. // Model C.V.1

.

. // poisson model

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

Iteration 0: log pseudolikelihood = -53122.211

Iteration 1: log pseudolikelihood = -49001.859

Iteration 2: log pseudolikelihood = -48971.621

Iteration 3: log pseudolikelihood = -48971.414

Iteration 4: log pseudolikelihood = -48971.364

Iteration 5: log pseudolikelihood = -48971.353

Iteration 6: log pseudolikelihood = -48971.351

Iteration 7: log pseudolikelihood = -48971.351

Iteration 8: log pseudolikelihood = -48971.351

Iteration 9: log pseudolikelihood = -48971.351

Generalized linear models No. of obs = 28,337

Optimization : ML Residual df = 28,168

Scale parameter = 1

Deviance = 50302.29645 (1/df) Deviance = 1.785796

Pearson = 1195883.39 (1/df) Pearson = 42.45539

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

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

AIC = 3.468282

Log pseudolikelihood = -48971.35069 BIC = -238473.9

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

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

| Robust

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

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

sp48\_11 | 1.010806 .0406046 0.27 0.789 .9342751 1.093607

sp75\_1311 | 1.045761 .1134942 0.41 0.680 .845383 1.293635

sp75\_1400\_1 | 1.10055 .3441975 0.31 0.759 .5962055 2.031531

sp75\_1404\_1 | 1.097462 .1414342 0.72 0.471 .8524949 1.412821

sp75\_1405\_1 | 1.061898 .1278592 0.50 0.618 .838673 1.344537

sp75\_500\_1 | .7739772 .1929108 -1.03 0.304 .4748643 1.261499

sp75\_501 | 1.269443 .1716798 1.76 0.078 .9738601 1.654741

sp75\_506\_1 | 1.035183 .0501731 0.71 0.476 .941372 1.138343

sp75\_507\_1 | 1.022273 .0243407 0.93 0.355 .9756621 1.071111

sp75\_508\_1 | .7617258 .0636795 -3.26 0.001 .6466051 .8973424

sp75\_512\_1 | 1.149957 .3325613 0.48 0.629 .6524069 2.026956

sp75\_811 | .9904018 .0291497 -0.33 0.743 .9348861 1.049214

sp75\_1002 | .9957384 .0238089 -0.18 0.858 .9501503 1.043514

sp75\_1003\_2 | 1.002834 .0644349 0.04 0.965 .8841721 1.13742

sp75\_1322 | 1.633355 .1611396 4.97 0.000 1.346185 1.981784

sp75\_1719\_2 | .955872 .0788129 -0.55 0.584 .8132369 1.123524

sp75\_212 | 1.156341 .0352306 4.77 0.000 1.089312 1.227495

sp75\_332 | .9512371 .0697572 -0.68 0.495 .8238866 1.098272

sp75\_501\_2 | .8697221 .0802679 -1.51 0.130 .7258083 1.042171

sp75\_502 | 1.212746 .1579091 1.48 0.139 .939586 1.565319

sp75\_602 | 1.024006 .0252061 0.96 0.335 .9757754 1.07462

sp75\_812 | 1.123162 .1219917 1.07 0.285 .907799 1.389618

sp75\_1003 | .90807 .0217561 -4.03 0.000 .8664145 .9517282

sp75\_153 | .9919274 .1286006 -0.06 0.950 .7693501 1.278897

sp75\_203 | 1.029029 .0130378 2.26 0.024 1.00379 1.054902

sp75\_213 | 1.121386 .0883093 1.45 0.146 .9609991 1.308541

sp75\_343 | 1.009187 .0445325 0.21 0.836 .9255727 1.100355

sp75\_373 | .8926425 .5759643 -0.18 0.860 .2520301 3.16157

sp75\_503 | 1.002162 .0033729 0.64 0.521 .9955728 1.008794

sp75\_523 | .9676037 .0245008 -1.30 0.193 .9207552 1.016836

sp75\_523\_3 | .9773957 .0090547 -2.47 0.014 .9598089 .9953048

sp75\_603 | 1.131731 .0632203 2.22 0.027 1.014364 1.262679

sp75\_703\_3 | .9630642 .0360396 -1.01 0.315 .8949561 1.036356

sp48\_24 | .9492895 .0092499 -5.34 0.000 .931332 .9675932

sp48\_4 | .525918 .1011572 -3.34 0.001 .3607402 .7667283

sp75\_1404 | 1.033109 .172406 0.20 0.845 .7448984 1.432832

sp75\_1719\_4 | 1.020598 .0233552 0.89 0.373 .9758343 1.067416

sp75\_204 | 1.020206 .016129 1.27 0.206 .989078 1.052313

sp75\_334 | 1.02921 .0315168 0.94 0.347 .9692558 1.092873

sp75\_524 | 1.125882 .1794637 0.74 0.457 .8237834 1.538768

sp75\_604 | 1.017876 .0067094 2.69 0.007 1.004811 1.031112

sp75\_703\_4 | 3.61e-07 2.24e-07 -23.90 0.000 1.07e-07 1.22e-06

sp48\_25 | .9196673 .0610675 -1.26 0.207 .8074386 1.047495

sp48\_5 | 1.102167 .1077927 0.99 0.320 .9099122 1.335044

sp75\_1315 | 1.873654 .8367261 1.41 0.160 .7808443 4.495876

sp75\_1403\_5 | .9885171 .013535 -0.84 0.399 .9623419 1.015404

sp75\_1405 | .9776525 .0170378 -1.30 0.195 .9448229 1.011623

sp75\_155 | 1.212886 .3146467 0.74 0.457 .72946 2.016688

sp75\_1725 | 1.002288 .0044192 0.52 0.604 .9936636 1.010987

sp75\_205 | 1.185112 .1907609 1.06 0.291 .864463 1.624698

sp75\_215 | 1.100483 .1400665 0.75 0.452 .8575212 1.412284

sp75\_505 | .9931746 .1358134 -0.05 0.960 .7596727 1.298448

sp75\_605 | .9891314 .0159732 -0.68 0.499 .9583149 1.020939

sp48\_26 | 1.089274 .0602654 1.55 0.122 .9773347 1.214034

sp48\_6 | 1.085216 .0560927 1.58 0.114 .9806612 1.200917

sp75\_1316 | .8013635 .1579849 -1.12 0.261 .5445268 1.179342

sp75\_1403\_6 | .9907791 .0060189 -1.52 0.127 .9790521 1.002647

sp75\_156 | 1.078677 .0970649 0.84 0.400 .9042658 1.286729

sp75\_1906 | 1.121007 .0387954 3.30 0.001 1.047491 1.199683

sp75\_1916 | 1.045952 .0442983 1.06 0.289 .9626349 1.136481

sp75\_606 | 1.020253 .0096515 2.12 0.034 1.001511 1.039346

sp75\_816 | .9874586 .026522 -0.47 0.638 .936821 1.040833

sp75\_906 | .8582877 .1611475 -0.81 0.416 .5940402 1.240081

sp48\_27 | 1.029379 .0494614 0.60 0.547 .9368613 1.131033

sp48\_7 | 1.022247 .0274254 0.82 0.412 .9698826 1.077438

sp75\_1403\_7 | 1.011101 .0305202 0.37 0.715 .9530181 1.072725

sp75\_207 | 1.058278 .1363167 0.44 0.660 .8221604 1.362207

sp75\_327 | 1.277695 .2415058 1.30 0.195 .8821364 1.850626

sp75\_337 | 1.000616 .0273568 0.02 0.982 .9484085 1.055696

sp75\_507 | 1.04466 .042937 1.06 0.288 .9638049 1.132297

sp75\_607 | .9538988 .0440262 -1.02 0.306 .8713968 1.044212

sp75\_807 | 1.020936 .0094987 2.23 0.026 1.002487 1.039723

sp75\_817 | .7926704 .1380035 -1.33 0.182 .5635065 1.115029

sp48\_28 | .9430678 .0658029 -0.84 0.401 .8225266 1.081274

sp48\_8 | 1.055129 .0691963 0.82 0.413 .9278609 1.199853

sp75\_1318 | 1.184941 .3524578 0.57 0.568 .6614681 2.12268

sp75\_1403\_8 | .9571938 .0129015 -3.25 0.001 .9322384 .9828173

sp75\_208 | 1.012961 .0186991 0.70 0.485 .9769668 1.050282

sp75\_388 | 1.106745 .0614451 1.83 0.068 .992636 1.233972

sp75\_209 | .9631616 .0572954 -0.63 0.528 .8571641 1.082267

sp75\_389 | 1.164071 .1739021 1.02 0.309 .8685954 1.560061

sp75\_509 | 1.151319 .0765353 2.12 0.034 1.010674 1.311536

sp75\_100 | 1.227042 .1684697 1.49 0.136 .9375445 1.605933

sp75\_1400 | .9806276 .0360211 -0.53 0.594 .9125091 1.053831

sp75\_1403\_10 | 1.019725 .01255 1.59 0.112 .9954212 1.044621

sp75\_160 | 1.111175 .2530454 0.46 0.643 .7111156 1.7363

sp75\_1720 | 1.073889 .0294676 2.60 0.009 1.017659 1.133226

sp75\_340 | .9760598 .0092215 -2.56 0.010 .9581523 .994302

sp75\_500 | .9842848 .0476031 -0.33 0.743 .89527 1.08215

sp75\_510 | .9004446 .1144448 -0.83 0.409 .7018929 1.155163

sp75\_810 | 1.112693 .0471047 2.52 0.012 1.024096 1.208955

mine\_time | 1.001799 .0013728 1.31 0.190 .9991118 1.004493

onsite\_insp\_hours | .9994922 .0001079 -4.70 0.000 .9992808 .9997038

|

state |

AL | .9994678 .0875851 -0.01 0.995 .8417373 1.186755

AR | 1.748566 .0795543 12.28 0.000 1.599392 1.911653

CO | .6787092 .0684308 -3.84 0.000 .557008 .8270011

IL | 1.179702 .0713895 2.73 0.006 1.04776 1.328259

IN | 1.061552 .0957527 0.66 0.508 .8895337 1.266835

MD | 1.159661 .1423201 1.21 0.227 .9117317 1.475012

MT | .5115351 .0218821 -15.67 0.000 .4703957 .5562725

NM | .7121556 .0289491 -8.35 0.000 .6576178 .7712163

OH | 1.052884 .0957371 0.57 0.571 .8810123 1.258285

OK | 1.795346 .3419812 3.07 0.002 1.235974 2.607875

PA | 1.099187 .0995518 1.04 0.296 .9204058 1.312694

TN | 1.603953 .1479243 5.12 0.000 1.33872 1.921736

UT | .4608988 .0693918 -5.14 0.000 .3431237 .6190995

VA | .8778897 .0641746 -1.78 0.075 .760705 1.013126

WV | 1.123383 .0513121 2.55 0.011 1.027183 1.228592

WY | .7369008 .0359577 -6.26 0.000 .6696901 .8108567

|

time |

2000 | .9842067 .0560329 -0.28 0.780 .8802898 1.100391

2000.25 | 1.120506 .0655613 1.94 0.052 .9991029 1.256662

2000.5 | 1.271423 .0647894 4.71 0.000 1.150574 1.404966

2000.75 | .9322865 .0490594 -1.33 0.183 .8409242 1.033575

2001 | .9298542 .0427984 -1.58 0.114 .8496431 1.017638

2001.5 | 1.183746 .0570529 3.50 0.000 1.077044 1.30102

2001.75 | .9316856 .0541968 -1.22 0.224 .8312935 1.044202

2002 | .9699166 .0514975 -0.58 0.565 .8740576 1.076289

2002.25 | .9552824 .0535607 -0.82 0.415 .8558679 1.066245

2002.5 | 1.055295 .0671628 0.85 0.398 .9315377 1.195494

2002.75 | .9262792 .0535896 -1.32 0.186 .8269817 1.0375

2003 | .824109 .0491308 -3.24 0.001 .7332275 .9262551

2003.25 | .8826364 .0511561 -2.15 0.031 .7878575 .9888171

2003.5 | .9815191 .0576895 -0.32 0.751 .8747195 1.101358

2003.75 | .737854 .0402283 -5.58 0.000 .6630746 .8210668

2004 | .7622065 .0456793 -4.53 0.000 .6777349 .8572065

2004.25 | .8385488 .0488216 -3.02 0.002 .7481178 .9399108

2004.5 | .923077 .0515153 -1.43 0.152 .8274349 1.029774

2004.75 | .7352462 .0441636 -5.12 0.000 .6535881 .8271066

2005 | .706836 .0428261 -5.73 0.000 .6276907 .7959607

2005.25 | .758907 .0489109 -4.28 0.000 .6688509 .8610885

2005.5 | .823836 .0495555 -3.22 0.001 .732216 .9269202

2005.75 | .7036596 .0449428 -5.50 0.000 .6208638 .7974967

2006 | .7381478 .0492118 -4.55 0.000 .6477305 .8411865

2006.25 | .6939404 .0448762 -5.65 0.000 .6113306 .7877133

2006.5 | .8393118 .0621831 -2.36 0.018 .7258709 .9704815

2006.75 | .6708683 .0473532 -5.66 0.000 .5841915 .7704054

2007 | .6799306 .0479815 -5.47 0.000 .5921024 .7807868

2007.25 | .7095202 .05691 -4.28 0.000 .6063043 .8303074

2007.5 | .8193693 .0547834 -2.98 0.003 .7187336 .9340957

2007.75 | .6912924 .0488144 -5.23 0.000 .6019434 .7939039

2008 | .6585349 .0423538 -6.50 0.000 .5805419 .7470059

2008.25 | .6419471 .0436259 -6.52 0.000 .5618918 .7334082

2008.5 | .7576516 .0555489 -3.79 0.000 .6562387 .8747364

2008.75 | .5899449 .0451929 -6.89 0.000 .5076974 .6855165

2009 | .6089445 .0416929 -7.24 0.000 .5324737 .6963976

2009.25 | .5679027 .04366 -7.36 0.000 .4884657 .6602581

2009.5 | .6475534 .0491456 -5.73 0.000 .5580515 .7514098

2009.75 | .5581403 .0399506 -8.15 0.000 .4850829 .6422006

2010 | .575953 .0540151 -5.88 0.000 .4792456 .6921751

2010.25 | .5643649 .047666 -6.77 0.000 .4782643 .665966

2010.5 | .6518686 .0447537 -6.23 0.000 .5697984 .7457596

2010.75 | .5392482 .0405005 -8.22 0.000 .4654348 .6247677

2011 | .5365328 .0394318 -8.47 0.000 .4645562 .6196612

2011.25 | .513195 .0375752 -9.11 0.000 .4445892 .5923874

2011.5 | .6016055 .0415843 -7.35 0.000 .5253816 .6888881

2011.75 | .4584378 .0331292 -10.79 0.000 .3978946 .5281932

2012 | .5059992 .0375125 -9.19 0.000 .4375681 .5851322

2012.25 | .4453908 .0322417 -11.17 0.000 .3864764 .5132862

2012.5 | .5006231 .0400886 -8.64 0.000 .4279064 .5856969

2012.75 | .4055884 .0343692 -10.65 0.000 .3435228 .4788678

2013 | .4522284 .0370511 -9.69 0.000 .3851402 .5310029

2013.25 | .4383358 .038367 -9.42 0.000 .3692345 .5203691

2013.5 | .5070331 .0433168 -7.95 0.000 .428861 .5994544

2013.75 | .3962257 .0348629 -10.52 0.000 .333463 .4708013

2014 | .4413493 .0406749 -8.87 0.000 .3684135 .5287244

2014.25 | .4672138 .0445122 -7.99 0.000 .3876325 .5631331

2014.5 | .4986869 .0435218 -7.97 0.000 .4202824 .591718

2014.75 | .4649327 .0428501 -8.31 0.000 .3880966 .5569809

2015 | .4324096 .0399621 -9.07 0.000 .3607694 .5182759

2015.25 | .4034508 .0363695 -10.07 0.000 .3381101 .4814188

2015.5 | .5160889 .0474103 -7.20 0.000 .4310517 .6179022

2015.75 | .4096636 .0424437 -8.61 0.000 .334378 .5019

2016 | .4494442 .0460895 -7.80 0.000 .3676097 .549496

|

\_cons | .0000867 4.68e-06 -173.26 0.000 .000078 .0000964

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

Iteration 0: log pseudolikelihood = -47647.077

Iteration 1: log pseudolikelihood = -47034.437

Iteration 2: log pseudolikelihood = -47030.451

Iteration 3: log pseudolikelihood = -47030.329

Iteration 4: log pseudolikelihood = -47030.315

Iteration 5: log pseudolikelihood = -47030.314

Iteration 6: log pseudolikelihood = -47030.313

Iteration 7: log pseudolikelihood = -47030.313

Iteration 8: log pseudolikelihood = -47030.313

Generalized linear models No. of obs = 28,337

Optimization : ML Residual df = 28,167

Scale parameter = 1

Deviance = 22186.05728 (1/df) Deviance = .7876614

Pearson = 772244.2388 (1/df) Pearson = 27.41663

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

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

AIC = 3.331356

Log pseudolikelihood = -47030.31309 BIC = -266579.9

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

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

| Robust

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

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

sp48\_11 | 1.070559 .0522157 1.40 0.162 .9729573 1.177951

sp75\_1311 | .9998982 .1177248 -0.00 0.999 .7938492 1.259429

sp75\_1400\_1 | .904124 .2926867 -0.31 0.756 .479373 1.705228

sp75\_1404\_1 | 1.255003 .4437944 0.64 0.521 .6275421 2.509845

sp75\_1405\_1 | 1.281189 .4129309 0.77 0.442 .6811905 2.409672

sp75\_500\_1 | .8311561 .1350311 -1.14 0.255 .604498 1.1428

sp75\_501 | 1.697925 .4531597 1.98 0.047 1.006332 2.864811

sp75\_506\_1 | 1.039864 .0679815 0.60 0.550 .9148055 1.182018

sp75\_507\_1 | 1.059648 .0343365 1.79 0.074 .994442 1.129129

sp75\_508\_1 | .6782236 .0664788 -3.96 0.000 .559679 .8218769

sp75\_512\_1 | .8818218 .2212357 -0.50 0.616 .5392961 1.441898

sp75\_811 | .9902709 .0456561 -0.21 0.832 .9047106 1.083923

sp75\_1002 | .9294227 .026473 -2.57 0.010 .8789582 .9827845

sp75\_1003\_2 | .9719744 .0738623 -0.37 0.708 .8374719 1.128079

sp75\_1322 | 2.2776 1.874418 1.00 0.317 .4538958 11.42875

sp75\_1719\_2 | .9080697 .1069801 -0.82 0.413 .7208397 1.14393

sp75\_212 | 1.148853 .0418603 3.81 0.000 1.069669 1.233898

sp75\_332 | .8864173 .072394 -1.48 0.140 .7553014 1.040294

sp75\_501\_2 | .8837018 .091955 -1.19 0.235 .7206636 1.083625

sp75\_502 | 1.186876 .2025098 1.00 0.315 .8495124 1.658215

sp75\_602 | 1.04437 .0469775 0.97 0.334 .9562377 1.140625

sp75\_812 | 1.075832 .1755079 0.45 0.654 .781416 1.481177

sp75\_1003 | .8704778 .0257958 -4.68 0.000 .8213592 .9225338

sp75\_153 | .9341658 .278962 -0.23 0.820 .5202798 1.677301

sp75\_203 | 1.010957 .0140799 0.78 0.434 .9837345 1.038933

sp75\_213 | 1.074798 .1047377 0.74 0.459 .8879293 1.300994

sp75\_343 | .9773642 .0497572 -0.45 0.653 .8845495 1.079918

sp75\_373 | 1.091749 .6970884 0.14 0.891 .3123382 3.816104

sp75\_503 | 1.006186 .0050987 1.22 0.224 .9962421 1.016229

sp75\_523 | .9489352 .0285214 -1.74 0.081 .894649 1.006515

sp75\_523\_3 | .9797218 .0101175 -1.98 0.047 .9600911 .9997538

sp75\_603 | 1.115221 .0637575 1.91 0.056 .9970052 1.247454

sp75\_703\_3 | .9397562 .0470903 -1.24 0.215 .8518483 1.036736

sp48\_24 | .9297741 .0108192 -6.26 0.000 .9088088 .951223

sp48\_4 | .4381753 .1032257 -3.50 0.000 .2761348 .695304

sp75\_1404 | 1.045909 .3126576 0.15 0.881 .5821577 1.879087

sp75\_1719\_4 | .9776383 .0307532 -0.72 0.472 .9191837 1.03981

sp75\_204 | 1.031171 .0188228 1.68 0.093 .9949312 1.068731

sp75\_334 | 1.007861 .0403885 0.20 0.845 .93173 1.090213

sp75\_524 | .9770113 .1504098 -0.15 0.880 .7225336 1.321117

sp75\_604 | 1.017903 .007015 2.57 0.010 1.004246 1.031745

sp75\_703\_4 | 7.82e-07 4.85e-07 -22.67 0.000 2.32e-07 2.64e-06

sp48\_25 | .9344308 .0783949 -0.81 0.419 .7927474 1.101436

sp48\_5 | 1.288642 .1516343 2.16 0.031 1.023226 1.622904

sp75\_1315 | 1.245584 .5967433 0.46 0.647 .4870499 3.185465

sp75\_1403\_5 | .9723093 .0142826 -1.91 0.056 .9447151 1.00071

sp75\_1405 | .9636779 .0201741 -1.77 0.077 .9249376 1.004041

sp75\_155 | 1.072536 .2238548 0.34 0.737 .7124478 1.614622

sp75\_1725 | 1.0188 .0067811 2.80 0.005 1.005596 1.032178

sp75\_205 | 1.192596 .1826296 1.15 0.250 .8833719 1.610064

sp75\_215 | .8960547 .1811442 -0.54 0.587 .6029173 1.331715

sp75\_505 | .9484399 .1015828 -0.49 0.621 .7688501 1.169979

sp75\_605 | 1.003957 .0184273 0.22 0.830 .9684819 1.040731

sp48\_26 | 1.100932 .0725865 1.46 0.145 .967474 1.2528

sp48\_6 | 1.073264 .0586291 1.29 0.196 .9642906 1.194552

sp75\_1316 | .734135 .1683442 -1.35 0.178 .468368 1.150707

sp75\_1403\_6 | .9868125 .009705 -1.35 0.177 .9679732 1.006018

sp75\_156 | .9428818 .1387956 -0.40 0.689 .7065734 1.258222

sp75\_1906 | 1.124129 .0475563 2.77 0.006 1.03468 1.221311

sp75\_1916 | 1.039271 .0477635 0.84 0.402 .9497491 1.137232

sp75\_606 | 1.007513 .0116645 0.65 0.518 .9849087 1.030637

sp75\_816 | .9548854 .0316289 -1.39 0.163 .8948632 1.018933

sp75\_906 | .9196437 .1452971 -0.53 0.596 .6747392 1.253439

sp48\_27 | 1.044312 .0770909 0.59 0.557 .903639 1.206885

sp48\_7 | 1.112492 .0619931 1.91 0.056 .9973878 1.24088

sp75\_1403\_7 | .964274 .0440478 -0.80 0.426 .8816938 1.054589

sp75\_207 | 1.421254 .8253621 0.61 0.545 .4553601 4.435967

sp75\_327 | 1.189125 .2784573 0.74 0.459 .7514525 1.881712

sp75\_337 | .992885 .0343034 -0.21 0.836 .9278775 1.062447

sp75\_507 | 1.082687 .0840392 1.02 0.306 .9298905 1.26059

sp75\_607 | .9440119 .0453501 -1.20 0.230 .8591836 1.037216

sp75\_807 | 1.03292 .0117585 2.85 0.004 1.010129 1.056225

sp75\_817 | .8856201 .2457149 -0.44 0.662 .5141407 1.525503

sp48\_28 | .9480916 .0840759 -0.60 0.548 .7968315 1.128065

sp48\_8 | 1.233036 .1236305 2.09 0.037 1.013048 1.500796

sp75\_1318 | 2.162429 1.147682 1.45 0.146 .7641479 6.119363

sp75\_1403\_8 | .9669739 .0150234 -2.16 0.031 .9379723 .9968722

sp75\_208 | 1.038949 .0199283 1.99 0.046 1.000615 1.078751

sp75\_388 | 1.18052 .0867633 2.26 0.024 1.022147 1.363431

sp75\_209 | .9786019 .0579567 -0.37 0.715 .8713538 1.09905

sp75\_389 | 1.101344 .2119118 0.50 0.616 .7553383 1.605848

sp75\_509 | 1.348982 .1665912 2.42 0.015 1.05898 1.718401

sp75\_100 | 1.464316 .2424063 2.30 0.021 1.058583 2.025558

sp75\_1400 | .9833112 .0493961 -0.34 0.738 .8911101 1.085052

sp75\_1403\_10 | 1.014987 .0163633 0.92 0.356 .9834166 1.04757

sp75\_160 | 1.113533 .3195962 0.37 0.708 .6344519 1.954372

sp75\_1720 | 1.089307 .0360478 2.58 0.010 1.020897 1.162301

sp75\_340 | 1.001117 .0236657 0.05 0.962 .9557915 1.048592

sp75\_500 | .943774 .0499503 -1.09 0.274 .8507799 1.046933

sp75\_510 | .7765212 .1292827 -1.52 0.129 .5603212 1.076142

sp75\_810 | 1.122907 .0691373 1.88 0.060 .9952572 1.266929

mine\_time | 1.002441 .0013153 1.86 0.063 .9998658 1.005022

onsite\_insp\_hours | .9994386 .0001213 -4.63 0.000 .9992009 .9996764

|

state |

AL | 1.066791 .1169966 0.59 0.556 .8604521 1.32261

AR | 1.622721 .0717901 10.94 0.000 1.487943 1.769708

CO | .8175728 .1061729 -1.55 0.121 .6338498 1.054548

IL | 1.278961 .0812672 3.87 0.000 1.129199 1.448585

IN | 1.066721 .0772251 0.89 0.372 .9256104 1.229344

MD | 1.312894 .2419018 1.48 0.140 .9149456 1.883928

MT | .5556078 .0231471 -14.11 0.000 .512043 .602879

NM | .7609816 .0300509 -6.92 0.000 .7043046 .8222196

OH | 1.068941 .1012192 0.70 0.481 .887876 1.28693

OK | 1.899604 .3328875 3.66 0.000 1.347405 2.678108

PA | 1.383038 .0959606 4.67 0.000 1.207186 1.584505

TN | 1.784506 .1674744 6.17 0.000 1.484683 2.144878

UT | .5358631 .0965671 -3.46 0.001 .376409 .762865

VA | .9636865 .0479463 -0.74 0.457 .87415 1.062394

WV | 1.323373 .0577812 6.42 0.000 1.214834 1.441609

WY | .82906 .0490797 -3.17 0.002 .7382364 .9310574

|

time |

2000 | .9295836 .0692837 -0.98 0.327 .8032426 1.075797

2000.25 | 1.104061 .0802201 1.36 0.173 .9575147 1.273036

2000.5 | 1.216142 .0844961 2.82 0.005 1.061314 1.393557

2000.75 | .8055181 .0564494 -3.09 0.002 .7021413 .9241152

2001 | .8279502 .0529087 -2.95 0.003 .7304823 .9384232

2001.5 | 1.100256 .0726763 1.45 0.148 .9666481 1.25233

2001.75 | .8779594 .0606249 -1.88 0.059 .7668267 1.005198

2002 | .9935124 .1085449 -0.06 0.952 .8020036 1.230751

2002.25 | .9375903 .0730326 -0.83 0.408 .8048401 1.092236

2002.5 | 1.004322 .0786432 0.06 0.956 .8614298 1.170917

2002.75 | .7932182 .06058 -3.03 0.002 .6829429 .9212998

2003 | .7825451 .0631515 -3.04 0.002 .6680628 .9166457

2003.25 | .8693723 .0788575 -1.54 0.123 .7277738 1.038521

2003.5 | .965923 .0744603 -0.45 0.653 .8304735 1.123464

2003.75 | .6643907 .0512125 -5.30 0.000 .5712304 .7727442

2004 | .7151479 .0564303 -4.25 0.000 .6126748 .8347603

2004.25 | .7665031 .0595451 -3.42 0.001 .6582473 .8925628

2004.5 | .8112412 .0603583 -2.81 0.005 .7011622 .938602

2004.75 | .6424681 .0479823 -5.92 0.000 .5549836 .7437432

2005 | .661403 .052746 -5.18 0.000 .5656971 .7733007

2005.25 | .6973731 .0521906 -4.82 0.000 .6022299 .8075475

2005.5 | .7540311 .0551462 -3.86 0.000 .6533359 .8702459

2005.75 | .6160228 .0483877 -6.17 0.000 .5281243 .7185508

2006 | .7019429 .0587862 -4.23 0.000 .5956835 .8271572

2006.25 | .6583556 .0526736 -5.22 0.000 .5628048 .7701286

2006.5 | .7447142 .0584153 -3.76 0.000 .6385891 .868476

2006.75 | .6168192 .0505363 -5.90 0.000 .5253134 .7242646

2007 | .5904918 .0478447 -6.50 0.000 .5037848 .692122

2007.25 | .6364898 .0534993 -5.37 0.000 .5398149 .7504782

2007.5 | .7591799 .0715108 -2.92 0.003 .6311984 .9131108

2007.75 | .6036124 .0506789 -6.01 0.000 .5120257 .7115812

2008 | .5816412 .0461935 -6.82 0.000 .4977983 .6796055

2008.25 | .5854324 .0488654 -6.41 0.000 .4970819 .6894862

2008.5 | .6139899 .052324 -5.72 0.000 .5195438 .7256049

2008.75 | .5006349 .0425896 -8.13 0.000 .4237487 .5914715

2009 | .5214181 .0428974 -7.92 0.000 .4437692 .6126537

2009.25 | .5434135 .0496141 -6.68 0.000 .4543755 .649899

2009.5 | .5827105 .0509261 -6.18 0.000 .490978 .6915821

2009.75 | .4974508 .0424785 -8.18 0.000 .4207885 .5880798

2010 | .4976168 .0434517 -7.99 0.000 .4193421 .5905022

2010.25 | .4868726 .0433074 -8.09 0.000 .4089788 .5796018

2010.5 | .6269721 .0521949 -5.61 0.000 .5325818 .7380912

2010.75 | .4975159 .0444207 -7.82 0.000 .4176452 .5926612

2011 | .4984812 .0432001 -8.03 0.000 .4206111 .5907679

2011.25 | .4742543 .0400072 -8.84 0.000 .401981 .5595218

2011.5 | .541293 .0437233 -7.60 0.000 .4620363 .6341452

2011.75 | .4216836 .0357017 -10.20 0.000 .3572069 .4977984

2012 | .4732158 .0420503 -8.42 0.000 .3975767 .5632454

2012.25 | .4024031 .0342441 -10.70 0.000 .3405846 .4754421

2012.5 | .4660862 .0445468 -7.99 0.000 .3864663 .5621095

2012.75 | .356349 .0345581 -10.64 0.000 .2946642 .4309467

2013 | .4201658 .0410457 -8.88 0.000 .3469504 .5088315

2013.25 | .3901169 .0357542 -10.27 0.000 .3259733 .4668824

2013.5 | .4605869 .0433035 -8.25 0.000 .3830745 .5537835

2013.75 | .3436995 .033352 -11.01 0.000 .284171 .4156982

2014 | .3859053 .0368607 -9.97 0.000 .3200192 .465356

2014.25 | .4022265 .0399417 -9.17 0.000 .3310892 .4886482

2014.5 | .4164678 .0410255 -8.89 0.000 .3433453 .5051633

2014.75 | .4252229 .0426595 -8.52 0.000 .3493186 .5176205

2015 | .3747867 .0363627 -10.12 0.000 .3098835 .4532835

2015.25 | .3564726 .0340426 -10.80 0.000 .2956225 .4298478

2015.5 | .4569926 .0448012 -7.99 0.000 .3771046 .5538047

2015.75 | .3760707 .0399923 -9.20 0.000 .3053168 .4632212

2016 | .3889519 .0432648 -8.49 0.000 .3127613 .4837029

|

\_cons | .0000879 5.39e-06 -152.31 0.000 .0000779 .0000991

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

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

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -360826.88

Iteration 1: log pseudolikelihood = -145237.89

Iteration 2: log pseudolikelihood = -106456.74

Iteration 3: log pseudolikelihood = -54710.024

Iteration 4: log pseudolikelihood = -49909.034

Iteration 5: log pseudolikelihood = -49021.408

Iteration 6: log pseudolikelihood = -48971.971

Iteration 7: log pseudolikelihood = -48971.351

Iteration 8: log pseudolikelihood = -48971.351

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 = -46062.984

Iteration 1: log pseudolikelihood = -45811.391

Iteration 2: log pseudolikelihood = -45805.445

Iteration 3: log pseudolikelihood = -45805.442

Negative binomial regression Number of obs = 28,337

Wald chi2(168) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -45805.442 Pseudo R2 = 0.0375

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

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

| Robust

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

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

sp48\_11 | 1.055567 .0471317 1.21 0.226 .9671169 1.152106

sp75\_1311 | 1.048085 .1183402 0.42 0.677 .8400144 1.307695

sp75\_1400\_1 | .9505998 .2980386 -0.16 0.872 .5141895 1.757407

sp75\_1404\_1 | 1.170462 .3350132 0.55 0.582 .6679188 2.051119

sp75\_1405\_1 | 1.17021 .2419448 0.76 0.447 .7803241 1.754901

sp75\_500\_1 | .8199671 .1545646 -1.05 0.292 .5666881 1.186448

sp75\_501 | 1.521847 .4111108 1.55 0.120 .896247 2.584128

sp75\_506\_1 | 1.043263 .0630732 0.70 0.484 .9266856 1.174507

sp75\_507\_1 | 1.050138 .0348082 1.48 0.140 .9840843 1.120626

sp75\_508\_1 | .7035012 .0578545 -4.28 0.000 .5987752 .8265439

sp75\_512\_1 | .9533038 .2367418 -0.19 0.847 .5859296 1.55102

sp75\_811 | .986458 .0369259 -0.36 0.716 .9166757 1.061552

sp75\_1002 | .9536815 .0254965 -1.77 0.076 .9049961 1.004986

sp75\_1003\_2 | .9886105 .0734784 -0.15 0.878 .8545938 1.143644

sp75\_1322 | 1.828226 .8966525 1.23 0.219 .6991306 4.780807

sp75\_1719\_2 | .931316 .098523 -0.67 0.501 .7569188 1.145895

sp75\_212 | 1.145782 .0386479 4.03 0.000 1.072483 1.224091

sp75\_332 | .9086459 .0712157 -1.22 0.222 .7792579 1.059518

sp75\_501\_2 | .8932718 .0883638 -1.14 0.254 .7358367 1.084391

sp75\_502 | 1.148837 .1507086 1.06 0.290 .8883715 1.485669

sp75\_602 | 1.0334 .0378305 0.90 0.369 .9618506 1.110271

sp75\_812 | 1.089317 .1594157 0.58 0.559 .8176839 1.451186

sp75\_1003 | .8822666 .0238645 -4.63 0.000 .8367113 .9303021

sp75\_153 | .9246396 .2020861 -0.36 0.720 .6024719 1.419084

sp75\_203 | 1.017667 .0132301 1.35 0.178 .9920639 1.043931

sp75\_213 | 1.088032 .094058 0.98 0.329 .9184531 1.28892

sp75\_343 | .9888956 .0478266 -0.23 0.817 .8994628 1.087221

sp75\_373 | .9802859 .645117 -0.03 0.976 .2698889 3.560578

sp75\_503 | 1.00532 .0042515 1.25 0.210 .9970214 1.013687

sp75\_523 | .9524058 .0256175 -1.81 0.070 .903497 1.003962

sp75\_523\_3 | .9789736 .0095207 -2.19 0.029 .9604901 .9978129

sp75\_603 | 1.130849 .0627296 2.22 0.027 1.014349 1.260729

sp75\_703\_3 | .9466208 .0431568 -1.20 0.229 .8657041 1.035101

sp48\_24 | .9377458 .0096433 -6.25 0.000 .9190345 .956838

sp48\_4 | .468476 .0967611 -3.67 0.000 .312519 .7022606

sp75\_1404 | 1.056476 .2801478 0.21 0.836 .6282675 1.776537

sp75\_1719\_4 | .9967101 .0277913 -0.12 0.906 .9437017 1.052696

sp75\_204 | 1.02852 .0173372 1.67 0.095 .9950953 1.063068

sp75\_334 | 1.019789 .0376731 0.53 0.596 .9485606 1.096366

sp75\_524 | 1.029192 .1590055 0.19 0.852 .7603083 1.393167

sp75\_604 | 1.018802 .006568 2.89 0.004 1.00601 1.031757

sp75\_703\_4 | 1.09e-07 6.75e-08 -25.90 0.000 3.24e-08 3.67e-07

sp48\_25 | .9207407 .0689565 -1.10 0.270 .7950397 1.066316

sp48\_5 | 1.218253 .1225162 1.96 0.050 1.00031 1.483681

sp75\_1315 | 1.479001 .6710379 0.86 0.388 .6078121 3.59888

sp75\_1403\_5 | .9771996 .0135974 -1.66 0.097 .9509093 1.004217

sp75\_1405 | .9681944 .0194427 -1.61 0.107 .9308276 1.007061

sp75\_155 | 1.122996 .2507307 0.52 0.603 .7249877 1.739504

sp75\_1725 | 1.013382 .00583 2.31 0.021 1.002019 1.024873

sp75\_205 | 1.221565 .1901122 1.29 0.198 .9004175 1.657254

sp75\_215 | .9631182 .1773379 -0.20 0.838 .6713496 1.381689

sp75\_505 | .9625714 .1000273 -0.37 0.714 .7851974 1.180014

sp75\_605 | 1.001299 .0175882 0.07 0.941 .9674134 1.036371

sp48\_26 | 1.099421 .0592342 1.76 0.079 .9892435 1.221869

sp48\_6 | 1.088721 .0575819 1.61 0.108 .9815152 1.207637

sp75\_1316 | .7777838 .1769504 -1.10 0.269 .4979727 1.214821

sp75\_1403\_6 | .989883 .0084134 -1.20 0.232 .9735296 1.006511

sp75\_156 | 1.006577 .1216615 0.05 0.957 .7942645 1.275642

sp75\_1906 | 1.131024 .0436729 3.19 0.001 1.048585 1.219943

sp75\_1916 | 1.043569 .0451797 0.99 0.325 .9586713 1.135985

sp75\_606 | 1.013686 .0109203 1.26 0.207 .992507 1.035317

sp75\_816 | .9635937 .0294001 -1.22 0.224 .9076597 1.022975

sp75\_906 | .9300761 .1461551 -0.46 0.645 .6835307 1.265549

sp48\_27 | 1.034154 .0647131 0.54 0.591 .9147879 1.169095

sp48\_7 | 1.07102 .0485731 1.51 0.130 .9799267 1.17058

sp75\_1403\_7 | .985243 .0410223 -0.36 0.721 .908034 1.069017

sp75\_207 | 1.142266 .3015693 0.50 0.614 .6808351 1.916429

sp75\_327 | 1.213609 .266834 0.88 0.379 .7887265 1.867372

sp75\_337 | .9899535 .0301694 -0.33 0.740 .9325539 1.050886

sp75\_507 | 1.061438 .0680512 0.93 0.352 .9360997 1.203558

sp75\_607 | .9553622 .0438803 -0.99 0.320 .8731158 1.045356

sp75\_807 | 1.030355 .0108961 2.83 0.005 1.009219 1.051934

sp75\_817 | .8770256 .2323363 -0.50 0.620 .5218157 1.474034

sp48\_28 | .9481174 .0857261 -0.59 0.556 .7941433 1.131945

sp48\_8 | 1.14823 .0931299 1.70 0.088 .9794677 1.34607

sp75\_1318 | 1.612718 .7566556 1.02 0.308 .642971 4.045065

sp75\_1403\_8 | .9626198 .0109422 -3.35 0.001 .9414107 .9843067

sp75\_208 | 1.032032 .0173446 1.88 0.061 .9985912 1.066593

sp75\_388 | 1.137881 .0722569 2.03 0.042 1.004719 1.288693

sp75\_209 | .9802496 .0562655 -0.35 0.728 .8759482 1.09697

sp75\_389 | 1.133893 .1982565 0.72 0.472 .8049021 1.597354

sp75\_509 | 1.258944 .1213294 2.39 0.017 1.042252 1.520688

sp75\_100 | 1.393133 .2144509 2.15 0.031 1.030299 1.883743

sp75\_1400 | .9813 .0444674 -0.42 0.677 .8979036 1.072442

sp75\_1403\_10 | 1.012538 .0150387 0.84 0.402 .9834874 1.042447

sp75\_160 | 1.116986 .2720231 0.45 0.650 .6930297 1.800294

sp75\_1720 | 1.087747 .033881 2.70 0.007 1.023328 1.156222

sp75\_340 | .9860932 .0145463 -0.95 0.342 .9579911 1.01502

sp75\_500 | .9631194 .0483742 -0.75 0.454 .872825 1.062755

sp75\_510 | .8165349 .1174325 -1.41 0.159 .6159657 1.082413

sp75\_810 | 1.117499 .0629782 1.97 0.049 1.000637 1.248009

mine\_time | 1.002162 .001278 1.69 0.090 .9996598 1.004669

onsite\_insp\_hours | .9994657 .0001175 -4.55 0.000 .9992354 .999696

|

state |

AL | 1.057397 .1051678 0.56 0.575 .8701183 1.284984

AR | 1.707937 .0738305 12.38 0.000 1.569193 1.858949

CO | .7636314 .0931339 -2.21 0.027 .6012701 .9698351

IL | 1.239038 .0721615 3.68 0.000 1.105378 1.38886

IN | 1.062893 .0800023 0.81 0.418 .9171091 1.231851

MD | 1.255152 .190182 1.50 0.134 .9326552 1.689162

MT | .5458952 .0219488 -15.06 0.000 .5045278 .5906545

NM | .7602032 .0288345 -7.23 0.000 .7057381 .8188715

OH | 1.082017 .0991483 0.86 0.390 .9041412 1.294888

OK | 1.870741 .3308286 3.54 0.000 1.322769 2.645716

PA | 1.337504 .096879 4.01 0.000 1.160487 1.541523

TN | 1.729576 .1580847 5.99 0.000 1.445903 2.068903

UT | .5063078 .0848175 -4.06 0.000 .3646027 .7030873

VA | .948887 .0493768 -1.01 0.313 .8568818 1.050771

WV | 1.265938 .0543074 5.50 0.000 1.163849 1.376981

WY | .8103083 .0432939 -3.94 0.000 .7297457 .8997649

|

time |

2000 | .9517259 .062533 -0.75 0.451 .8367271 1.08253

2000.25 | 1.10731 .0716107 1.58 0.115 .9754869 1.256948

2000.5 | 1.223369 .0734686 3.36 0.001 1.087524 1.376181

2000.75 | .8496795 .0540652 -2.56 0.010 .750055 .9625363

2001 | .8575698 .0500912 -2.63 0.009 .7648042 .9615872

2001.5 | 1.111586 .0623316 1.89 0.059 .9958924 1.24072

2001.75 | .8891302 .0527957 -1.98 0.048 .791447 .9988698

2002 | .9629387 .0713983 -0.51 0.611 .8326936 1.113556

2002.25 | .9394339 .0608085 -0.97 0.334 .8275018 1.066506

2002.5 | 1.016169 .0667643 0.24 0.807 .8933884 1.155823

2002.75 | .8332104 .0555448 -2.74 0.006 .7311568 .9495085

2003 | .7926452 .0566885 -3.25 0.001 .6889734 .9119168

2003.25 | .8514214 .0622241 -2.20 0.028 .7377964 .9825455

2003.5 | .9664493 .0646187 -0.51 0.610 .8477466 1.101773

2003.75 | .6876839 .0462512 -5.57 0.000 .602754 .7845808

2004 | .7344015 .0525722 -4.31 0.000 .6382637 .8450199

2004.25 | .7933486 .0553109 -3.32 0.001 .6920217 .909512

2004.5 | .8537351 .0567852 -2.38 0.017 .7493875 .9726124

2004.75 | .6792225 .0450072 -5.84 0.000 .596498 .7734195

2005 | .6743436 .0466432 -5.70 0.000 .5888504 .7722491

2005.25 | .7206474 .0488942 -4.83 0.000 .6309149 .8231421

2005.5 | .7804396 .0522031 -3.71 0.000 .6845466 .8897657

2005.75 | .6469053 .0464337 -6.07 0.000 .5620085 .7446265

2006 | .7089583 .0531267 -4.59 0.000 .6121176 .8211199

2006.25 | .6784542 .0502341 -5.24 0.000 .5868077 .7844138

2006.5 | .7784564 .0572127 -3.41 0.001 .6740237 .8990697

2006.75 | .6321779 .0472112 -6.14 0.000 .5460989 .731825

2007 | .6229449 .0469488 -6.28 0.000 .5374005 .7221065

2007.25 | .6602226 .0533141 -5.14 0.000 .5635786 .7734395

2007.5 | .7756066 .0623622 -3.16 0.002 .6625232 .9079916

2007.75 | .6304387 .0484186 -6.01 0.000 .5423371 .7328523

2008 | .6019927 .0439147 -6.96 0.000 .5217914 .6945211

2008.25 | .5967561 .0457498 -6.73 0.000 .5134997 .6935113

2008.5 | .6545481 .0526026 -5.27 0.000 .5591586 .7662106

2008.75 | .5288654 .0424251 -7.94 0.000 .4519211 .6189103

2009 | .5392003 .0403889 -8.25 0.000 .465576 .6244671

2009.25 | .5429923 .0443773 -7.47 0.000 .4626231 .6373237

2009.5 | .6001042 .0487029 -6.29 0.000 .5118531 .7035712

2009.75 | .5131353 .0405961 -8.43 0.000 .4394304 .5992026

2010 | .5156789 .043475 -7.86 0.000 .437137 .6083326

2010.25 | .5092479 .0441529 -7.78 0.000 .4296632 .6035738

2010.5 | .6316887 .0489227 -5.93 0.000 .5427248 .7352355

2010.75 | .5077346 .041213 -8.35 0.000 .4330563 .5952908

2011 | .5077057 .0404622 -8.51 0.000 .4342847 .5935394

2011.25 | .480862 .0374394 -9.40 0.000 .4128067 .5601369

2011.5 | .5598107 .0419347 -7.74 0.000 .4833691 .6483411

2011.75 | .429747 .0336606 -10.78 0.000 .368588 .501054

2012 | .4800449 .0386289 -9.12 0.000 .4100023 .5620532

2012.25 | .4112149 .0320576 -11.40 0.000 .352948 .4791008

2012.5 | .4695475 .0409576 -8.67 0.000 .3957592 .5570934

2012.75 | .3699876 .0333585 -11.03 0.000 .3100572 .4415018

2013 | .4229922 .0366844 -9.92 0.000 .3568709 .5013645

2013.25 | .4004976 .0342258 -10.71 0.000 .3387332 .473524

2013.5 | .4664391 .0409701 -8.68 0.000 .392671 .5540654

2013.75 | .3566849 .0323667 -11.36 0.000 .2985685 .4261136

2014 | .3978525 .0360502 -10.17 0.000 .333114 .4751724

2014.25 | .4154099 .038983 -9.36 0.000 .3456195 .499293

2014.5 | .436352 .0398604 -9.08 0.000 .3648215 .5219076

2014.75 | .4292621 .0397685 -9.13 0.000 .3579843 .5147319

2015 | .3878433 .0356348 -10.31 0.000 .3239279 .4643701

2015.25 | .3668814 .0332229 -11.07 0.000 .3072171 .4381331

2015.5 | .4747598 .0442766 -7.99 0.000 .3954486 .5699777

2015.75 | .3818794 .0387822 -9.48 0.000 .3129547 .465984

2016 | .4061622 .0431375 -8.48 0.000 .3298341 .5001537

|

\_cons | .0000869 4.82e-06 -168.75 0.000 .000078 .0000969

ln(hours) | 1 (exposure)

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

/lnalpha | -1.052492 .0672195 -1.18424 -.9207442

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

alpha | .3490668 .0234641 .3059787 .3982226

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

(est1 stored)

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

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(2) = -6331.82

(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 -45805.44 170 91950.88 93353.71

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

. predict cv1\_yhat

(option n assumed; predicted number of events)

(1,952 missing values generated)

. gen cv1\_res = dv - cv1\_yhat

(1,952 missing values generated)

.

. summ dv cv1\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cv1\_yhat | 28,337 2.420609 3.659922 5.93e-08 73.56322

. /\*

> pause "next"

>

> scatter dv cv1\_yhat

>

> pause "next"

>

> scatter cv1\_res dv

>

> pause "next"

>

> scatter cv1\_res cv1\_yhat

> \*/

. pause "complete: C.V.1"

.