. // NULL MODELS

.

. // count outcome

. glm dv, family(poisson) link(log) vce(cl mineid) exposure(hours) eform

Iteration 0: log pseudolikelihood = -29170.718

Iteration 1: log pseudolikelihood = -24984.625

Iteration 2: log pseudolikelihood = -24975.695

Iteration 3: log pseudolikelihood = -24975.694

Generalized linear models No. of obs = 6,253

Optimization : ML Residual df = 6,252

Scale parameter = 1

Deviance = 30423.40786 (1/df) Deviance = 4.866188

Pearson = 41826.77991 (1/df) Pearson = 6.690144

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

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

AIC = 7.988708

Log pseudolikelihood = -24975.69403 BIC = -24224.18

(Std. Err. adjusted for 1,238 clusters in mineid)

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

| Robust

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

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

\_cons | .0000546 1.61e-06 -332.98 0.000 .0000515 .0000578

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. quietly poisson dv, vce(cl mineid) exposure(hours) irr

. estat gof

Deviance goodness-of-fit = 30423.41

Prob > chi2(6252) = 0.0000

Pearson goodness-of-fit = 41826.78

Prob > chi2(6252) = 0.0000

.

. pause "next"

.

. glm dv, family(nbinomial) link(log) vce(cl mineid) exposure(hours) eform

Iteration 0: log pseudolikelihood = -17880.161

Iteration 1: log pseudolikelihood = -17813.89

Iteration 2: log pseudolikelihood = -17813.656

Iteration 3: log pseudolikelihood = -17813.656

Generalized linear models No. of obs = 6,253

Optimization : ML Residual df = 6,252

Scale parameter = 1

Deviance = 4539.341074 (1/df) Deviance = .7260622

Pearson = 7269.431098 (1/df) Pearson = 1.162737

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

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

AIC = 5.697955

Log pseudolikelihood = -17813.65573 BIC = -50108.24

(Std. Err. adjusted for 1,238 clusters in mineid)

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

| Robust

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

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

\_cons | .0000646 1.45e-06 -430.42 0.000 .0000618 .0000675

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. nbreg dv, vce(cl mineid) exposure(hours) irr

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -24975.694

Iteration 1: log pseudolikelihood = -24975.694

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -17884.199

Iteration 1: log pseudolikelihood = -17442.363

Iteration 2: log pseudolikelihood = -17390.126

Iteration 3: log pseudolikelihood = -17389.648

Iteration 4: log pseudolikelihood = -17389.648

Fitting full model:

Iteration 0: log pseudolikelihood = -17389.648

Iteration 1: log pseudolikelihood = -17389.648

Negative binomial regression Number of obs = 6,253

Wald chi2(0) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -17389.648 Pseudo R2 = 0.0000

(Std. Err. adjusted for 1,238 clusters in mineid)

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

| Robust

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

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

\_cons | .0000636 1.41e-06 -437.06 0.000 .0000609 .0000664

ln(hours) | 1 (exposure)

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

/lnalpha | -.7806193 .0564603 -.8912795 -.6699592

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

alpha | .4581222 .0258657 .4101306 .5117295

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

.

. pause "next"

.

. predict c\_null\_yhat

(option n assumed; predicted number of events)

. summ dv\_indicator c\_null\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

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

c\_null\_yhat | 6,253 11.62161 17.26537 .0040684 179.0143

.

. pause "complete: null model - count outcome"

.