# Supplemental Material

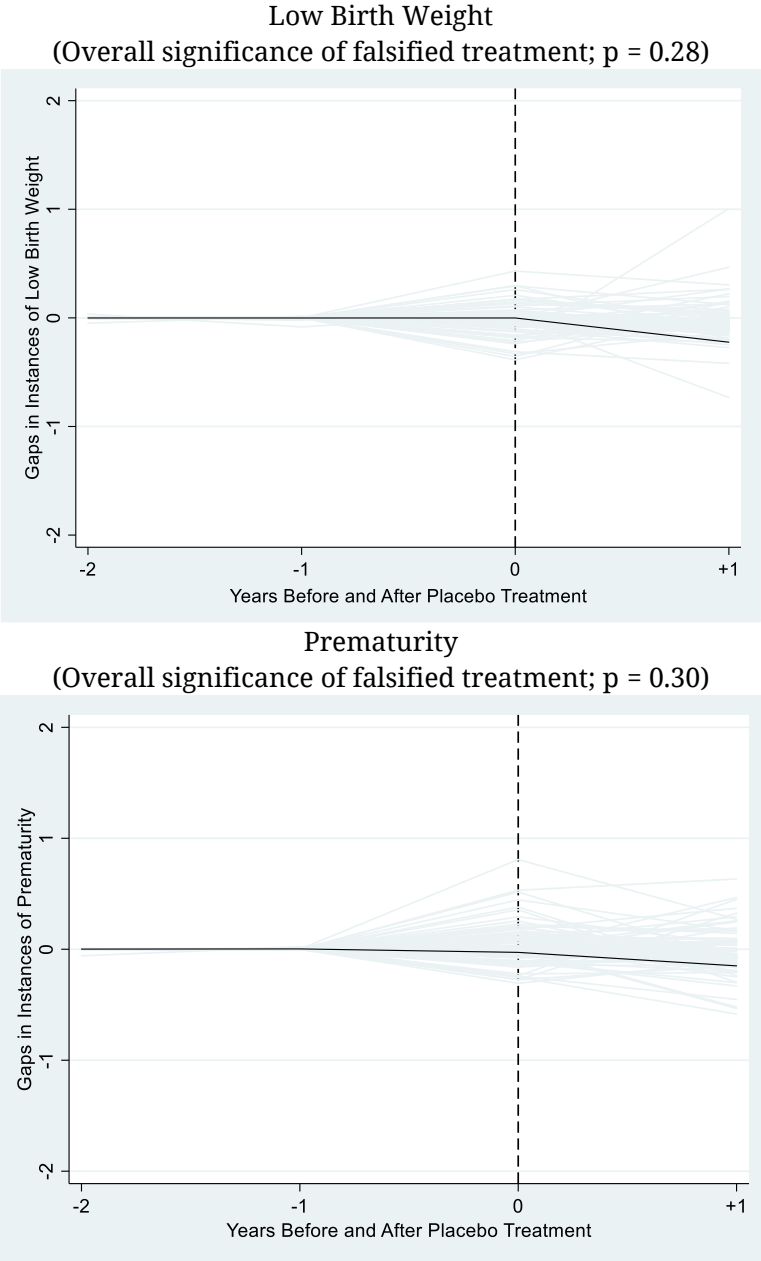
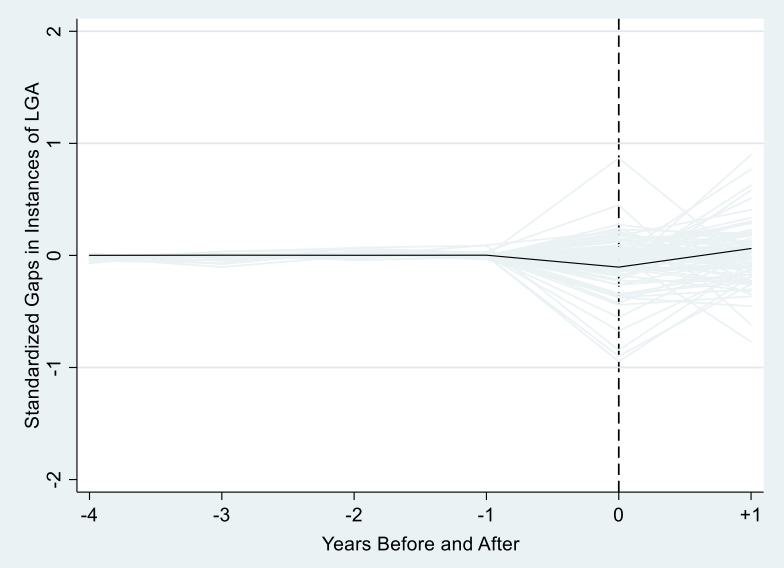



**Figure S1.** Pre-Mine Disaster Falsification Test (Synthetic Control Results). Notes: SCM used to investigate placebo impacts on various infant health outcomes prior to the actual mine disaster. Placebo pre-treatment period is 2011–2012 and the placebo treatment occurs in 2013; two years prior to the actual Gold King Mine spill. P-values associated with donor pool placebo tests are presented. The same set of mother characteristics and county-level socio-demographic and weather outcomes are used to match treated and synthetic control counties as listed in the footnote below Figure 3 in the main text.

Panel A: Large for Gestational Age (LGA)
(Overall significance of effect; p = 0.75)




Panel B: Postterm Pregnancy
(Overall significance of effect; p = 0.84)

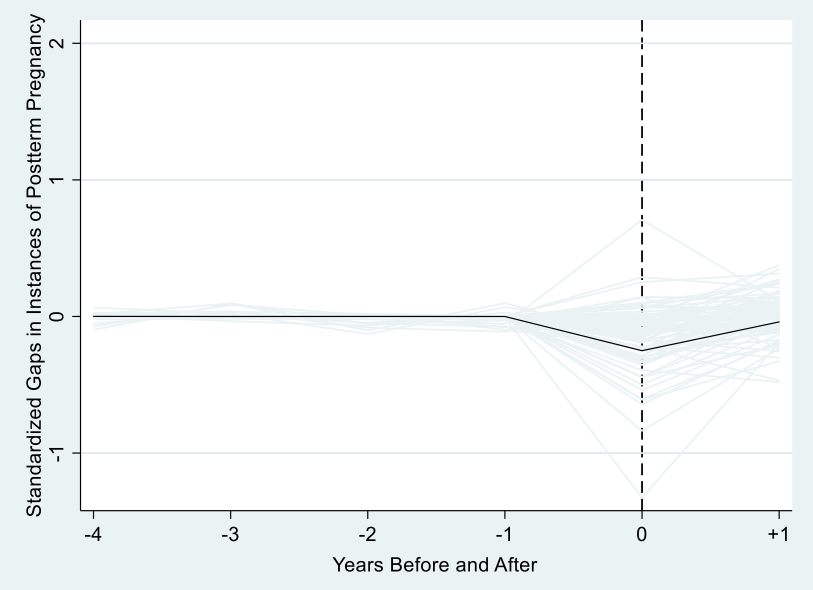



**Figure S2**. Falsification Tests on Alternative Birth Outcomes Not Known to Be Impacted by Acute Environmental Exposures (Synthetic Control Results). Notes: SCM results shown for birth outcomes large for gestational age (panel A) and postterm pregnancy (panel B). Black lines are the standardized gaps between downstream counties and the synthetic control and the gray lines are the standardized gaps from the placebo tests. P-value from donor pool placebo tests. The same set of mother characteristics and county-level socio-demographic and weather outcomes are used to match treated and synthetic control counties as listed in the footnote below Figure 3 in the main text.

**Table S1.** Synthetic Control Weights by Birth Outcome.

| FIPS | Low Birth Weight | Prematurity | Birth Weight | Gestation Length | FIPS | Low Birth Weight | Prematurity | Birth Weight | Gestation Length |
|---|---|---|---|---|---|---|---|---|---|
| 8003 | 0.004 | 0.006 | 0 | 0.003 | 8097 | 0.005 | 0.006 | 0 | 0.004 |
| 8005 | 0.004 | 0.006 | 0 | 0.003 | 8099 | 0.004 | 0.006 | 0 | 0.003 |
| 8007 | 0.004 | 0.008 | 0 | 0.003 | 8101 | 0.004 | 0.006 | 0 | 0.003 |
| 8009 | 0.005 | 0.009 | 0 | 0.004 | 8103 | 0.004 | 0.006 | 0 | 0.005 |
| 8011 | 0.003 | 0.004 | 0 | 0.002 | 8105 | 0.004 | 0.006 | 0 | 0.003 |
| 8013 | 0.004 | 0.006 | 0 | 0.004 | 8107 | 0.005 | 0.012 | 0 | 0.003 |
| 8014 | 0.004 | 0.007 | 0 | 0.003 | 8109 | 0.005 | 0.005 | 0 | 0.009 |
| 8015 | 0.003 | 0.005 | 0 | 0.006 | 8113 | 0.004 | 0.005 | 0 | 0.006 |
| 8017 | 0.003 | 0.008 | 0 | 0.041 | 8115 | 0.007 | 0.009 | 0 | 0.006 |
| 8019 | 0.004 | 0.005 | 0 | 0.003 | 8117 | 0.004 | 0.006 | 0 | 0.003 |
| 8021 | 0.004 | 0.006 | 0 | 0.003 | 8119 | 0.011 | 0.006 | 0 | 0.002 |
| 8023 | 0.002 | 0.003 | 0 | 0.005 | 8121 | 0.002 | 0.005 | 0 | 0.001 |
| 8025 | 0.005 | 0.009 | 0 | 0.002 | 8123 | 0.004 | 0.006 | 0 | 0.003 |
| 8027 | 0.045 | 0.087 | 0 | 0.002 | 8125 | 0.004 | 0.006 | 0 | 0.003 |
| 8029 | 0.005 | 0.006 | 0 | 0.004 | 35001 | 0.004 | 0.006 | 0 | 0.003 |
| 8031 | 0.054 | 0.006 | 0 | 0.005 | 35003 | 0.006 | 0.01 | 0 | 0.007 |
| 8033 | 0.015 | 0.004 | 0 | 0.002 | 35005 | 0.004 | 0.005 | 0 | 0.003 |
| 8035 | 0.004 | 0.007 | 0 | 0.003 | 35006 | 0.004 | 0.006 | 0 | 0.003 |
| 8037 | 0.004 | 0.006 | 0.119 | 0.003 | 35007 | 0.008 | 0.006 | 0 | 0.002 |
| 8039 | 0.005 | 0.006 | 0 | 0.003 | 35009 | 0.004 | 0.006 | 0 | 0.004 |
| 8041 | 0.004 | 0.006 | 0 | 0.003 | 35011 | 0 | 0.006 | 0 | 0.006 |
| 8043 | 0.004 | 0.006 | 0 | 0.004 | 35013 | 0.004 | 0.006 | 0 | 0.003 |
| 8045 | 0.004 | 0.006 | 0 | 0.003 | 35015 | 0.004 | 0.006 | 0 | 0.005 |
| 8047 | 0.004 | 0.005 | 0 | 0.022 | 35017 | 0.005 | 0.006 | 0 | 0.003 |
| 8049 | 0.005 | 0.005 | 0 | 0.007 | 35019 | 0.011 | 0.056 | 0 | 0.003 |
| 8051 | 0.004 | 0.006 | 0 | 0.003 | 35021 | 0.004 | 0.003 | 0 | 0.002 |
| 8053 | 0.006 | 0 | 0.148 | 0.170 | 35023 | 0.006 | 0.006 | 0 | 0.002 |
| 8055 | 0.005 | 0.008 | 0 | 0.001 | 35025 | 0.030 | 0.006 | 0 | 0.003 |
| 8057 | 0.019 | 0.004 | 0 | 0.002 | 35027 | 0.004 | 0.081 | 0 | 0.003 |
| 8059 | 0.004 | 0.006 | 0 | 0.009 | 35028 | 0.004 | 0.006 | 0 | 0.004 |
| 8061 | 0.003 | 0.003 | 0 | 0.001 | 35029 | 0.005 | 0.007 | 0 | 0.002 |
| 8063 | 0.004 | 0.007 | 0 | 0.003 | 35031 | 0.004 | 0.005 | 0 | 0.004 |
| 8065 | 0.006 | 0.006 | 0 | 0.003 | 35033 | 0.014 | 0.006 | 0 | 0.002 |
| 8069 | 0.004 | 0.006 | 0 | 0.003 | 35035 | 0.014 | 0.007 | 0.118 | 0.003 |
| 8071 | 0.004 | 0.006 | 0 | 0.003 | 35037 | 0.003 | 0.005 | 0 | 0.011 |
| 8073 | 0.005 | 0.007 | 0.615 | 0.002 | 35039 | 0.004 | 0.006 | 0 | 0.003 |
| 8075 | 0.004 | 0.005 | 0 | 0.003 | 35041 | 0.004 | 0.006 | 0 | 0.003 |
| 8077 | 0.004 | 0.006 | 0 | 0.003 | 35043 | 0.004 | 0.007 | 0 | 0.003 |
| 8079 | 0.297 | 0.243 | 0 | 0.18 | 35047 | 0.004 | 0.006 | 0 | 0.003 |
| 8081 | 0.004 | 0.007 | 0 | 0.003 | 35049 | 0.004 | 0.006 | 0 | 0.004 |
| 8083 | 0.004 | 0.005 | 0 | 0.004 | 35051 | 0.004 | 0.008 | 0 | 0.003 |
| 8085 | 0.003 | 0.007 | 0 | 0.003 | 35053 | 0.003 | 0.005 | 0 | 0.003 |
| 8087 | 0.003 | 0.006 | 0 | 0.005 | 35055 | 0.004 | 0.007 | 0 | 0.003 |
| 8089 | 0.149 | 0.005 | 0 | 0.002 | 35057 | 0.006 | 0.006 | 0 | 0.003 |
| 8091 | 0.004 | 0.005 | 0 | 0.004 | 35059 | 0.004 | 0.004 | 0 | 0.012 |
| 8093 | 0.004 | 0.005 | 0 | 0.007 | 35061 | 0.004 | 0.006 | 0 | 0.003 |
| 8095 | 0.001 | 0.005 | 0 | 0.264 | | | | | |

Notes: list of donor pool counties in Colorado and New Mexico and corresponding synthetic weights for each infant health outcome. FIPS=Federal Information Processing Standard code.

**Table S2.** Additional Robustness Checks (Synthetic Control Results).

| | (1) Low Birth Weight | (2) Prematurity | (3) Birth Weight | (4) Gestation Length |
|---|---|---|---|---|
| *Panel A: Singleton Births Only* | | | | |
| $SCM_{effect}$ | 0.0058 | 0.0069 | −95.21 | −0.237 |
| P-value | 0.01 | 0.01 | 0.05 | 0.10 |
| Sample size | 564 | 564 | 564 | 564 |
| *Panel B: Adding Insurance Status and WIC Variables* | | | | |
| $SCM_{effect}$ | 0.0061 | 0.0071 | −98.29 | −0.246 |
| P-value | 0.01 | 0.00 | 0.05 | 0.09 |
| Sample size | 564 | 564 | 564 | 564 |
| *Panel C: Not Weighting by RMSPE* | | | | |
| $SCM_{effect}$ | 0.0060 | 0.0071 | −98.31 | −0.245 |
| P-value | 0.04 | 0.05 | 0.07 | 0.12 |
| Sample size | 564 | 564 | 564 | 564 |

Notes: synthetic control results shown across three different robustness checks. In panel A, only singleton births are included in the analysis. In panel B, indicators for insurance status (Medicaid, private insurance, and self-pay) and WIC are added to the set of variables used in the SCM weighting process. In panel C, the placebo effect estimates are not weighted by their pre-treatment RMSPE. Changes in each panel are not cumulative with each other. The same set of baseline controls for mother characteristics, socio-demographics, and weather patterns are included, as before.