| **MODEL** | **SPECIFICATION** | **ASSESSMENT** |
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| *MR.Y.C.P.V.1*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # violations  No lag  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75 (1.0013)\*\*\*  onsite\_insp\_hours (0.9998)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2179 (0.1800 - 0.2638)  Log pseudo-likelihood -8670.89 (+291.0417)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.9271 2.9315 0.0006 31.8932 |
| *MR.Y.C.P.SSV.1*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # sig&sub violations  No lag  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p71\_ss (0.775)\*  p75\_ss (1.003)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2188 (0.1809 - 0.2646)  Log pseudo-likelihood -8671.7968 (+290.1349)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.9240 2.9004 0.0007 32.8960 |
| *MR.Y.C.P.PP.1*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # penalty points  No lag  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_pp (1.000)\*\*\*  onsite\_insp\_hours (0.999)\*\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2000 (0.1579 - 0.2532)  Log pseudo-likelihood -4549.4556 (+4412.4760)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.6072 2.4040 0.0007 29.7952 |
| *MR.Q.C.P.V.1*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # violations  No lag  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75 (1.003)\*\*\*  onsite\_insp\_hours (0.999)\*\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.2326 (0.1820 - 0.2972)  Log pseudo-likelihood -19355.3150 (+689.6790)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.4408 0.6888 0.00002 8.2652 |
| *MR.Q.C.P.SSV.1*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # sig&sub violations  No lag  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p71\_ss (0.470)\*\*\*  p75\_ss (1.008)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.2326 (0.1823 - 0.2969)  Log pseudo-likelihood -19351.3450 (+693.6490)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.4405 0.6856 0.00001 9.2461 |
| *MR.Q.C.P.PP.1*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # penalty points  No lag  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_pp (1.000)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.2073 (0.1482 - 0.2901)  Log pseudo-likelihood -9986.4222 (+10058.5700)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.3602 0.5622 9.23e-06 8.2249 |
| *MR.Y.C.P.V.2*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # violations  Lag 1  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_1lag (1.0012)\*\*\*  onsite\_insp\_hours (0.9999)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2179 (0.1801 - 0.2637)  Log pseudo-likelihood -8673.0553 (+288.8764)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.9244 2.9086 0.0006 28.3406 |
| *MR.Y.C.P.SSV.2*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # sig&sub violations  Lag 1  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_ss\_1lag (1.003)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2181 (0.1802 - 0.2638)  Log pseudo-likelihood -8672.2761 (+289.6556)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.92293 2.8937 0.0007 36.5168 |
| *MR.Y.C.P.PP.2*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # penalty points  Lag 1  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p47\_pp\_1lag (0.998)\*  p75\_pp\_1lag (1.000)\*\*\*  onsite\_insp\_hours (0.999)\*\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2004 (0.1583 - 0.2536)  Log pseudo-likelihood -4550.5405 (+4411.3910)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.6097 2.3987 0.0006 30.1743 |
| *MR.Q.C.P.V.2*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # violations  Lag 1  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_1lag (1.002)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.2348 (0.1838 - 0.2999)  Log pseudo-likelihood -18589.2420 (+1455.7520)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.4641 0.6989 0.00002 7.7178 |
| *MR.Q.C.P.SSV.2*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # sig&sub violations  Lag 1  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_ss\_1lag (1.006)\*\*\*  p77\_ss\_1lag (1.049)\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.2345 (0.1842 - 0.2986)  Log pseudo-likelihood -18588.8760 (+1456.1180)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.4639 0.6964 0.00002 8.3842 |
| *MR.Q.C.P.PP.2*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # penalty points  Lag 1  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p71\_pp\_1lag (1.003)\*\*\* p75\_pp\_1lag (1.000)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.2077 (0.1481 - 0.2911)  Log pseudo-likelihood -9851.1599 (+10193.8300)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.3811 0.5766 9.25e-06 7.7183 |
| *MR.Y.C.P.V.3*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # violations  Cumulative Lag 4  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_c\_4lag (1.0003)\*\*\*  onsite\_insp\_hours (0.9999)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2180 (0.1803 - 0.2637)  Log pseudo-likelihood -8674.7027 (+287.2290)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.9223 2.8907 0.0006 27.8425 |
| *MR.Y.C.P.SSV.3*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # sig&sub violations  Cumulative Lag 4  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_ss\_c\_4lag (1.001)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2185 (0.1806 - 0.2643)  Log pseudo-likelihood -8674.8941 (+287.0376)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.9217 2.8835 0.0007 35.4791 |
| *MR.Y.C.P.PP.3*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # penalty points  Cumulative Lag 4  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_pp\_c\_4lag (1.000)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.1998 (0.1576 - 0.2533)  Log pseudo-likelihood -4551.2267 (+4410.7050)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.6148 2.4029 0.0006 30.3823 |
| *MR.Q.C.P.V.3*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # violations  Cumulative Lag 4  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_c\_4lag (1.001)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.2277 (0.1755 - 0.2955)  Log pseudo-likelihood -16705.6290 (+3339.3650)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.4980 0.7249 0.00002 7.2874 |
| *MR.Q.C.P.SSV.3*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # sig&sub violations  Cumulative Lag 4  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p71\_ss\_c\_4lag (0.755)\*\*  p75\_ss\_c\_4lag (1.002)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.2265 (0.1751 - 0.2930)  Log pseudo-likelihood -16702.2640 (+3342.7300)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.4979 0.72486 0.00002 9.2518 |
| *MR.Q.C.P.PP.3*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # penalty points  Cumulative Lag 4  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p47\_pp\_c\_4lag (0.998)\*\*  p75\_pp\_c\_4lag (1.000)\*\*\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.1992 (0.1408 - 0.2817)  Log pseudo-likelihood -9373.8069 (+10671.1900)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.4207 0.6135 9.55e-06 7.7495 |
| *MR.Y.C.P.V.4*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # violations  Cumulative Lag From T=0  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p47\_c\_lag\_all (1.0148)\*  p75\_c\_lag\_all (1.0000)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2182 (0.1809 - 0.2631)  Log pseudo-likelihood -8681.8407 (+280.0910)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.9119 2.7983 0.0006 23.6037 |
| *MR.Y.C.P.SSV.4*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # sig&sub violations  Cumulative Lag From T=0  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2214 (0.1838 - 0.2667)  Log pseudo-likelihood -8686.3455 (+275.5862)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.9145 2.8184 0.0007 23.6624 |
| *MR.Y.C.P.PP.4*  MR injury outcome  Mine-year unit  Count outcome variable  Part-level violation predictors  Predictors = # penalty points  Cumulative Lag From T=0  *poisson run (bad fit, overdispersed)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_pp\_c\_lag\_all (1.000)\*  mine\_time (0.985)\*  onsite\_insp\_hours (0.999)\*\*  state fixed effects significant  quarter fixed effects significant | Overdispersed (lrtest)  Alpha 0.2035 (0.1608 - 0.2575)  Log pseudo-likelihood -4559.3668 (+4402.5650)  Mean SD Min Max  True 1.8810 3.2689 0 37  Predicted 1.6711 2.4475 0.0007 22.4060 |
| *MR.Q.C.P.V.4*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # violations  Cumulative Lag From T=0  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_c\_lag\_all (1.000)\*\*  p77\_c\_lag\_all (0.997)\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Red flag (lrtest yields no p-value)  Alpha 0.1980 (0.1513 - 0.2592)  Log pseudo-likelihood -14933.2530 (+5111.7410)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.5442 0.7719 6.71e-08 6.5396 |
| *MR.Q.C.P.SSV.4*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # sig&sub violations  Cumulative Lag From T=0  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Red flag (lrtest yields no p-value)  Alpha 0.2024 (0.1558 - 0.2629)  Log pseudo-likelihood -14943.1500 (+5101.8440)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.5445 0.7736 1.73e-08 6.7171 |
| *MR.Q.C.P.PP.4*  MR injury outcome  Mine-quarter unit  Count outcome variable  Part-level violation predictors  Predictors = # penalty points  Cumulative Lag From T=0  *poisson run (deviance and Pearson goodness of fit tests disagree)*  *nbreg - GLM run (inferior log likelihood)*  *nbreg results reported* | p75\_pp\_c\_lag\_all (1.000)\*  mine\_time (0.995)\*\*  onsite\_insp\_hours (0.999)\*  state fixed effects significant  quarter fixed effects significant | Red flag (deviance and Pearson goodness of fit tests disagree)  Overdispersed (lrtest)  Alpha 0.1701 (0.1145 - 0.2526)  Log pseudo-likelihood -7102.8227 (+12942.1700)  Mean SD Min Max  True 0.4096 0.9551 0 14  Predicted 0.4708 0.6752 0.0000 6.1666 |