1889133 .8447324

mine\_time | 1.002207 .0013197 1.67 0.094 .9996236 1.004797

onsite\_insp\_hours | .9994504 .0001262 -4.35 0.000 .9992032 .9996977

|

state |

AL | 1.044498 .1089697 0.42 0.676 .8513421 1.281478

AR | 1.619952 .0709702 11.01 0.000 1.486658 1.765198

CO | .8424996 .107686 -1.34 0.180 .6558 1.08235

IL | 1.347559 .0809385 4.97 0.000 1.197905 1.515911

IN | 1.11228 .0911762 1.30 0.194 .9471941 1.306138

MD | 1.319372 .2459678 1.49 0.137 .9155448 1.901319

MT | .5618043 .0212849 -15.22 0.000 .521598 .6051098

NM | .77065 .0302392 -6.64 0.000 .7136039 .8322564

OH | 1.048209 .0950698 0.52 0.604 .8774977 1.25213

OK | 1.887372 .3351839 3.58 0.000 1.332571 2.67316

PA | 1.357475 .0959511 4.32 0.000 1.18186 1.559186

TN | 1.791885 .1672124 6.25 0.000 1.492378 2.1515

UT | .5330345 .0949995 -3.53 0.000 .3758814 .755892

VA | .9529698 .0479462 -0.96 0.338 .8634817 1.051732

WV | 1.320352 .0586887 6.25 0.000 1.210193 1.440539

WY | .8316963 .048202 -3.18 0.001 .7423903 .9317453

|

time |

2000 | .9099654 .0794304 -1.08 0.280 .7668739 1.079756

2000.25 | 1.075306 .0938309 0.83 0.405 .9062674 1.275874

2000.5 | 1.189728 .0982931 2.10 0.035 1.011866 1.398853

2000.75 | .7771898 .0670677 -2.92 0.003 .6562549 .9204108

2001 | .8004723 .0652535 -2.73 0.006 .6822718 .9391505

2001.5 | 1.064183 .0750661 0.88 0.378 .9267734 1.221965

2001.75 | .8596894 .0620829 -2.09 0.036 .7462281 .9904021

2002 | .9717595 .110787 -0.25 0.802 .7771702 1.21507

2002.25 | .9194247 .0706346 -1.09 0.274 .7909022 1.068832

2002.5 | .9863056 .0730425 -0.19 0.852 .8530496 1.140378

2002.75 | .7779152 .0693419 -2.82 0.005 .6532174 .9264176

2003 | .7660956 .0713822 -2.86 0.004 .6382207 .9195916

2003.25 | .8445157 .0882642 -1.62 0.106 .6880893 1.036503

2003.5 | .9444143 .0844359 -0.64 0.522 .7926114 1.125291

2003.75 | .6504898 .0582824 -4.80 0.000 .5457261 .775365

2004 | .7022693 .0646474 -3.84 0.000 .5863357 .841126

2004.25 | .7458761 .0689294 -3.17 0.002 .6223056 .8939838

2004.5 | .7868518 .0695091 -2.71 0.007 .6617582 .9355921

2004.75 | .6317831 .0524195 -5.53 0.000 .5369616 .743349

2005 | .6490564 .0586684 -4.78 0.000 .5436784 .7748592

2005.25 | .6904825 .0607158 -4.21 0.000 .5811718 .8203532

2005.5 | .7452228 .0623653 -3.51 0.000 .6324872 .8780525

2005.75 | .6096795 .0564305 -5.35 0.000 .5085297 .7309486

2006 | .6923919 .0664544 -3.83 0.000 .5736611 .8356966

2006.25 | .648616 .0605244 -4.64 0.000 .540206 .7787821

2006.5 | .7335036 .068477 -3.32 0.001 .610854 .8807793

2006.75 | .6004578 .0579502 -5.29 0.000 .4969733 .7254909

2007 | .5848667 .0556735 -5.63 0.000 .4853232 .7048275

2007.25 | .626204 .0615257 -4.76 0.000 .516516 .7591855

2007.5 | .7489266 .0787129 -2.75 0.006 .6095048 .9202406

2007.75 | .5978049 .0577472 -5.33 0.000 .4946914 .7224113

2008 | .5789646 .0537577 -5.89 0.000 .4826326 .6945241

2008.25 | .5812358 .0562562 -5.61 0.000 .4808026 .702648

2008.5 | .610207 .0601037 -5.01 0.000 .5030789 .7401474

2008.75 | .495915 .0487723 -7.13 0.000 .4089716 .6013418

2009 | .5211282 .0500625 -6.78 0.000 .4316914 .6290943

2009.25 | .5332183 .0549662 -6.10 0.000 .4356723 .6526047

2009.5 | .5758795 .0583503 -5.45 0.000 .472155 .7023906

2009.75 | .4913834 .0491134 -7.11 0.000 .4039647 .5977195

2010 | .4955366 .0494533 -7.04 0.000 .4075004 .6025923

2010.25 | .4929616 .0559868 -6.23 0.000 .3945845 .6158658

2010.5 | .6263547 .0602993 -4.86 0.000 .5186506 .7564247

2010.75 | .4847692 .0501118 -7.00 0.000 .3958624 .5936437

2011 | .4898614 .0491998 -7.11 0.000 .4023295 .596437

2011.25 | .4680698 .0457532 -7.77 0.000 .386462 .5669105

2011.5 | .531428 .0505401 -6.65 0.000 .4410553 .6403181

2011.75 | .415721 .0404473 -9.02 0.000 .3435461 .5030591

2012 | .4637957 .0472446 -7.54 0.000 .379856 .5662843

2012.25 | .3992574 .0392083 -9.35 0.000 .3293536 .4839981

2012.5 | .4652107 .0497691 -7.15 0.000 .377213 .5737369

2012.75 | .3535666 .0381822 -9.63 0.000 .2861204 .4369117

2013 | .4156658 .0454353 -8.03 0.000 .3355071 .5149759

2013.25 | .3884293 .0406956 -9.03 0.000 .3163237 .4769711

2013.5 | .4595883 .0490084 -7.29 0.000 .3729071 .5664182

2013.75 | .341185 .0372321 -9.85 0.000 .2754875 .4225499

2014 | .3837232 .0405794 -9.06 0.000 .3118903 .4721002

2014.25 | .40057 .0439459 -8.34 0.000 .3230684 .4966636

2014.5 | .4142539 .0448788 -8.13 0.000 .3350044 .5122509

2014.75 | .4253918 .0472387 -7.70 0.000 .3421884 .5288261

2015 | .3755475 .0409366 -8.98 0.000 .303305 .4649972

2015.25 | .3527483 .0378035 -9.72 0.000 .285919 .4351979

2015.5 | .4554016 .0491928 -7.28 0.000 .3685082 .5627843

2015.75 | .3696629 .0432751 -8.50 0.000 .2938724 .4649999

2016 | .384062 .046595 -7.89 0.000 .3027836 .4871586

|

\_cons | .0000905 6.81e-06 -123.74 0.000 .0000781 .0001049

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

. eststo: nbreg dv `ss\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -106587.15

Iteration 1: log pseudolikelihood = -52065.639

Iteration 2: log pseudolikelihood = -49576.803

Iteration 3: log pseudolikelihood = -49186.563

Iteration 4: log pseudolikelihood = -49166.125

Iteration 5: log pseudolikelihood = -49165.95

Iteration 6: log pseudolikelihood = -49165.95

Iteration 7: log pseudolikelihood = -49165.95

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -48337.833

Iteration 1: log pseudolikelihood = -47621.385

Iteration 2: log pseudolikelihood = -47591.372

Iteration 3: log pseudolikelihood = -47591.309

Iteration 4: log pseudolikelihood = -47591.309

Fitting full model:

Iteration 0: log pseudolikelihood = -46116.724

Iteration 1: log pseudolikelihood = -45863.97

Iteration 2: log pseudolikelihood = -45858.087

Iteration 3: log pseudolikelihood = -45858.083

Negative binomial regression Number of obs = 28,337

Wald chi2(159) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -45858.083 Pseudo R2 = 0.0364

(Std. Err. adjusted for 1,544 clusters in mineid)

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

| Robust

dv | IRR Std. Err. z P>|z| [95% Conf. Interval]

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

sp48\_11\_ss | 1.085819 .0715958 1.25 0.212 .9541827 1.235615

sp48\_25\_ss | .8462388 .0683502 -2.07 0.039 .7223405 .9913886

sp48\_26\_ss | 1.211762 .1033863 2.25 0.024 1.025165 1.432323

sp48\_27\_ss | .9869051 .0816519 -0.16 0.873 .8391718 1.160646

sp48\_28\_ss | .8691986 .0942819 -1.29 0.196 .7027313 1.0751

sp48\_4\_ss | .504913 .0699872 -4.93 0.000 .384795 .6625271

sp48\_5\_ss | 1.3716 .2046325 2.12 0.034 1.023846 1.83747

sp48\_6\_ss | 1.126982 .1131354 1.19 0.234 .9256924 1.372042

sp48\_7\_ss | 1.11406 .0737115 1.63 0.103 .9785639 1.268318

sp48\_8\_ss | 1.077622 .1528526 0.53 0.598 .8160742 1.422993

sp75\_100\_ss | 1.046109 .2711164 0.17 0.862 .6294687 1.738521

sp75\_1002\_ss | .9454515 .0492638 -1.08 0.282 .853663 1.047109

sp75\_1003\_ss | .8583484 .0463406 -2.83 0.005 .7721628 .9541537

sp75\_1003\_2\_ss | .9351817 .0780914 -0.80 0.422 .793994 1.101475

sp75\_1311\_ss | .8522307 .1129279 -1.21 0.228 .657303 1.104966

sp75\_1315\_ss | 1.518183 .6675808 0.95 0.342 .641255 3.594326

sp75\_1316\_ss | .8865939 .2016276 -0.53 0.597 .5677355 1.384533

sp75\_1318\_ss | 3.423139 .180298 23.36 0.000 3.087389 3.795401

sp75\_1322\_ss | 4.400182 .4519349 14.43 0.000 3.597869 5.38141

sp75\_1400\_ss | 1.106448 .0672222 1.66 0.096 .9822371 1.246366

sp75\_1400\_1\_ss | .7043898 .3143902 -0.79 0.432 .2936949 1.689389

sp75\_1403\_10\_ss | 1.084119 .0309779 2.83 0.005 1.025072 1.146566

sp75\_1403\_5\_ss | .945946 .0206639 -2.54 0.011 .9063003 .9873259

sp75\_1403\_6\_ss | .9845478 .0143914 -1.07 0.287 .9567413 1.013162

sp75\_1403\_7\_ss | 1.050011 .069842 0.73 0.463 .9216703 1.196222

sp75\_1403\_8\_ss | .9440395 .0166148 -3.27 0.001 .9120303 .9771721

sp75\_1404\_ss | 1.630304 .8494806 0.94 0.348 .5871439 4.526815

sp75\_1404\_1\_ss | .8846941 .1118084 -0.97 0.332 .6905857 1.133362

sp75\_1405\_ss | .9524808 .0189991 -2.44 0.015 .9159617 .9904559

sp75\_1405\_1\_ss | 1.227576 1.282399 0.20 0.844 .1584282 9.511831

sp75\_153\_ss | 1.059277 .1064566 0.57 0.567 .8698903 1.289896

sp75\_155\_ss | .6197886 .0713127 -4.16 0.000 .4946575 .7765735

sp75\_156\_ss | 1.108883 .2077304 0.55 0.581 .7681176 1.600825

sp75\_1719\_2\_ss | 1.00384 .4485582 0.01 0.993 .4181304 2.410002

sp75\_1719\_4\_ss | 1.040233 .1064273 0.39 0.700 .851223 1.271212

sp75\_1720\_ss | 1.129801 .0414801 3.32 0.001 1.051358 1.214097

sp75\_1725\_ss | 1.010495 .0078302 1.35 0.178 .9952636 1.025959

sp75\_1906\_ss | 1.218993 .3361448 0.72 0.473 .7100307 2.092788

sp75\_1916\_ss | 1.135527 .0932222 1.55 0.122 .9667565 1.333759

sp75\_203\_ss | 1.02006 .0207796 0.98 0.330 .9801353 1.061612

sp75\_204\_ss | 1.111905 .0363598 3.24 0.001 1.042877 1.185502

sp75\_205\_ss | 1.468684 .2391895 2.36 0.018 1.067338 2.020946

sp75\_207\_ss | 1.860525 1.118059 1.03 0.302 .5729502 6.041632

sp75\_208\_ss | 1.06598 .0223298 3.05 0.002 1.023101 1.110657

sp75\_209\_ss | 1.085608 .0766916 1.16 0.245 .9452368 1.246824

sp75\_212\_ss | 1.141986 .0488214 3.11 0.002 1.050198 1.241798

sp75\_213\_ss | 1.018208 .0379176 0.48 0.628 .9465383 1.095305

sp75\_215\_ss | .9791065 .231143 -0.09 0.929 .6164277 1.55517

sp75\_332\_ss | .7965974 .0774684 -2.34 0.019 .6583553 .9638678

sp75\_334\_ss | .9979056 .0493296 -0.04 0.966 .9057574 1.099429

sp75\_337\_ss | .9791656 .0379049 -0.54 0.587 .9076218 1.056349

sp75\_340\_ss | 1.010637 .0223315 0.48 0.632 .9678022 1.055367

sp75\_343\_ss | .9399095 .1302102 -0.45 0.655 .7164156 1.233125

sp75\_373\_ss | 7.80e-07 6.72e-07 -16.33 0.000 1.44e-07 4.22e-06

sp75\_388\_ss | 1.206763 .0925839 2.45 0.014 1.038286 1.402578

sp75\_389\_ss | 1.16016 .3223471 0.53 0.593 .6729987 1.999962

sp75\_500\_ss | .9581376 .0871869 -0.47 0.638 .8016259 1.145207

sp75\_500\_1\_ss | .7511205 .3142609 -0.68 0.494 .3308079 1.705467

sp75\_501\_ss | 1.084289 .1703046 0.52 0.606 .7969852 1.475161

sp75\_501\_2\_ss | 1.387741 .4229835 1.08 0.282 .7635933 2.522056

sp75\_502\_ss | 1.147309 .2507992 0.63 0.530 .7474969 1.760966

sp75\_503\_ss | 1.026203 .0112246 2.36 0.018 1.004438 1.048441

sp75\_505\_ss | .6034523 .1552172 -1.96 0.050 .3645028 .999045

sp75\_506\_1\_ss | 1.119478 .254414 0.50 0.619 .7170846 1.747675

sp75\_507\_ss | .9959433 .0900197 -0.04 0.964 .8342528 1.188972

sp75\_507\_1\_ss | 1.05194 .0462761 1.15 0.250 .9650404 1.146664

sp75\_509\_ss | 1.348919 .1479793 2.73 0.006 1.087946 1.672494

sp75\_512\_1\_ss | 1.609637 .3401944 2.25 0.024 1.063721 2.435724

sp75\_523\_ss | .9295974 .0322999 -2.10 0.036 .8683983 .9951096

sp75\_523\_3\_ss | .9803193 .0172972 -1.13 0.260 .9469968 1.014814

sp75\_524\_ss | .9786103 .1687139 -0.13 0.900 .6980095 1.372013

sp75\_602\_ss | 1.071882 .1022541 0.73 0.467 .889089 1.292257

sp75\_603\_ss | 1.133929 .0695342 2.05 0.040 1.005516 1.278742

sp75\_604\_ss | 1.015801 .0085954 1.85 0.064 .9990936 1.032788

sp75\_605\_ss | 1.054123 .0428815 1.30 0.195 .9733401 1.141611

sp75\_606\_ss | 1.020383 .0223981 0.92 0.358 .9774146 1.065241

sp75\_607\_ss | .9846805 .0650807 -0.23 0.815 .8650411 1.120867

sp75\_703\_3\_ss | 1.010795 .074406 0.15 0.884 .8749938 1.167673

sp75\_807\_ss | 1.008207 .02811 0.29 0.769 .9545912 1.064835

sp75\_810\_ss | 1.136526 .1202561 1.21 0.226 .9236631 1.398445

sp75\_811\_ss | .717108 .1137751 -2.10 0.036 .5254537 .9786665

sp75\_812\_ss | .9614461 .1766858 -0.21 0.831 .6706545 1.378323

sp75\_816\_ss | .9753057 .0892645 -0.27 0.785 .8151451 1.166935

sp75\_817\_ss | 1.664845 1.1785 0.72 0.471 .415748 6.666797

sp75\_906\_ss | .4461879 .1236263 -2.91 0.004 .2592229 .7680017

mine\_time | 1.001894 .0012892 1.47 0.141 .9993705 1.004424

onsite\_insp\_hours | .9994798 .0001218 -4.27 0.000 .999241 .9997186

|

state |

AL | 1.034413 .0985765 0.36 0.723 .858177 1.246841

AR | 1.706993 .0727551 12.55 0.000 1.570189 1.855716

CO | .7851974 .0950125 -2.00 0.046 .6194119 .9953554

IL | 1.315592 .0742097 4.86 0.000 1.177895 1.469385

IN | 1.108749 .0963697 1.19 0.235 .9350802 1.314672

MD | 1.257207 .1954132 1.47 0.141 .9270452 1.704955

MT | .5478526 .0210365 -15.67 0.000 .5081351 .5906745

NM | .7645569 .0292369 -7.02 0.000 .7093484 .8240624

OH | 1.060554 .0926868 0.67 0.501 .8935986 1.258703

OK | 1.860655 .3335885 3.46 0.001 1.309356 2.644076

PA | 1.304513 .0986368 3.52 0.000 1.124831 1.512897

TN | 1.727928 .1575715 6.00 0.000 1.44512 2.066083

UT | .5030505 .0829449 -4.17 0.000 .3641348 .6949617

VA | .9374411 .0496178 -1.22 0.222 .8450662 1.039913

WV | 1.257174 .0552785 5.20 0.000 1.153367 1.370323

WY | .807158 .0423296 -4.09 0.000 .7283148 .8945362

|

time |

2000 | .9455548 .0669498 -0.79 0.429 .8230335 1.086315

2000.25 | 1.093319 .0777925 1.25 0.210 .9510028 1.256933

2000.5 | 1.213142 .0801301 2.93 0.003 1.065831 1.380813

2000.75 | .834106 .0599741 -2.52 0.012 .724466 .960339

2001 | .8411579 .0570986 -2.55 0.011 .7363718 .960855

2001.5 | 1.091014 .0660475 1.44 0.150 .968948 1.228458

2001.75 | .8844491 .0555503 -1.96 0.051 .7820072 1.000311

2002 | .9600063 .0761535 -0.51 0.607 .8217726 1.121493

2002.25 | .9345928 .0618155 -1.02 0.306 .8209611 1.063953

2002.5 | 1.013162 .0671934 0.20 0.844 .8896656 1.153801

2002.75 | .8310743 .0609993 -2.52 0.012 .7197195 .959658

2003 | .7838525 .0596563 -3.20 0.001 .6752309 .9099475

2003.25 | .8406528 .0680408 -2.14 0.032 .7173351 .9851702

2003.5 | .9581394 .0688867 -0.59 0.552 .8322052 1.103131

2003.75 | .6869956 .0498044 -5.18 0.000 .5959986 .791886

2004 | .7341952 .0564047 -4.02 0.000 .6315647 .8535035

2004.25 | .7825309 .0596361 -3.22 0.001 .6739567 .9085963

2004.5 | .8390099 .0613125 -2.40 0.016 .727049 .9682121

2004.75 | .6758864 .0467157 -5.67 0.000 .5902564 .773939

2005 | .6717945 .0492856 -5.42 0.000 .5818202 .7756827

2005.25 | .7260946 .0535671 -4.34 0.000 .6283425 .8390542

2005.5 | .7842648 .055974 -3.40 0.001 .6818854 .9020158

2005.75 | .6529342 .051603 -5.39 0.000 .5592382 .7623282

2006 | .7091462 .0566454 -4.30 0.000 .6063777 .8293319

2006.25 | .6800996 .0538855 -4.87 0.000 .582278 .7943551

2006.5 | .782327 .062842 -3.06 0.002 .6683653 .9157202

2006.75 | .6267187 .0512722 -5.71 0.000 .5338698 .7357155

2007 | .6273617 .0513424 -5.70 0.000 .5343882 .7365109

2007.25 | .6601271 .0574153 -4.78 0.000 .5566643 .7828197

2007.5 | .7779964 .0670906 -2.91 0.004 .6570133 .9212575

2007.75 | .6365262 .0521859 -5.51 0.000 .5420386 .7474849

2008 | .6098378 .047514 -6.35 0.000 .523474 .71045

2008.25 | .6029641 .0498632 -6.12 0.000 .5127431 .7090603

2008.5 | .6611414 .0572119 -4.78 0.000 .5580017 .7833451

2008.75 | .5334408 .045649 -7.34 0.000 .451071 .6308521

2009 | .548267 .044335 -7.43 0.000 .4679083 .6424266

2009.25 | .5434329 .0472213 -7.02 0.000 .458333 .6443334

2009.5 | .600788 .051757 -5.91 0.000 .507448 .711297

2009.75 | .51568 .0440464 -7.75 0.000 .4361899 .6096562

2010 | .521441 .0463404 -7.33 0.000 .4380856 .6206567

2010.25 | .5201879 .0519449 -6.54 0.000 .4277213 .6326442

2010.5 | .641838 .0526396 -5.41 0.000 .5465313 .7537647

2010.75 | .5028758 .0441271 -7.83 0.000 .423417 .5972459

2011 | .5082338 .0433863 -7.93 0.000 .4299314 .6007974

2011.25 | .4819115 .0403638 -8.72 0.000 .4089522 .567887

2011.5 | .558705 .0452066 -7.19 0.000 .4767702 .6547205

2011.75 | .4312077 .0359945 -10.08 0.000 .3661284 .5078547

2012 | .478267 .0413351 -8.53 0.000 .4037418 .5665486

2012.25 | .4142504 .0347816 -10.50 0.000 .3513934 .4883511

2012.5 | .4771036 .0435443 -8.11 0.000 .3989562 .5705585

2012.75 | .3737341 .0353389 -10.41 0.000 .3105105 .4498309

2013 | .4250024 .0389474 -9.34 0.000 .3551295 .5086229

2013.25 | .4064847 .0374039 -9.78 0.000 .3394051 .4868218

2013.5 | .4721503 .0442126 -8.01 0.000 .3929822 .5672671

2013.75 | .3584058 .034675 -10.61 0.000 .2964989 .4332384

2014 | .4020155 .0382543 -9.58 0.000 .3336151 .4844399

2014.25 | .4186084 .040995 -8.89 0.000 .3455003 .5071862

2014.5 | .4399416 .0419707 -8.61 0.000 .3649135 .5303958

2014.75 | .4352239 .0422019 -8.58 0.000 .3598944 .5263206

2015 | .3944612 .0386144 -9.50 0.000 .3255958 .477892

2015.25 | .3682389 .0353325 -10.41 0.000 .3051104 .4444289

2015.5 | .4801418 .0463372 -7.60 0.000 .3973949 .5801186

2015.75 | .3819927 .0405223 -9.07 0.000 .3102834 .4702746

2016 | .406123 .0448724 -8.16 0.000 .3270458 .5043206

|

\_cons | .0000885 5.53e-06 -149.52 0.000 .0000783 .0001001

ln(hours) | 1 (exposure)

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

/lnalpha | -1.03222 .067065 -1.163665 -.9007749

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

alpha | .3562153 .0238896 .3123394 .4062547

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

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.C.SSV.1.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.Q.SP.C.SSV.1.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.Q.SP.C.SSV.1.csv)

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(11) = -6226.54

(Assumption: nbin nested in pois) Prob > chi2 = 1.0000

Akaike's information criterion and Bayesian information criterion

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

Model | Obs ll(null) ll(model) df AIC BIC

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

nbin | 28,337 -47591.31 -45858.08 161 92038.17 93366.73

pois | 28,337 -53929.83 -48971.35 172 98286.7 99706.03

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

Note: N=Obs used in calculating BIC; see [R] BIC note.

.

. pause "next"

.

. // final model + diagnostics/assessment

. quietly nbreg dv `ss\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

. predict cssv1\_yhat

(option n assumed; predicted number of events)

(1,952 missing values generated)

. gen cssv1\_res = dv - cssv1\_yhat

(1,952 missing values generated)

.

. summ dv cssv1\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cssv1\_yhat | 28,337 2.429165 3.674293 2.19e-08 65.95715

. /\*

> pause "next"

>

> scatter dv cssv1\_yhat

>

> pause "next"

>

> scatter cssv1\_res dv

>

> pause "next"

>

> scatter cssv1\_res cssv1\_yhat

> \*/

. pause "complete: C.SSV.1"