# Armed Conflict and Child Mortality in Africa

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**Supplemental Appendix**

May 27, 2018

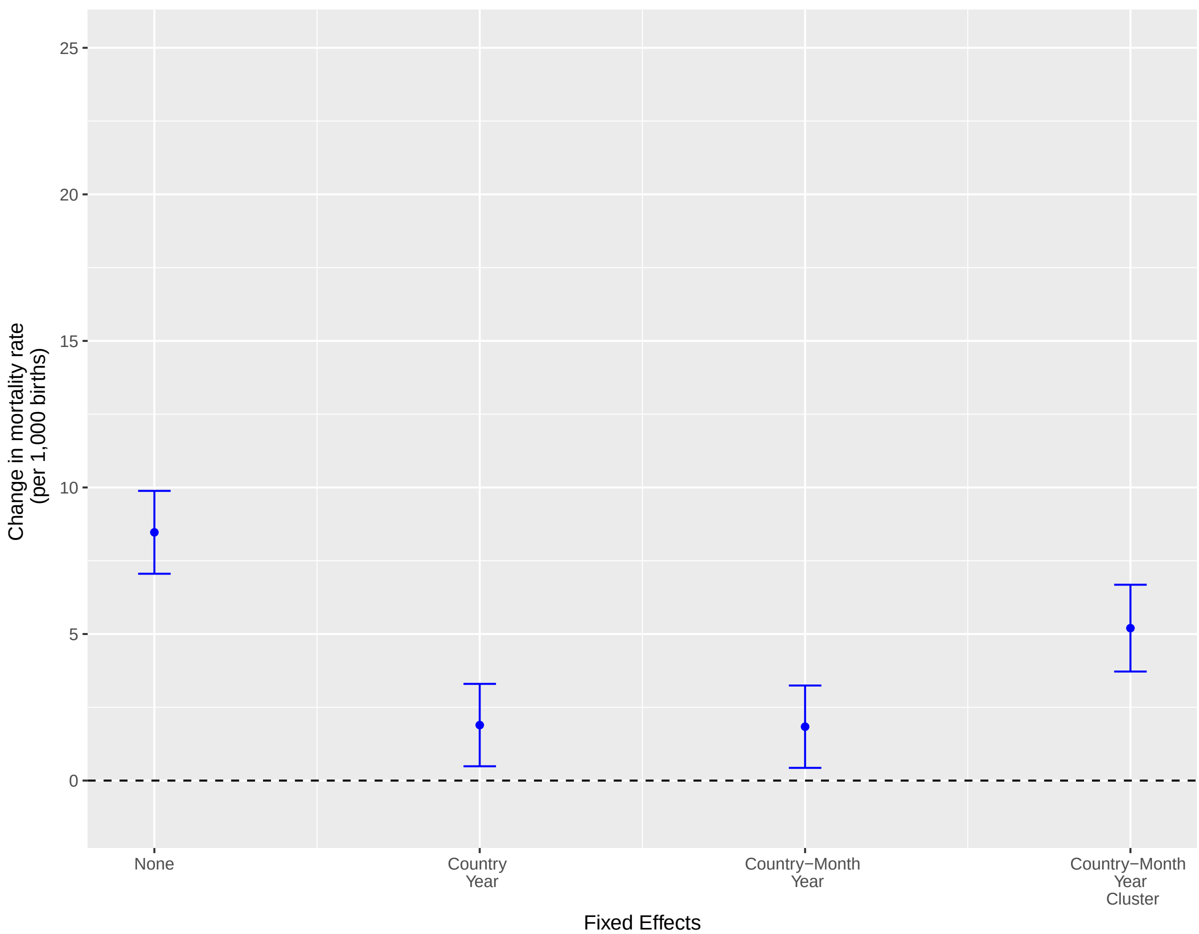
## Contents

# 1 Robustness of main results

## 1.1 Robustness to different levels of fixed effects

In the main text, we used country-month fixed-effects, year fixed-effects, and DHS cluster fixed-effects. Although this helps to improve identification of the causal effect of conflict, such granular fixed effects restrict potentially important variation that occurs across time and space. Below, we test the sensitivity of our results to inclusion of less restrictive fixed-effects (Figure S1 and Table S1). All specifications imply that having a deadly conflict in the first year of life increases under-1 mortality risk, although the magnitude of the effect varies. The far right specification in both the table and the figure is the estimate reported in the main text.

Figure S1: binary estimates with different sets fixed effects




**Note:** Country-month FE, year FE, and cluster FE is used for specification reported in main text

Table S1: Regression results with different fixed-effect

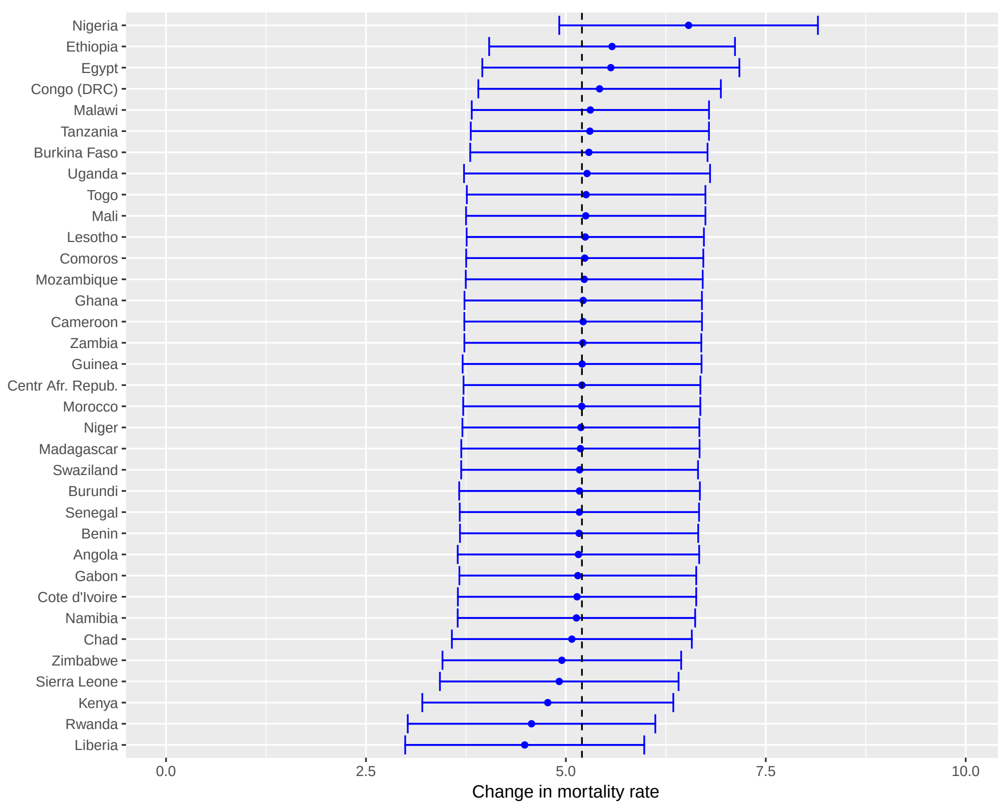
| | Under-1 Mortality (Per 1,000 Births) | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Any Deadly Conflict | 8.470*** | 1.894*** | 1.838** | 5.201*** |
| | (0.721) | (0.717) | (0.717) | (0.756) |
| country FE | no | yes | no | no |
| birth year FE | no | yes | yes | yes |
| country-month FE | no | no | yes | yes |
| DHS cluster FE | no | no | no | yes |
| Observations | 1,985,109 | 1,985,109 | 1,985,109 | 1,985,109 |
| $R^2$ | 0.0001 | 0.009 | 0.010 | 0.047 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

## 1.2 Robustness to leaving each country out individually

It is possible that our effects are driven by one particularly violent and/or large country. Below, we present the sensitivity of our binary estimate after re-running our primary specification with each country's observations excluded individually. The dotted line represents the binary estimate reported in main text. Figure S2 demonstrates that our results are stable to the country composition and are not driven by one single country.

Figure S2: binary estimates after exclusion of each country individually




**Note:** Dotted line represents binary estimate reported in main text

## 1.3 Robustness to excluding potential migrants

The primary analysis uses information provided in DHS surveys about the location of the cluster (roughly village or neighborhood) where the children's mothers were interviewed. This location may be different from the location where the child analyzed spent his or her first year of life. The decision to move may be correlated with conflict through conflict-induced displacement. If the children of women who are displaced have systematically higher or lower mortality than those who stay (either higher or lower mortality are plausible: displacement is a risky event; and at the same time staying near conflict is also risky), then our main effects may be biased. We examine this possibility by restricting our sample to those children whose mothers indicated that they have been in their current place of residence for at least 10 years prior to the child's birth. The DHS question is "How long have you been living continuously in (NAME OF CURRENT CITY, TOWN or VILLAGE OF RESIDENCE)?" By restricting the sample to mothers with long-standing place of residence, we lost nearly 75% of the sample. Figure S3 and Table S2 below show the findings from the main specification, using the no-migration sample. While the error bars are wider throughout due to the smaller sample size, the main pattern remains.

Figure S3: Main estimates after exclusion of potential migrants

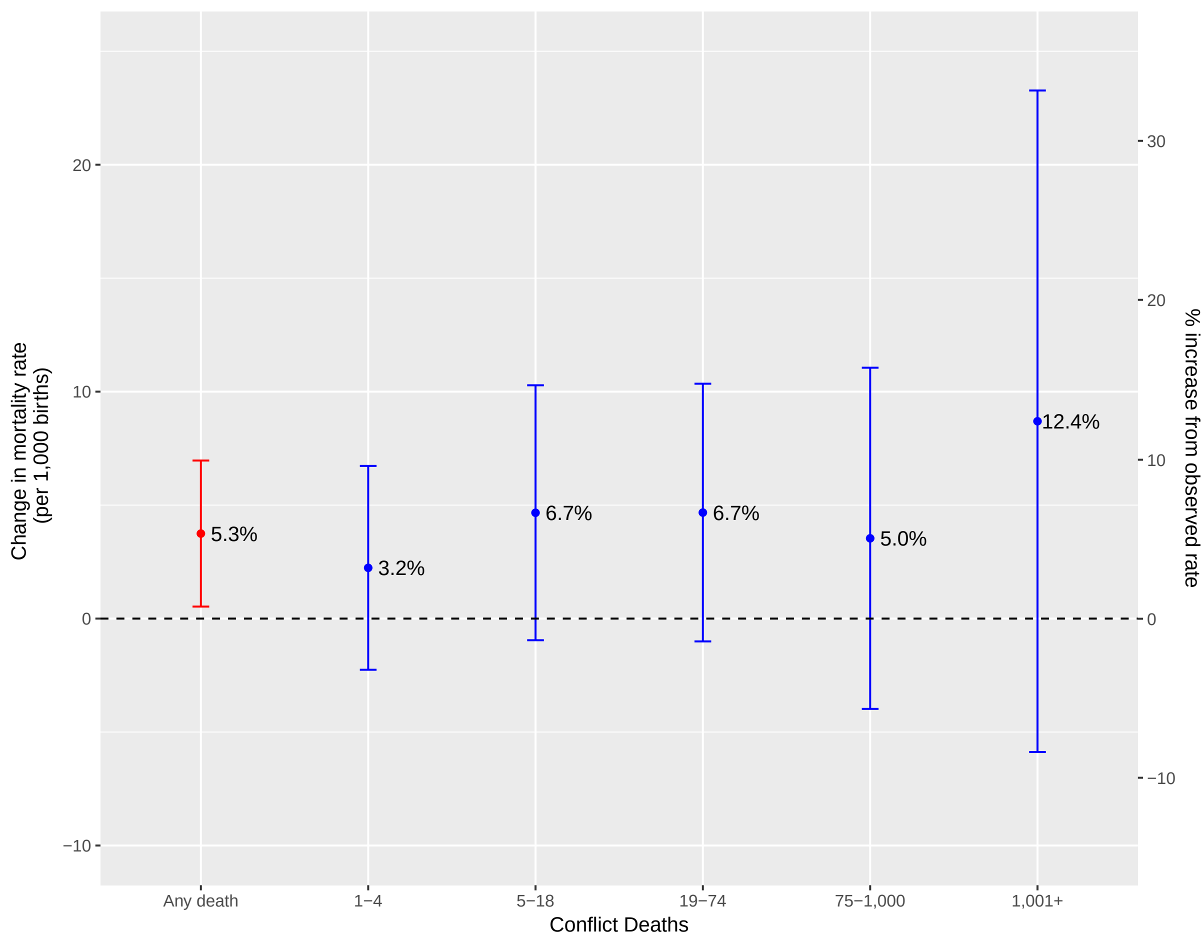


Table S2: Regression results for the impact of conflict on under-1 mortality (excluding migrants)

| | Under-1 Mortality (Per 1,000 Births) | | | |
|---|---|---|---|---|
| | Binary | Binary | Categorical | Categorical |
| | (1) | (2) | (3) | (4) |
| Any Conflict | 3.747** | 3.719** | | |
| | (1.642) | (1.645) | | |
| 1-4 Deaths | | | 2.236 | 2.135 |
| | | | (2.292) | (2.291) |
| 5-18 Deaths | | | 4.664 | 4.707 |
| | | | (2.866) | (2.874) |
| 19-74 Deaths | | | 4.672 | 4.676 |
| | | | (2.897) | (2.897) |
| 75-1,000 Deaths | | | 3.537 | 3.522 |
| | | | (3.835) | (3.830) |
| 1,001+ Deaths | | | 8.695 | 8.757 |
| | | | (7.437) | (7.451) |
| controls | no | yes | no | yes |
| country-month FE | yes | yes | yes | yes |
| birth year FE | yes | yes | yes | yes |
| DHS cluster FE | yes | yes | yes | yes |
| Observations | 559,737 | 559,594 | 559,737 | 559,594 |
| $R^2$ | 0.068 | 0.069 | 0.068 | 0.069 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

## 1.4 ACLED data

The Armed Conflict Location Events Dataset (ACLED) is an alternative source of data to the UCDP GED, and can be used to identify conflict events. However, the ACLED has a more limited time span, and in addition was found to be more prone to data quality concerns and inconsistent sub-national coding in comparison with UCDP GED. However, we use the ACLED data to test for the robustness of our results to the choice of data source. Both figure S4 and table S3 demonstrate that our results are very similar when we use the ACLED data.

Figure S4: Main estimates using ACLED conflict data

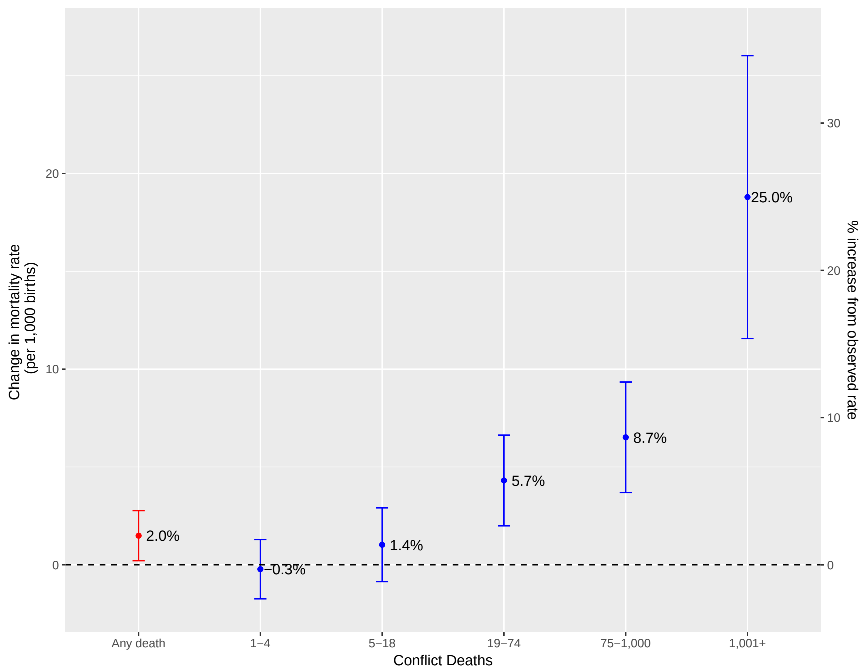


Table S3: Regression results for the impact of conflict on under-1 mortality (ACLED data)

| | Under-1 Mortality (Per 1,000 Births) | | | |
|---|---|---|---|---|
| | Binary | Binary | Categorical | Categorical |
| | (1) | (2) | (3) | (4) |
| Any Conflict | 1.451** | 1.488** | | |
| | (0.653) | (0.653) | | |
| 1-4 Deaths | | | −0.235 | −0.225 |
| | | | (0.773) | (0.773) |
| 5-18 Deaths | | | 0.954 | 1.024 |
| | | | (0.962) | (0.962) |
| 19-74 Deaths | | | 4.283*** | 4.310*** |
| | | | (1.183) | (1.183) |
| 75-1,000 Deaths | | | 6.414*** | 6.517*** |
| | | | (1.442) | (1.441) |
| 1,001+ Deaths | | | 18.604*** | 18.795*** |
| | | | (3.694) | (3.689) |
| controls | no | yes | no | yes |
| country-month FE | yes | yes | yes | yes |
| birth year FE | yes | yes | yes | yes |
| DHS cluster FE | yes | yes | yes | yes |
| Observations | 1,742,108 | 1,741,973 | 1,742,108 | 1,741,973 |
| $R^2$ | 0.052 | 0.053 | 0.052 | 0.053 |
| *Note:* | | | *p<0.1; **p<0.05; ***p<0.01 | |

## 1.5 Sensitivity to precision of conflict location geocoding

Although the UCDP-GED conflict data is geocoded, the coding comes with a certain degree of uncertainty. For each conflict event, the UCDP coders indicate the level of precision of the location code. The following levels of precision are used.

1. Event can be related to an exact location, meaning a place name with a specific pair of x and y coordinates;
2. Event can be near, in the area of or up to 25 km away from an exact location, meaning a place name with a specific pair of x and y coordinates;
3. Event can be related to a second order administrative division (ADM2), such as a district, municipality or commune;
4. Event can be related to a first order administrative division (ADM1), such as a province, state or governorate;
5. Event can only be related to a section of a country that is larger than the ADM1 (e.g. Northern Uganda), to an artificially estimated pair of coordinates (a representation point) or to such locations as rivers, lakes, forests or parks which cover several administrative divisions or even countries;
6. Event can only be related to the whole country;
7. Event can only be related to an estimated pair of coordinates at sea/in water formations.

Below, we present the precision of the conflict events included in our analysis.

Table S4: Precision of conflict events used in analysis

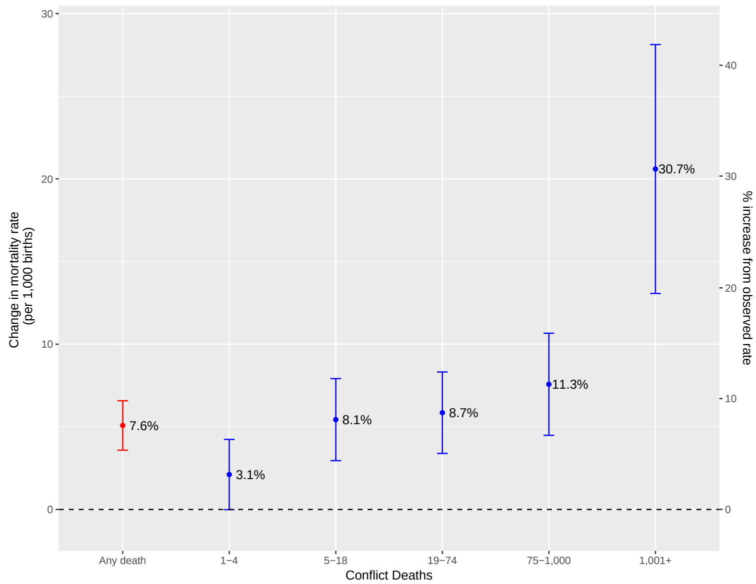
| Precision | Events | Percent |
|---|---|---|
| 1 | 9,131 | 49.20 |
| 2 | 3,402 | 18.33 |
| 3 | 3,021 | 16.28 |
| 4 | 2,209 | 11.903 |
| 5 | 629 | 3.39 |
| 6 | 160 | 0.86 |
| 7 | 6 | 0.03 |

We test for how sensitive our main estimates are to the precision of conflict geo-coding in two ways. First, we exclude conflicts that were less precise than the ADM1 level (i.e., >4). Second, we weighted observations that experienced conflict by the precision of their conflict code in order to up-weight more precise conflict coding. For each birth that occurred near a conflict event, we created a weight as the inverse of the precision code. For example, a birth near a conflict of geo-precision code 1, would get a weight of 1, a birth near a conflict of geo-precision code 2 would get a weight of .5, and so on. If there were multiple conflict events that occurred near the same birth, the weighted average of the precision codes across all nearby events was taken (weighted by the number of deaths associated with the event).

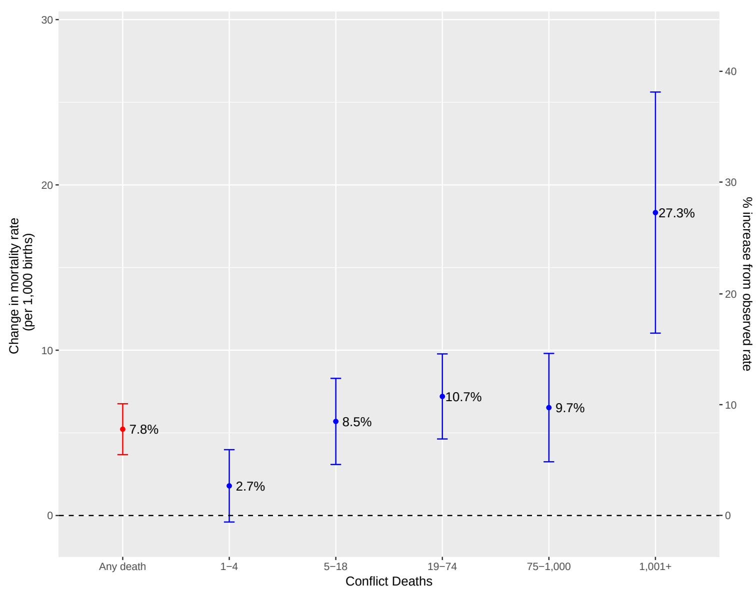
Figure S5 demonstrates that our main estimates are not very sensitive to the precision of the conflict codes. In both methods (excluding imprecise events and down-weighting imprecise events) our estimates are very similar to Figure 2 of the main text.

Figure S5: Impact of deadly conflict on under-1 mortality (robustness to precision of conflict location)

(a) Excluding precision levels of 5-7




(b) Weighting by precision of location



# 2 Extensions to main analysis

## 2.1 Effect of conflict on neonatal mortality

Neonatal mortality, or death in the first month of life, is heavily impacted by maternal and pregnancy factors, including prenatal care, pregnancy duration, pregnancy outcomes, nursing, and early life care. If armed conflict were to increase neonatal mortality rates, it would be expected to do so most meaningfully via impacts on maternal factors. Figure S6 and table S5 present estimates of the impact of armed conflict in the year prior to birth on neonatal mortality. These result show that conflict indeed increased the risk of neonatal mortality.

Figure S6: Impact of deadly conflict on neonatal mortality

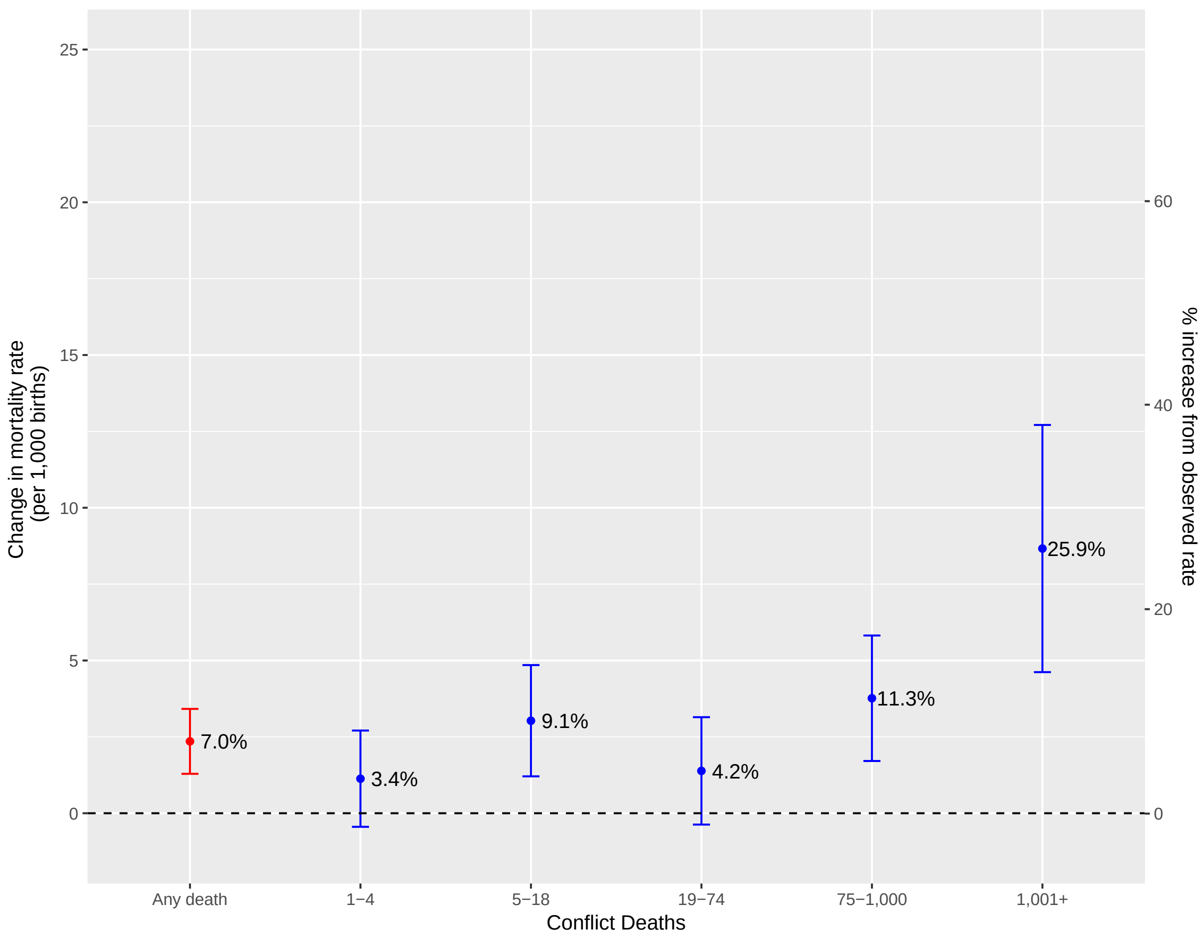


Table S5: Regression results for the impact of conflict on neonatal mortality

| | Neonatal Mortality (Per 1,000 Births) | | | |
|---|---|---|---|---|
| | Binary | Binary | Categorical | Categorical |
| | (1) | (2) | (3) | (4) |
| Any Conflict | 2.353*** | 2.336*** | | |
| | (0.542) | (0.543) | | |
| 1-4 Deaths | | | 1.131 | 1.084 |
| | | | (0.804) | (0.804) |
| 5-18 Deaths | | | 3.029*** | 3.024*** |
| | | | (0.929) | (0.929) |
| 19-74 Deaths | | | 1.387 | 1.361 |
| | | | (0.897) | (0.897) |
| 75-1,000 Deaths | | | 3.765*** | 3.786*** |
| | | | (1.048) | (1.048) |
| 1,001+ Deaths | | | 8.665*** | 8.737*** |
| | | | (2.064) | (2.065) |
| controls | no | yes | no | yes |
| country-month FE | yes | yes | yes | yes |
| birth year FE | yes | yes | yes | yes |
| DHS cluster FE | yes | yes | yes | yes |
| Observations | 1,985,109 | 1,984,717 | 1,985,109 | 1,984,717 |
| $R^2$ | 0.036 | 0.037 | 0.036 | 0.037 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

The above documents an increase in neonatal mortality risk as a result of nearby conflict in the year prior to birth. Next, we assess how much of the increased under-1 mortality risk that results from nearby conflict is attributable to neonatal mortality. To do this, we assess the role of conflict in under-1 mortality only for children that survived the first month of life. Table S6 shows that the coefficient decreases from 5.2 to 3.8 deaths per 1,000 births when we exclude neonatal mortality. This suggests that conflict disproportionately affects newborns, who account for about 30% of all under-1 deaths attributable to conflict. This is partly driven by the fact that newborns account for a large share of under-1 deaths.

Table S6: Assesing the share of under-1 deaths attributable to newborns

| | Under-1 Mortality (Per 1,000 Births) | |
|---|---|---|
| | Main Estimates | Excluding Neonatal Deaths |
| | (1) | (2) |
| Any Conflict in First Year of Life | 5.201*** | 3.605*** |
| | (0.756) | (0.565) |
| country-month FE | yes | yes |
| birth year FE | yes | yes |
| DHS cluster FE | yes | yes |
| Observations | 1,985,109 | 1,918,799 |
| $R^2$ | 0.047 | 0.042 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

## 2.2 Effect of conflict on under-5 mortality

Below, we extend our analysis to estimate the impact of deadly conflict on under-5 mortality, a more commonly used metric to assess the status of child health than under-1 mortality. In Figure S7a, we ran 5 separate regressions of the same form specified in the main text, each of which used under-5 mortality as the dependent variable. The regressions differ in the year of the child's life in which we assess the impact of conflict. In other words, we examine separately the impact of conflict occurring in each of the first 5 years of life. When we examine the role of conflict occurring in the second through fifth year of life, we restrict the sample to children who survived to the respective year, so that we are not using future conflicts to predict mortality. This gives the following equation.

$$Pr(y_{ilcmta}|y_{a-1} = 0) = D_{lcta} + \mathbf{X}_{ilcmt} + \eta_{lc} + \varphi_{cm} + \gamma_t + \epsilon_{ilcmt} \quad (1)$$

Where $y$ — an indicator that equals 1 if the child did not survive to age 5 and 0 otherwise — is indexed for child $i$, cluster $l$, country $c$, birth month (January-December) $m$, and year of birth $t$. The subscript $a$ represent the age of the child when conflict occurred and is used to identify 1) whether the child survived to age $= a$ (in years) and 2) whether a deadly conflict occurred within 50km of the child's home in the $a$th year of life. The main predictor in eq. (1), $D_{lcta}$, is an indicator, indexed to the child's cluster and year, representing whether or not the child was exposed to armed conflict (of any intensity) within 50km during their $a$th year of life. The left hand side of the equation implies that we are estimating under-5 mortality for children that survived to age $a$.

Figure S7a implies that conflict occurring in the first year of life had the strongest impact on under-5 mortality. For children that survived their first year of life, conflict in the second year also increased the risk of under-5 mortality, but by a much smaller magnitude. While the absolute risk increase for children in the second year of life is smaller than in the first year, the baseline mortality rate is also lower, and the proportional increase is nearly as high as that for under-1 children, 4.8% increase. For children surviving their first 2 years of life, additional conflict in subsequent years does not appear to elevate mortality risk. Table S7 presents the regression estimates used to create Figure S7a.

Figure S7: Impact of deadly conflict on under-5 mortality

(a) Impcat of conflict at different ages

(b) Age composition of under-5 mortality as a result of conflict at different points in time

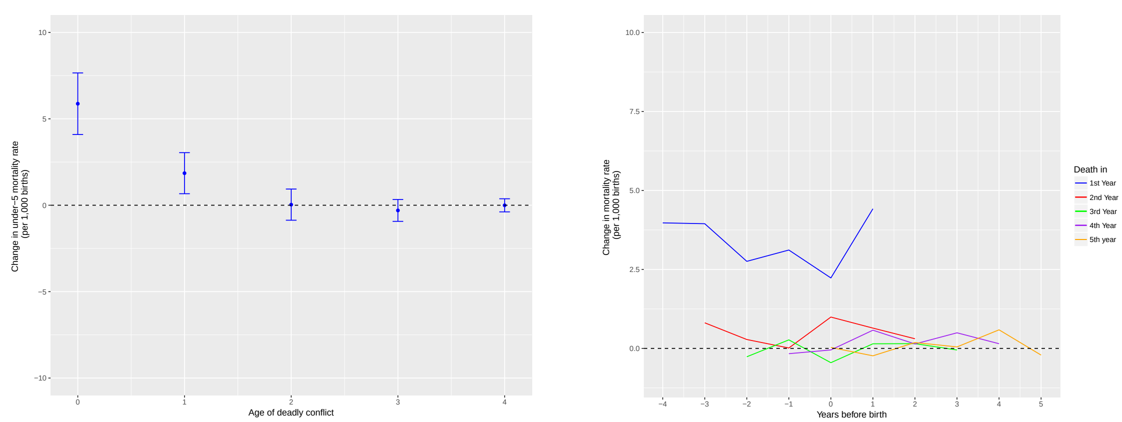



Figure S7a demonstrates that under-5 mortality is most sensitive to conflict that occurs in the first year of life. However, this figure does not provide insight into when death occurs. For example, children that have a conflict in the first year of life might not experience the negative outcome that contributes to under-5 mortality for several years (e.g., if they do not get immunized as a result of conflict in year 1, they might die in year 4). To examine the timing of death that results from conflict at different points in the child's life, we include lagged conflicts to equation 1, giving equation 2.

$$Pr(y_{ilcmta}|y_{a-1} = 0) = \sum_{q=a-4}^{q=a} D_{lctq} + \mathbf{X}_{ilcmt} + \eta_{lc} + \varphi_{cm} + \gamma_t + \epsilon_{ilcmt} \quad (2)$$

Figure S7b plots the increased age-specific mortality rate that results from conflict occurring during the respective year, or in the 4 previous years. The blue line is consistent with Figure 3 in the main paper, and implies that conflict in the first year of life and the 4 years prior to birth all have a strong effect on under-1 mortality. The other lines imply that it does not matter when conflict occurs, risk of death after the second year of life is minimally affected by conflict. Taken together, these results suggest that most of the child deaths that are related to conflict are occurring among infants, although an important portion of deaths occur in the second year of life as well.

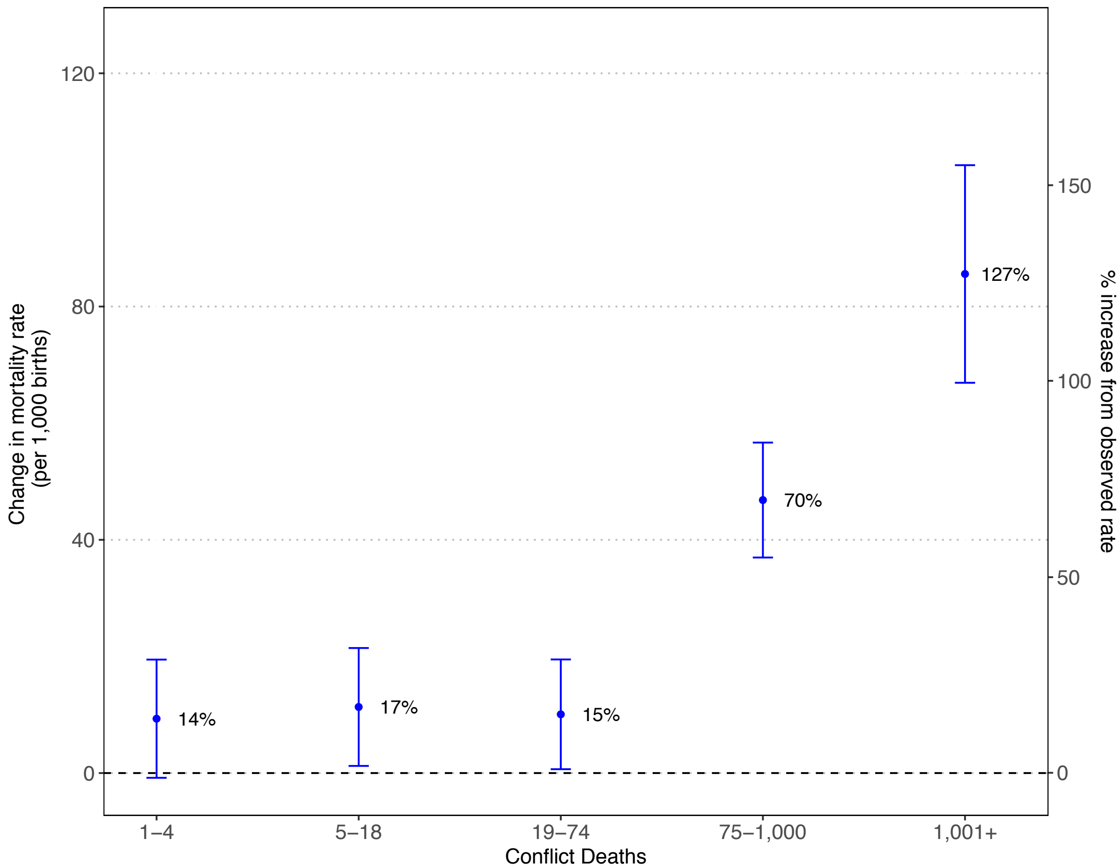
Table S7: Regression results for the impact of conflict on under-5 mortality

| | Under-5 mortality (Per 1,000 Births) | | | | |
|---|---|---|---|---|---|
| | Year of child's life when conflict occured | | | | |
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| | (1) | (2) | (3) | (4) | (5) |
| Any Conflict in Respective Year | 5.875*** | 1.855*** | 0.035 | −0.301 | −0.005 |
| | (0.909) | (0.606) | (0.460) | (0.323) | (0.193) |
| country-month FE | yes | yes | yes | yes | yes |
| birth year FE | yes | yes | yes | yes | yes |
| DHS cluster FE | yes | yes | yes | yes | yes |
| Observations | 1,985,109 | 1,851,748 | 1,819,885 | 1,798,438 | 1,786,741 |
| $R^2$ | 0.069 | 0.055 | 0.043 | 0.030 | 0.023 |

*Note:* *p<0.1; **p<0.05; ***p<0.01
Columns 2-5 exclude children who died before respective year

## 2.3 Impact of conflict of different intensities over time

Figure S8: Impact of conflict events of different intensities on infant mortality (cumulative effect over 10-years after event)



## 2.4 Heterogeneity in effect of conflict

We estimated how conflict impacted infant mortality differently by whether the child was female (Figure S9 and Table S8) and by whether the child was born in an urban or rural location (Figure S10 and Table S9). We find no evidence that there was a differential effect by the sex of the child. However, we do find that the type of location was important. Children born in rural areas experienced a larger increase in mortality risk as a result of nearby armed conflict. With our binary exposure measure, the increase in infant mortality risk in rural areas was three times the increase in urban areas. This heterogeneity was mostly driven by very large conflicts having a larger effect in rural areas.

Figure S9: Heterogeneity by sex of child

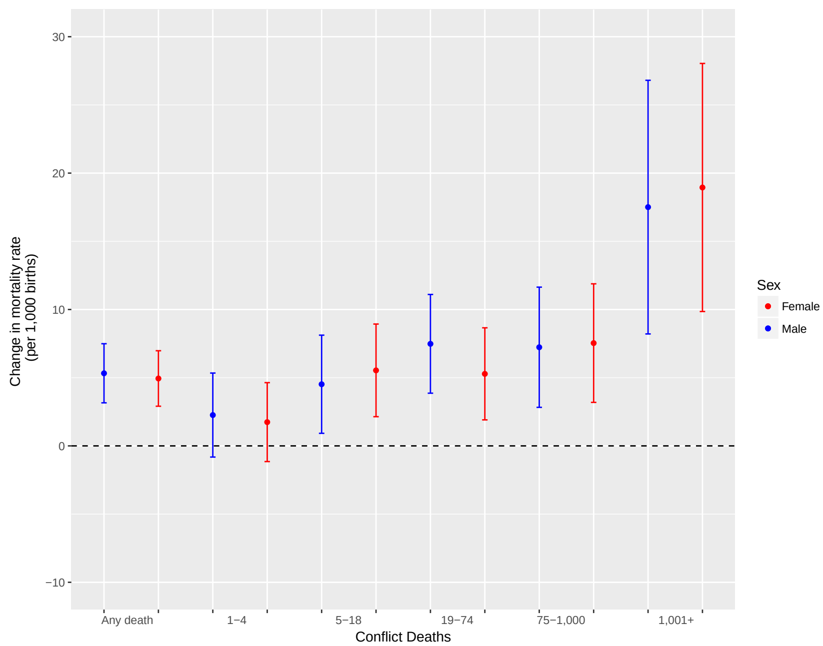


Table S8: Regression results for heterogeneity by sex

| | Under-1 Mortality (Per 1,000 Births) | |
|---|---|---|
| | Binary | Categorical |
| | (1) | (2) |
| Any Conflict | 5.352*** | |
| | (0.971) | |
| Female | −11.410*** | −11.409*** |
| | (0.388) | (0.388) |
| Female X Any Conflict | −0.306 | |
| | (1.148) | |
| 1-4 Deaths | | 2.189 |
| | | (1.461) |
| 5-18 Deaths | | 4.657*** |
| | | (1.706) |
| 19-74 Deaths | | 7.575*** |
| | | (1.716) |
| 75-1,000 Deaths | | 7.148*** |
| | | (2.074) |
| 1,001+ Deaths | | 18.112*** |
| | | (4.556) |
| Female X 1-4 Deaths | | −0.371 |
| | | (1.876) |
| Female X 5-18 Deaths | | 1.546 |
| | | (2.217) |
| Femalel X 19-74 Deaths | | −2.488 |
| | | (2.190) |
| Female X 75-1,000 Deaths | | 0.469 |
| | | (2.622) |
| Female X 1,000+ Deaths | | −0.485 |
| | | (6.105) |
| country-month FE | yes | yes |
| birth year FE | yes | yes |
| DHS cluster FE | yes | yes |
| Observations | 1,985,109 | 1,985,109 |
| $R^2$ | 0.048 | 0.048 |
| *Note:* | | *p<0.1; **p<0.05; ***p<0.01 |

Figure S10: Heterogeneity by type of location

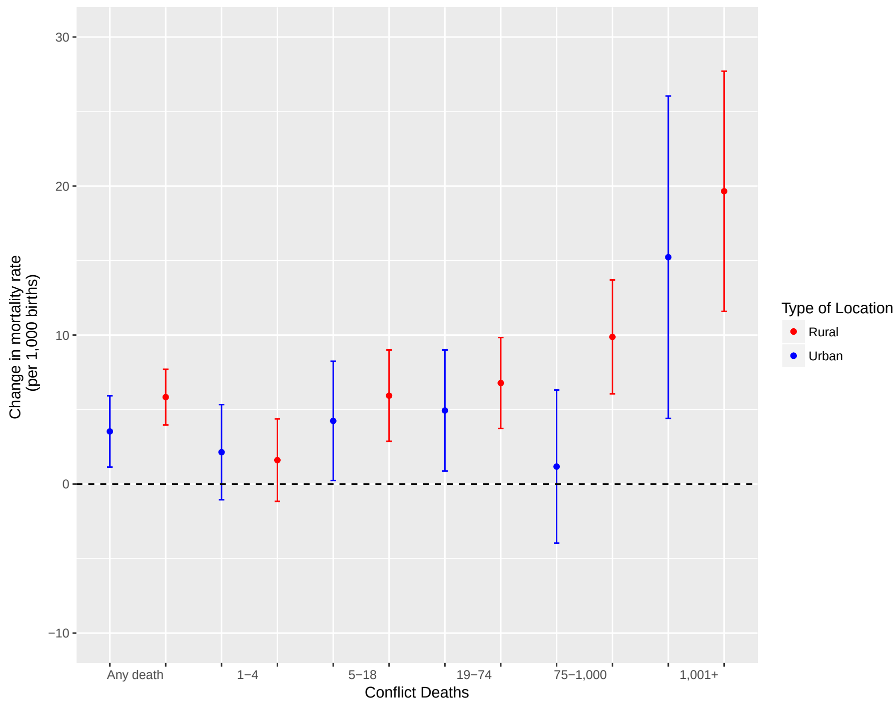


Table S9: Heterogeneity by type of location (urban/rural)

| | Under-1 Mortality (Per 1,000 Births) | |
|---|---|---|
| | Binary | Categorical |
| | (1) | (2) |
| Any Conflict | 2.449** | |
| | (1.211) | |
| Rural | 27.838 | 27.840 |
| | (22.652) | (22.650) |
| Rural X Any Conflict | 4.148*** | |
| | (1.539) | |
| 1-4 Deaths | | 2.267 |
| | | (1.614) |
| 5-18 Deaths | | 3.761* |
| | | (2.029) |
| 19-74 Deaths | | 4.058** |
| | | (2.063) |
| 75-1,000 Deaths | | −2.530 |
| | | (2.611) |
| 1,001+ Deaths | | 7.762 |
| | | (5.471) |
| Rural X 1-4 Deaths | | −0.547 |
| | | (2.143) |
| Rural X 5-18 Deaths | | 2.535 |
| | | (2.561) |
| Rural X 19-74 Deaths | | 3.565 |
| | | (2.585) |
| Rural X 75-1,000 Deaths | | 14.259*** |
| | | (3.252) |
| Rural X 1,000+ Deaths | | 15.096** |
| | | (6.819) |
| country-month FE | yes | yes |
| birth year FE | yes | yes |
| DHS cluster FE | yes | yes |
| Observations | 1,985,109 | 1,985,109 |
| $R^2$ | 0.047 | 0.047 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

## 2.5 Interaction of conflict intensity and chronicity

Figure S11: Combination of Conflict Intensity and Chronicity

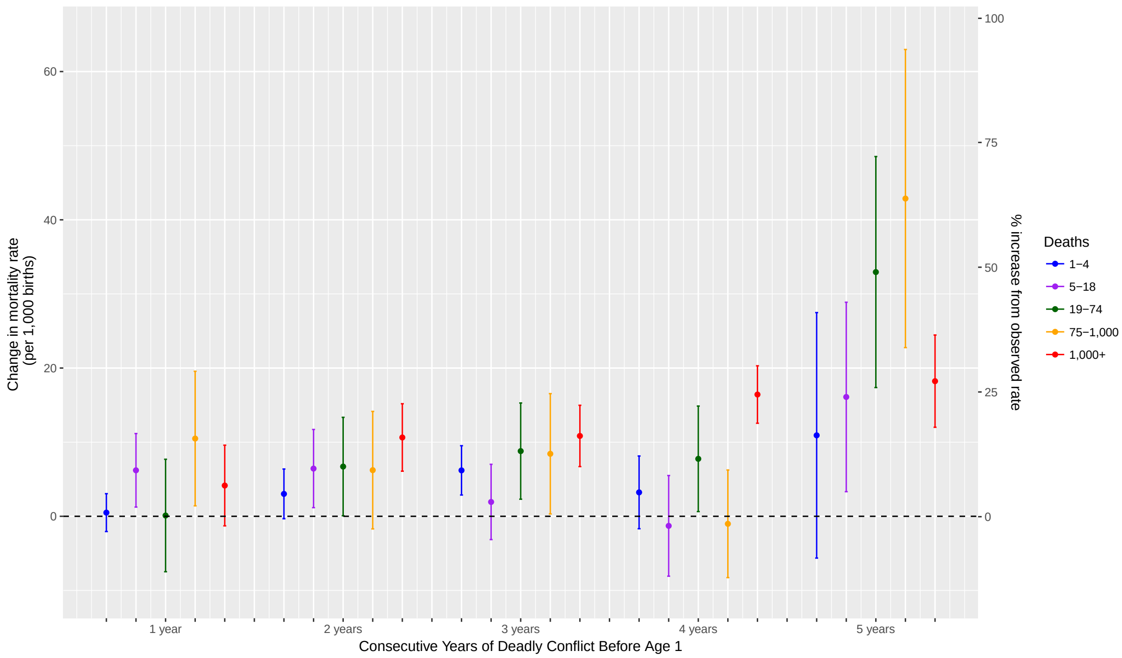



Table S10: Distribution of conflict exposure

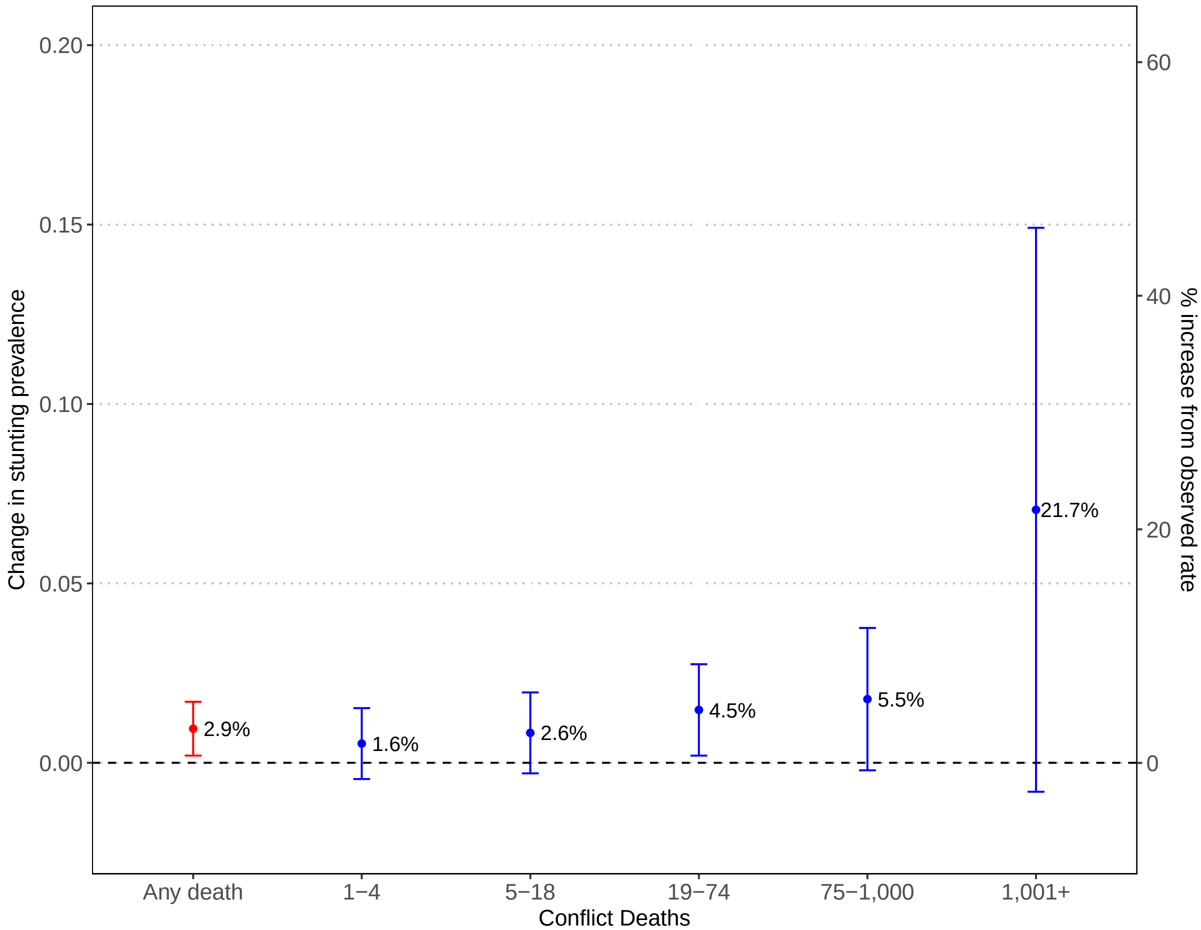
| | Exposure Type | Count | Percent |
|---|---|---|---|
| | No Conflict | 1,733,082 | 87.3 |
| 0-4 Deaths | 1 Year | 42,221 | 2.13 |
| | 2 Years | 10,692 | 0.54 |
| | 3 Years | 4,439 | 0.22 |
| | 4 Years | 3,080 | 0.16 |
| | 5 Years | 9,251 | 0.47 |
| 5-18 Deaths | 1 Year | 23,570 | 1.19 |
| | 2 Years | 9,305 | 0.47 |
| | 3 Years | 5,853 | 0.29 |
| | 4 Years | 4,145 | 0.21 |
| | 5 Years | 14,177 | 0.71 |
| 19-74 Deaths | 1 Year | 23,988 | 1.21 |
| | 2 Years | 9,966 | 0.5 |
| | 3 Years | 6,034 | 0.3 |
| | 4 Years | 4,175 | 0.21 |
| | 5 Years | 18,789 | 0.95 |
| 75-1,000 Deaths | 1 Year | 10,848 | 0.55 |
| | 2 Years | 5,518 | 0.28 |
| | 3 Years | 5,056 | 0.25 |
| | 4 Years | 4,933 | 0.25 |
| | 5 Years | 24,308 | 1.22 |
| 1,000+ Deaths | 1 Year | 915 | 0.05 |
| | 2 Years | 1,540 | 0.08 |
| | 3 Years | 1,029 | 0.05 |
| | 4 Years | 619 | 0.03 |
| | 5 Years | 7,576 | 0.38 |

*Note:* Years = number of consecutive years of conflict leading up to first year of life. Deaths = Number of deaths in child's cluster area in first year of life

## 2.6 Impact of Conflict on Stunting

Figure S12 portrays the impact of conflict on stunting. As mentioned in the main text, we used the WHO stunting definition of height-for-age less than 2 z-scores below standard median. The figure shows that nearby conflict elevated stunting rates by about 3%. The dose response with conflict intensity shows a pattern consistent with our findings for under-1 mortality, although the results are less precise. Table S18 shows the underlying regression results.

Figure S12: Impact of deadly conflict in first year of life on stunting



# 3 Deaths related to conflict

In this section, we outline the procedure we used to estimate the number of infant and under-5 deaths that are related to conflict. First, we geospatially linked child births and mortality rates to conflicts everywhere in Africa from 1995 to 2015 (with conflicts going back to 1989). Since birth and death data have either high spatial resolution or high temporal resolution, but not both, we leverage a combination of spatially disaggregated estimates and national-level time series data to generate time varying estimates over space.

For spatial patterns of births we utilize 1km estimates aggregated to an 0.1x0.1 degree grid.[1] These estimates are available only for 2015 so we must assume the spatial distribution of births is fixed over the period 1990-2015. We generate time series variation in birth estimates by utilizing annual national-level estimates for the number of live births and scaling accordingly.[2] For example, if Kenya had 5% fewer live births in 2010 than in 2015 we would take the 2015 gridded births surface for Kenya and reduce the cell-level estimates uniformly across the country by 5% to get estimates for 2010. We do this for each country-year to build a cell-level panel with estimates for the number of live births.

Spatial patterns of child mortality rates are available for 5 year mortality (5m0) from IHME (2017).[3] These estimates are available as 5 year averages every 5 years from 1990 through 2015. We were unable to find reliable annual country-level mortality rates so in order to estimate annual data from five-year periods we linearly interpolate cell-level values between five-year periods. This provides us with annual 5 year mortality rates. Additionally, our calculations for infant deaths require infant mortality rates. We use WHO data on five-year average country-level 1m0 and 5m0 (WHO 2017) to calculate the share of deaths by age 5 that occur by age 1. We assume this ratio is uniform for each country and each five year period and scale 5m0 accordingly. These scaled annual 5m0 estimates serve as our 1m0 estimates.

We then used the number of births, IMRs, and U5MRs to estimate the number of infant deaths and under-5 deaths for each grid-cell-year (equation 3) and linked this to the UCDP conflict data to identify whether a birth/death occurred within 0-50km and/or 51-100km of an armed conflict. The result is a grid-cell level panel data set that indicates the number of births, number of infant deaths, number of under-5 deaths, and conflict exposure in the respective grid-cell from 1995-2015. This data set combined with our estimates on how conflict impacts mortality risk at different distances was used to estimate the number of children who would not have died in the absence of conflict. We applied estimates from the effect of conflict on mortality at 0-50km distance and 51-100km distance only, because within 101-250km did not have a significant effect on mortality (see figure 3 of main text). The equations below outline the process we used to estimate the number of infant deaths and under-5 deaths that are related to conflict.

**Under-5 deaths related to conflict**: For under-5 deaths, we incorporate the effect of conflict in the first year of life and the second year of life (conditional on first year survival), because these were the only years for which we found conflict to elevate under-5 mortality risk (section 2.2). We only incorporated the effect of conflicts within 0-50km in the second year of life, because conflicts within 51-100km in the second year of life did not effect mortality (conflict at this distance only had an effect in the first year of life, Table S15).

We used the following to estimat the number of under-5 deaths in cell $c$ in year $t$ under the status quo:

$$D_{ct}^{sq} = B_{ct} \times U5MR_{ct} \tag{3}$$

Where $B_{ct}$ and $U5MR_{ct}$ are the number of births and the under-5 mortality rate in cell $c$ in year $t$, respectively.

We then take the sum across all cells and year to estimate the total under-5 deaths between 1995 and 2015 in the status quo:

$$D_{total}^{sq} = \sum D_{ct}^{sq} \tag{4}$$

Next, we estimate the deaths in cell $c$ in year $t$ if there were no conflict. The following is to adjust the number of deaths among children who experienced a conflict in their second year of life.

$$D_{c2}^{nocon} = B_{c2} + U5MR_{c2} - \beta_2^2 \text{ if } con_2 = 1 \tag{5}$$

Where $\beta_2^2$ is the estimated effect of conflict with 50km in the second year of life on under-5 mortality (conditional on one year survival) from Table S15. The under-5 mortality rate is decreased by $\beta_2^2$ for all births that had a conflict in the second year of life. For all other years (first year of life and up to 10 years before birth), we incorporate the contemporaneous and lagged effects of conflict leading up to the first year of life AND the lagged effect of conflict leading up the second year of life (conditional on one year survival) in order to estimate deaths with no conflict (see Table S15 for these estimates).

$$D_{ct}^{nocon} = \begin{cases} B_{ct} \times (U5MR_{ct} - \sum_{y=-9}^{1}(\beta_y^1 + \beta_y^2)) \text{ for all } y \text{ such that } con_y = 1 \\ B_{ct} \times U5MR_{ct} \text{ if } con_y = 0 \text{ for all } y \in (-9, 1) \end{cases} \tag{6}$$

Where $\beta_y^1$ and $\beta_y^2$ represent the impact of conflict within 50km of birth on under-5 mortality in the $y$th year of life leading up to year 1 and year 2 (conditional on one-year survival), respectively, estimated in table S15 ($y < 0$ implies conflict occurred prior to birth). In other words, we subtract the respective coefficients from the U5MR if there was a conflict in the $y$th year of life. We then incorporate the effect of conflict with 51-100km of birth in a similar way from Table S15, which further reduces the U5MR for grid-cells within 51-100km of conflict events (again, we only apply the estimates from conflict within 51-100km in the first year of life, because conflict with 51-100km in the second year of life did not significantly effect under-5 mortality). In addition to assuming an absolute reduction in the U5MR by the coefficients ($\beta$'s), we produce an estimate where we assume a proportional effect and scale down the U5MR by the proportional reduction $[U5MR * (1\text{-}\frac{\beta}{U5MR})]$.

Then we use the following to estimate the total deaths without conflict and deaths related to conflict.

Total deaths with no conflict:

$$D_{total}^{nocon} = \sum D_{ct}^{nocon} \tag{7}$$

Deaths related to conflict:

$$D_{related=}D_{total}^{sq} - D_{total}^{nocon} \tag{8}$$

**Infant deaths related to conflict**: For under-1 deaths related to conflict, we carry out a similar process, but instead incorporate estimates from Table S14. We decrease the IMR according to the following equation.

$$D_{ct}^{nocon} = \begin{cases} B_{ct} \times (IMR_{ct} - \sum_{y=-9}^{1} \beta_y) \text{ for all } y \text{ such that } \text{con}_y = 1 \\ B_{ct} \times IMR_{ct} \text{ if } \text{con}_y = 0 \text{ for all } y \in (-9, 1) \end{cases} \tag{9}$$

Where $\beta_y$ represents the reduction in conflict in the $y$th year of life estimated in Table S14 ($y < 0$ implies conflict occurred prior to birth). In other words, we subtract the respective coefficient from the IMR if there was a conflict in the $y$th year of life. Again, we apply reductions to the IMR that correspond to both the 0-50km effect and 51-100km effect. Again, we assume both an absolute reduction in the IMR and a proportional reduction $[IMR * (1\text{-}\frac{\beta}{IMR})]$. Then we use the following to estimate the total deaths with conflict and deaths related to conflict.

Total deaths with no conflict:

$$D_{total}^{nocon} = \sum D_{ct}^{nocon} \tag{10}$$

Deaths related to conflict:

$$D_{related=}D_{total}^{sq} - D_{total}^{nocon} \tag{11}$$

Table S11 displays the estimated number of under-5 deaths under each scenario and deaths related to conflict from 1995 to 2015. This table shows that about 4.9-5.5 million under-5 deaths are related to conflict (6.6 to 7.4% of all under-5 deaths).

Table S11: Under-5 deaths with conflict, without conflict, and related to conflict from 1995-2015

| | Observed | No conflict (absolute effect) | No conflict (proportional effect) |
|---|---|---|---|
| Total Deaths | 75,266,511 | 69,726,707 | 70,333,398 |
| Deaths Related to Conflict | n/a | 5,539,804 | 4,933,113 |

Table S12 displays the estimated number of infant deaths under each scenario and related to conflict from 1995 to 2015. This table shows that about 3.1 to 3.5 million infant deaths are related to conflict (6.6 to 7.3%, respectively), depending on whether we use a proportional or absolute reduction .

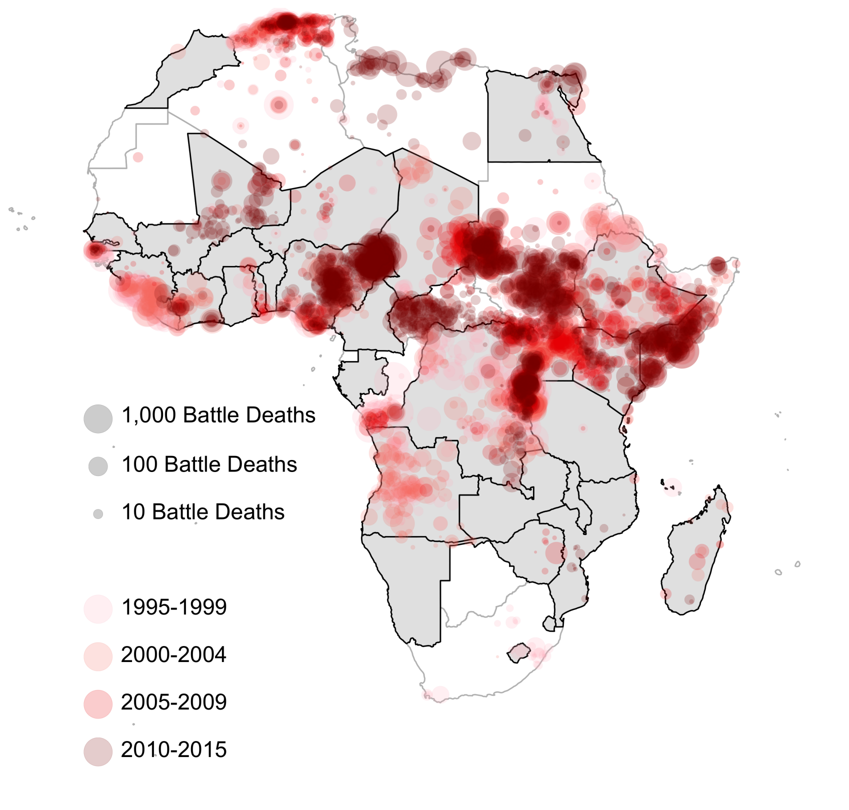
Table S12: Under-1 deaths with conflict, without conflict, and related to conflict from 1995-2015

| | Observed | No conflict (absolute effect) | No Conflict (proportional effect) |
|---|---|---|---|
| Total Deaths | 47,858,352 | 44,341,519 | 44,719,666 |
| Deaths Related to Conflict | n/a | 3,516,833 | 3,138,686 |

# 4 Extra data

## 4.1 Map of conflict intensity

Figure S13: Map of conflict intensity



## 4.2 Regression results for figure 3 (impact of conflict over time)

Table S13: Regression results for the impact of conflict on under-1 mortality over time

| | Under-1 Mortality (Per 1,000 Births) |
|---|---|
| | Binary conflict indicator |
| 1st year of life | 4.186*** |
| | (0.764) |
| 1 year before birth | 4.163*** |
| | (0.759) |
| 2 years before birth | 2.970*** |
| | (0.764) |
| 3 years before birth | 3.210*** |
| | (0.749) |
| 4 years before birth | 2.141*** |
| | (0.752) |
| 5 years before birth | 3.861*** |
| | (0.741) |
| 6 years before birth | 1.646** |
| | (0.728) |
| 7 years before birth | 0.828 |
| | (0.735) |
| 8 years before birth | 2.426*** |
| | (0.741) |
| 9 years before birth | 0.513 |
| | (0.767) |
| 10 years before birth | −0.821 |
| | (0.765) |
| country-month FE | yes |
| birth year FE | yes |
| DHS cluster FE | yes |
| Observations | 1,985,109 |
| $R^2$ | 0.047 |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |

## 4.3 Regression estimates used for under-1 mortality related to conflict

Table S14: Regression results for the impact of conflict on under-1 mortality over time

| | Under-1 Mortality (Per 1,000 Births) |
|---|---|
| | Under-1 Mortality |
| **0-50km Effect** | |
| 1st year of life | 2.923*** |
| | (0.795) |
| 1 year before birth | 3.104*** |
| | (0.791) |
| 2 years before birth | 2.037** |
| | (0.793) |
| 3 years before birth | 2.530*** |
| | (0.783) |
| 4 years before birth | 1.511* |
| | (0.785) |
| 5 years before birth | 3.561*** |
| | (0.772) |
| 6 years before birth | 1.463* |
| | (0.764) |
| 7 years before birth | 0.753 |
| | (0.774) |
| 8 years before birth | 2.452*** |
| | (0.780) |
| 9 years before birth | 0.953 |
| | (0.811) |
| 10 years before birth | −0.215 |
| | (0.812) |
| **51-100km Effect** | |
| 1st year of life | 3.091*** |
| | (0.701) |
| 1 year before birth | 0.989 |
| | (0.722) |
| 2 years before birth | 1.180 |
| | (0.719) |
| 3 years before birth | 0.694 |
| | (0.718) |

| | |
|---|---|
| 4 years before birth | 1.937*** |
| | (0.724) |
| 5 years before birth | 0.394 |
| | (0.702) |
| 6 years before birth | 0.123 |
| | (0.717) |
| 7 years before birth | 1.086 |
| | (0.707) |
| 8 years before birth | 1.018 |
| | (0.724) |
| 9 years before birth | −1.029 |
| | (0.730) |
| 10 years before birth | −1.794** |
| | (0.757) |
| country-month FE | yes |
| birth year FE | yes |
| DHS cluster FE | yes |
| Observations | 1,985,109 |
| $R^2$ | 0.047 |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |

## 4.4 Regression estimates used for under-5 mortality related to conflict

Table S15: Regression results for the impact of conflict on under-5 mortality over time

| | Under-5 Mortality (Per 1,000 Births) | |
|---|---|---|
| | Full Sample | Conditional on 1-Year Survival |
| | (1) | (2) |
| **0-50km Effects** | | |
| 2nd year of life | | 2.177*** |
| | | (0.624) |
| 1st year of life | 3.804*** | 0.979 |
| | (0.942) | (0.608) |
| 1 year before birth | 3.785*** | 0.969 |
| | (0.966) | (0.627) |
| 2 years before birth | 3.596*** | 1.831*** |
| | (0.955) | (0.616) |
| 3 years before birth | 3.511*** | 1.401** |
| | (0.950) | (0.618) |
| 4 years before birth | 1.951** | 0.722 |
| | (0.953) | (0.617) |
| 5 years before birth | 4.772*** | 1.506** |
| | (0.918) | (0.591) |
| 6 years before birth | 2.356*** | 1.168** |
| | (0.911) | (0.581) |
| 7 years before birth | 1.308 | 0.680 |
| | (0.932) | (0.600) |
| 8 years before birth | 2.684*** | 0.523 |
| | (0.932) | (0.605) |
| 9 years before birth | 0.149 | −0.746 |
| | (0.980) | (0.623) |
| 10 years before birth | 0.801 | |
| | (0.989) | |
| **51-100km Effects** | | |
| 2nd year of life | | 0.084 |
| | | (0.566) |
| 1st year of life | 3.249*** | 0.459 |
| | (0.856) | (0.566) |
| 1 year before birth | 1.417 | 0.529 |

| | | |
|---|---|---|
| | (0.871) | (0.573) |
| 2 years before birth | 0.692 | −0.330 |
| | (0.872) | (0.570) |
| 3 years before birth | 1.186 | 0.762 |
| | (0.878) | (0.574) |
| 4 years before birth | 1.997** | 0.261 |
| | (0.877) | (0.571) |
| 5 years before birth | 0.310 | 0.052 |
| | (0.864) | (0.574) |
| 6 years before birth | 0.151 | 0.259 |
| | (0.861) | (0.554) |
| 7 years before birth | 1.124 | 0.184 |
| | (0.858) | (0.548) |
| 8 years before birth | 2.243** | 1.461** |
| | (0.874) | (0.573) |
| 9 years before birth | −0.406 | 0.332 |
| | (0.903) | (0.587) |
| 10 years before birth | −3.215*** | |
| | (0.915) | |
| country-month FE | yes | yes |
| birth year FE | yes | yes |
| DHS cluster FE | yes | yes |
| Observations | 1,985,109 | 1,851,748 |
| $R^2$ | 0.069 | 0.055 |
| *Note:* | | *p<0.1; **p<0.05; ***p<0.01 |

## 4.5 DHS Surveys Used

Table S16: DHS Surveys Used

| Country | Year | N | Percent of Sample |
|---|---|---|---|
| Angola | 2006 | 2932 | 0.15 |
| Angola | 2011 | 18390 | 0.93 |
| Angola | 2015 | 38438 | 1.94 |
| Benin | 1996 | 18819 | 0.95 |
| Benin | 2001 | 40071 | 2.02 |
| Benin | 2012 | 8716 | 0.44 |
| Burkina Faso | 1999 | 1749 | 0.09 |
| Burkina Faso | 2003 | 7245 | 0.36 |
| Burkina Faso | 2010 | 38961 | 1.96 |
| Burkina Faso | 2014 | 4752 | 0.24 |
| Burundi | 2010 | 19344 | 0.97 |
| Burundi | 2012 | 5531 | 0.28 |
| Cameroon | 2004 | 1677 | 0.08 |
| Cameroon | 2011 | 21685 | 1.09 |
| Chad | 2014 | 6089 | 0.31 |
| Comoros | 2012 | 71533 | 3.6 |
| Cote d'Ivoire | 1998 | 61108 | 3.08 |
| Cote d'Ivoire | 2012 | 8999 | 0.45 |
| Congo (DRC) | 2007 | 14523 | 0.73 |
| Congo (DRC) | 2013 | 32069 | 1.62 |
| Egypt | 1995 | 19146 | 0.96 |
| Egypt | 2000 | 47276 | 2.38 |
| Egypt | 2005 | 2301 | 0.12 |
| Egypt | 2008 | 12007 | 0.6 |
| Egypt | 2014 | 26940 | 1.36 |
| Ethiopia | 2000 | 27769 | 1.4 |
| Ethiopia | 2005 | 48728 | 2.45 |
| Ethiopia | 2010 | 11416 | 0.58 |
| Ethiopia | 2016 | 21009 | 1.06 |
| Gabon | 2012 | 33409 | 1.68 |
| Ghana | 1998 | 35284 | 1.78 |
| Ghana | 2003 | 16942 | 0.85 |
| Ghana | 2008 | 2670 | 0.13 |
| Ghana | 2014 | 6604 | 0.33 |
| Guinea | 1999 | 7549 | 0.38 |
| Guinea | 2005 | 19122 | 0.96 |
| Guinea | 2012 | 5609 | 0.28 |
| Kenya | 2003 | 14169 | 0.71 |
| Kenya | 2008 | 22223 | 1.12 |
| Kenya | 2014 | 9618 | 0.48 |
| Kenya | 2015 | 15167 | 0.76 |
| Lesotho | 2004 | 12820 | 0.65 |
| Lesotho | 2009 | 10096 | 0.51 |
| Lesotho | 2014 | 3918 | 0.2 |
| Liberia | 2007 | 4008 | 0.2 |
| Liberia | 2009 | 6497 | 0.33 |
| Liberia | 2011 | 9790 | 0.49 |
| Liberia | 2013 | 9922 | 0.5 |
| Madagascar | 1997 | 3537 | 0.18 |
| Madagascar | 2008 | 33216 | 1.67 |

| | | | |
|---|---|---|---|
| Madagascar | 2011 | 6970 | 0.35 |
| Madagascar | 2013 | 6383 | 0.32 |
| Madagascar | 2016 | 6881 | 0.35 |
| Malawi | 2000 | 60498 | 3.05 |
| Malawi | 2004 | 2469 | 0.12 |
| Malawi | 2010 | 16387 | 0.83 |
| Malawi | 2012 | 27014 | 1.36 |
| Malawi | 2014 | 29512 | 1.49 |
| Malawi | 2015 | 9087 | 0.46 |
| Mali | 1996 | 13143 | 0.66 |
| Mali | 2001 | 19756 | 1 |
| Mali | 2006 | 53334 | 2.69 |
| Mali | 2012 | 2672 | 0.13 |
| Mali | 2015 | 2430 | 0.12 |
| Morocco | 2003 | 24327 | 1.23 |
| Mozambique | 2011 | 11452 | 0.58 |
| Namibia | 2000 | 71149 | 3.58 |
| Namibia | 2006 | 15210 | 0.77 |
| Namibia | 2013 | 95993 | 4.84 |
| Niger | 1998 | 9955 | 0.5 |
| Nigeria | 2003 | 29918 | 1.51 |
| Nigeria | 2008 | 4611 | 0.23 |
| Nigeria | 2010 | 11377 | 0.57 |
| Nigeria | 2013 | 14849 | 0.75 |
| Nigeria | 2015 | 5277 | 0.27 |
| Rwanda | 2005 | 7480 | 0.38 |
| Rwanda | 2008 | 16976 | 0.86 |
| Rwanda | 2010 | 12710 | 0.64 |
| Rwanda | 2014 | 25516 | 1.29 |
| Senegal | 1997 | 20925 | 1.05 |
| Senegal | 2005 | 37520 | 1.89 |
| Senegal | 2008 | 32437 | 1.63 |
| Senegal | 2010 | 14637 | 0.74 |
| Sierra Leone | 2008 | 26887 | 1.35 |
| Sierra Leone | 2013 | 3408 | 0.17 |
| Swaziland | 2006 | 39526 | 1.99 |
| Tanzania | 1999 | 20479 | 1.03 |
| Tanzania | 2007 | 10777 | 0.54 |
| Tanzania | 2010 | 32586 | 1.64 |
| Tanzania | 2012 | 4516 | 0.23 |
| Tanzania | 2015 | 22321 | 1.12 |
| Togo | 1998 | 3053 | 0.15 |
| Togo | 2013 | 17151 | 0.86 |
| Uganda | 2000 | 7241 | 0.36 |
| Uganda | 2006 | 16664 | 0.84 |
| Uganda | 2009 | 10278 | 0.52 |
| Uganda | 2011 | 22235 | 1.12 |
| Uganda | 2014 | 5960 | 0.3 |
| Zambia | 2007 | 14027 | 0.71 |
| Zambia | 2013 | 41454 | 2.09 |
| Zimbabwe | 1999 | 3409 | 0.17 |
| Zimbabwe | 2005 | 10480 | 0.53 |
| Zimbabwe | 2010 | 13867 | 0.7 |
| Zimbabwe | 2015 | 18505 | 0.93 |

## 4.6 Summary statistics by country

Table S17. Descriptive data by country

| Country | Child births, n | Child deaths, n (rate per 1,000 births) | | Conflict events, n | Conflict deaths, n | Last observation year |
|---|---|---|---|---|---|---|
| Algeria | n/a | n/a | | 54 | 525 | |
| Angola | 59,760 | 3502 | (58.60) | 1,739 | 28,848 | 2015 |
| Benin | 47,955 | 2,551 | (53.20) | 0 | 0 | 2012 |
| Burkina Faso | 72,358 | 5,286 | (73.10) | 0 | 0 | 2014 |
| Burundi | 24,875 | 1,529 | (61.50) | 1,402 | 16,435 | 2012 |
| Cameroon | 46,592 | 3,353 | (72.00) | 56 | 446 | 2011 |
| Central African Republic | n/a | n/a | | 222 | 2,522 | 1995 |
| Chad | 61,108 | 4,620 | (75.60) | 307 | 8,582 | 2015 |
| Comoros | 8,999 | 339 | (37.70) | 7 | 125 | 2012 |
| Cote d'Ivoire | 23,362 | 1,993 | (85.30) | 273 | 2,579 | 2012 |
| Democratic Republic of the Congo | 66,422 | 5,218 | (78.60) | 2,363 | 96,492 | 2014 |
| Egypt | 117,745 | 4,012 | (34.10) | 433 | 1,239 | 2014 |
| Ethiopia | 101,118 | 7,708 | (76.20) | 1,464 | 133,067 | 2015 |
| Gabon | 16,942 | 705 | (41.60) | 68 | 961 | 2012 |
| Ghana | 35,945 | 1,992 | (55.40) | 38 | 2,434 | 2014 |
| Guinea | 42,001 | 3,776 | (89.90) | 77 | 1,093 | 2012 |
| Kenya | 100,326 | 4,666 | (46.50) | 700 | 5,190 | 2015 |
| Lesotho | 26,209 | 1,896 | (72.30) | 4 | 68 | 2014 |
| Liberia | 51,161 | 4,467 | (87.30) | 548 | 23,244 | 2013 |
| Madagascar | 56,987 | 2,097 | (36.80) | 42 | 207 | 2015 |
| Malawi | 151,833 | 10,312 | (67.90) | 0 | 0 | 2015 |
| Mali | 84,469 | 6,913 | (81.80) | 129 | 1,495 | 2015 |
| Mauritania | n/a | n/a | | 9 | 24 | |
| Morocco | 11,452 | 497 | (43.40) | 4 | 182 | 2004 |
| Mozambique | 29,918 | 2,305 | (77.00) | 237 | 4,089 | 2011 |
| Namibia | 30,837 | 1,298 | (42.10) | 22 | 74 | 2013 |
| Niger | 5,277 | 466 | (88.30) | 33 | 434 | 1998 |
| Nigeria | 199,787 | 16,492 | (82.50) | 2,354 | 36,019 | 2015 |
| Rwanda | 82,089 | 6,109 | (74.40) | 613 | 520,602 | 2015 |
| Senegal | 94,290 | 6,220 | (66.00) | 299 | 2,141 | 2011 |
| Sierra Leone | 54,163 | 6,207 | (114.60) | 1,495 | 20,543 | 2013 |
| Somalia | n/a | n/a | | 118 | 1,335 | |
| South Africa | n/a | n/a | | 36 | 36 | |
| South Sudan | n/a | n/a | | 14 | 289 | |
| Sudan | n/a | n/a | | 250 | 12,595 | |
| Swaziland | 6,089 | 446 | (73.20) | 2 | 2 | 2007 |
| Tanzania | 84,046 | 4,697 | (55.90) | 12 | 61 | 2015 |
| Togo | 26,837 | 1,579 | (58.80) | 106 | 561 | 2014 |
| Uganda | 62,378 | 4,220 | (67.70) | 1,666 | 17,021 | 2015 |
| Zambia | 55,481 | 3,543 | (63.90) | 12 | 55 | 2014 |
| Zimbabwe | 46,261 | 2,347 | (50.70) | 56 | 293 | 2015 |
| Total | 1,985,109 | 133,361 | (67.18) | 15,441 | 968,444 | 2015 |

Note: n/a implies there was no DHS data available for these countries, but conflicts in these countries were included

### 4.7 Regression results for the impact of chronic conflict and for conflict's effect on stunting

Table S18: Regression results for the impact of chronic conflict and for conflict's effect on stunting

| | Under-1 Mortality | | | | Stunted | |
|---|---|---|---|---|---|---|
| | Chronic | Chronic | Binary | Binary | Categorical | Categorical |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| conflict in year 1 only | 2.844*** | 2.755*** | | | | |
| | (0.900) | (0.900) | | | | |
| 2 consecutive years | 4.356*** | 4.250*** | | | | |
| | (1.514) | (1.513) | | | | |
| 3 consecutive years | 7.261*** | 6.982*** | | | | |
| | (1.984) | (1.983) | | | | |
| 4 consecutive years | 6.653*** | 6.505*** | | | | |
| | (2.350) | (2.351) | | | | |
| 5+ consecutive years | 11.678*** | 11.518*** | | | | |
| | (1.563) | (1.564) | | | | |
| Any Conflict | | | 0.010** | 0.009** | | |
| | | | (0.004) | (0.004) | | |
| 1-4 Deaths | | | | | 0.005 | 0.005 |
| | | | | | (0.005) | (0.005) |
| 5-18 Deaths | | | | | 0.009 | 0.007 |
| | | | | | (0.006) | (0.006) |
| 19-74 Deaths | | | | | 0.015** | 0.016** |
| | | | | | (0.007) | (0.007) |
| 75-1,000 Deaths | | | | | 0.018* | 0.018* |
| | | | | | (0.010) | (0.010) |
| 1,001+ Deaths | | | | | 0.070* | 0.073* |
| | | | | | (0.040) | (0.040) |
| controls | no | yes | no | yes | no | yes |
| country-month FE | yes | yes | yes | yes | yes | yes |
| birth year FE | yes | yes | yes | yes | yes | yes |
| DHS cluster FE | yes | yes | yes | yes | yes | yes |
| Observations | 1,985,109 | 1,984,717 | 324,930 | 324,844 | 324,930 | 324,844 |
| $R^2$ | 0.047 | 0.048 | 0.195 | 0.199 | 0.195 | 0.199 |

*Note:* *p<0.1; **p<0.05; ***p<0.01. Each column represents a separate statistical model. In Columns 1 & 2 portray the effect of chronic conflict with and without controls (same controls as rows 7-15 of Table 2). Each row represents the increase in the probability of death (per 1,000 births) before reaching age 1 for infants exposed to the respective number of years of consecutive conflict, relative to infants born in the same area during years without conflict. Columns 3-6 portray the effect of conflict on stunting. In columns 3 &4 conflict is represented as a binary exposure, while in Columns 5 & 6 it is broken down into 5 binary categories representing conflict intensity. The estimates in rows 6-11 represent the increase in the probability of stunting for infants exposed to conflict during their first year of life, relative to infants born in the same area during years without conflict. Columns 4 & 6 include controls (same controls as rows 7-15 of Table 2 plus child age). Numbers in parentheses are standard errors.

## References

[1] 1km births, Version 2.0. Worlpop. University of Southampton; 2017. Accessed: 2017-10-30 from http://maps.worldpop.org.

[2] World Population Prospects: The 2017 Revision, DVD Edition. United Nations, Department of Economic and Social Affairs, Population Division; 2017. Table Fert-1: Births (both sexes combined) by country, 1950-2100.

[3] Africa Under-5 and Neonatal Mortality Geospatial Estimates 1998-2017. Institute for Health Metrics and Evaluation (IHME); Seattle, United States; 2017.