The Negligible Effect of Free Contraception on Fertility: Experimental Evidence from Burkina Faso

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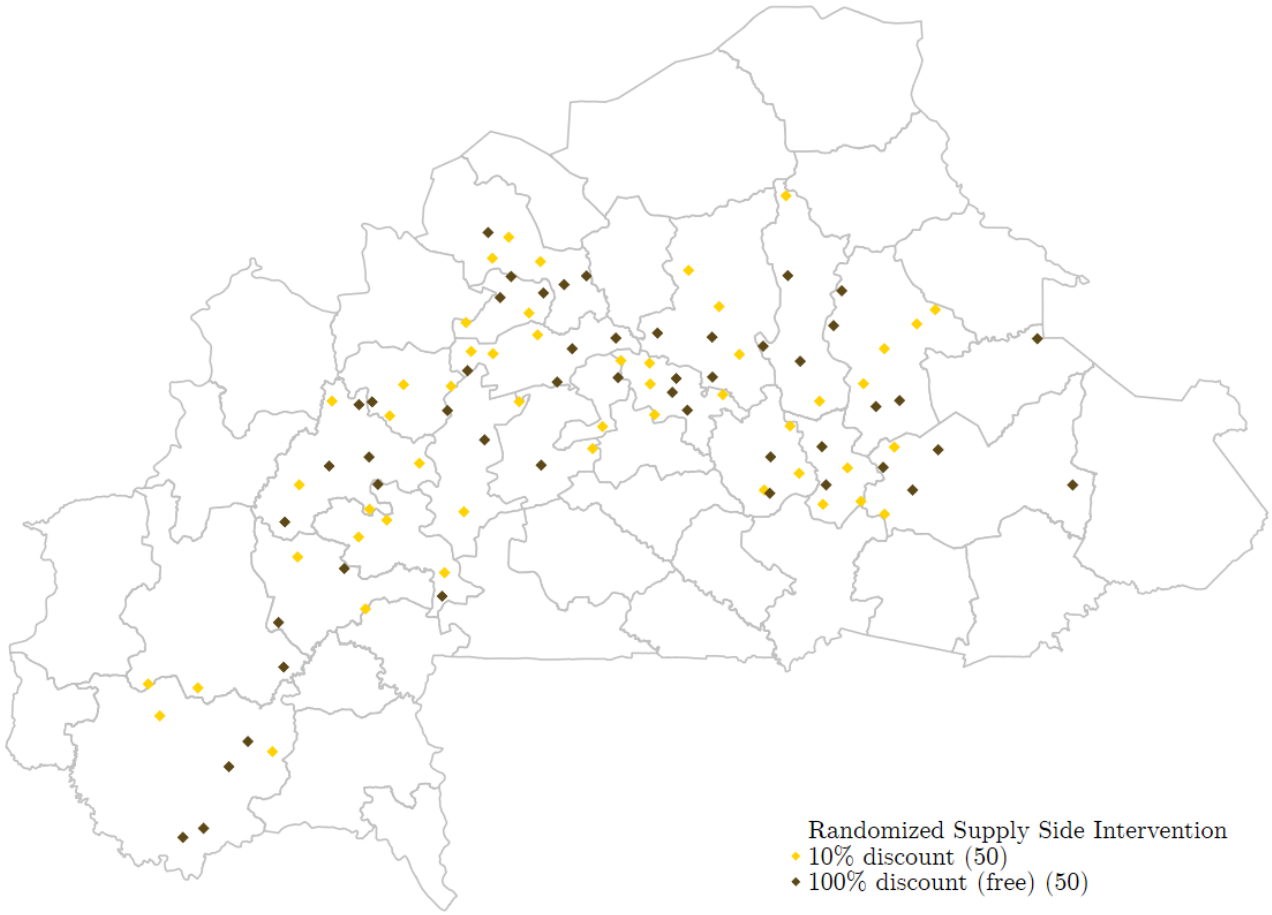
Supplemental Online Appendix

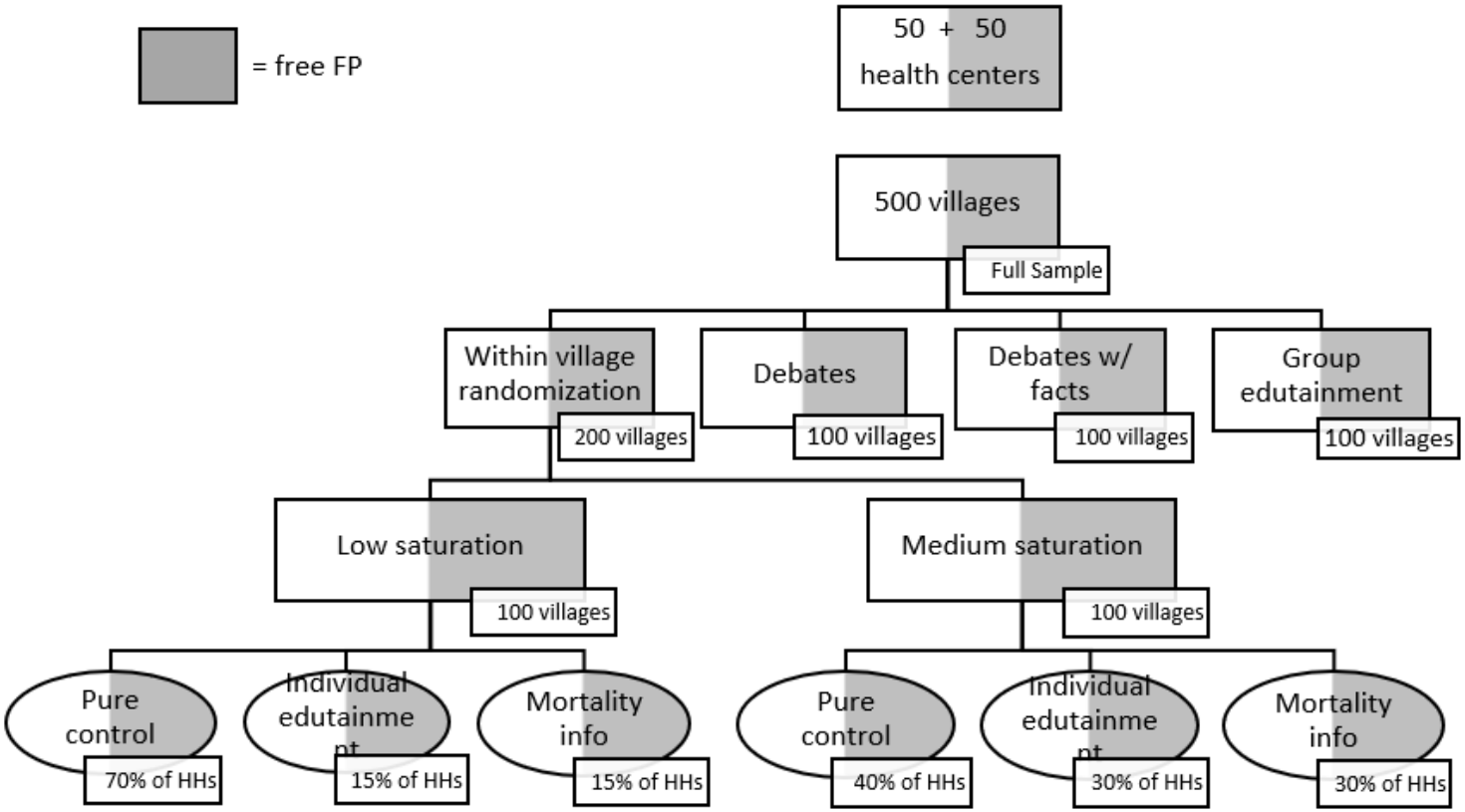
Appendix A

Figure A.1: Geographical distribution of sample and randomized subsidy treatment



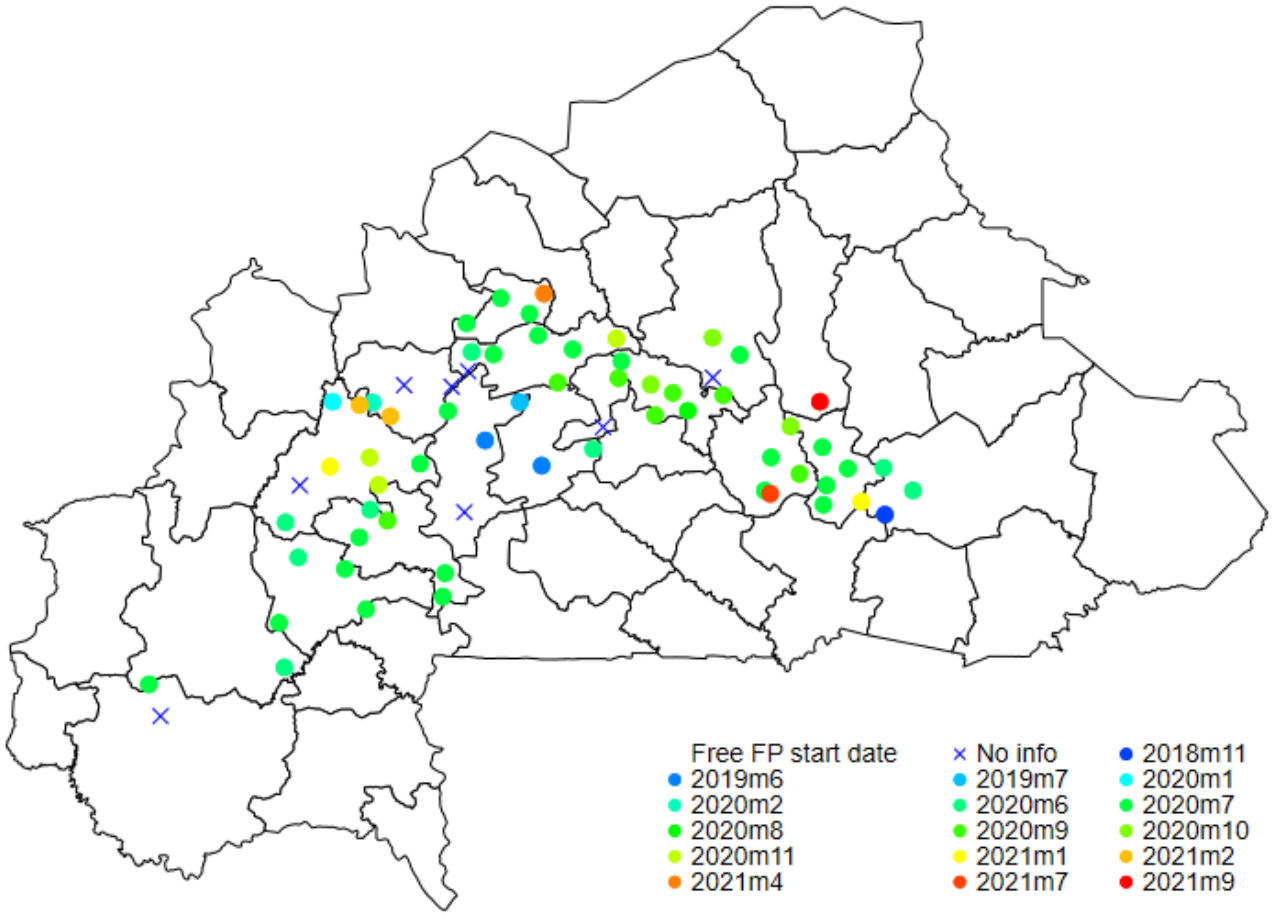
Note: Each dot represents a health center. N=100. The inner borders drawn correspond to the 45 administrative provinces.

Figure A.2: Detailed experimental design



Notes: The figure presents a more detailed version of the experimental design compared to Figure 1. There are two additional elements. (1) We vary the share of households treated within the village to assess the extent of spillovers. The medium saturation arm (village 1) assigns 30% of households to mortality info, 30% of households to edutainment, and 40% to be pure controls. In the low saturation arm (village 2), these rates are 15%, 15% and 70%, respectively. We exclude the analysis of spillovers from this paper. We find no evidence of spillovers. (2) For each center, we assign village 3 to group edutainment and villages 4 and 5 to debates. A concern about the unscripted, participatory nature of debates is that participants might make factually incorrect statements. Thus, in half of the villages with debates (village 5, debates with facts), the project staff member shared factually correct information about child mortality levels and trends, which is a topic where there was scope for participants to make untrue claims. The mortality information was delivered after the debates and facilitators used the same script and charts (printed on large posters) as in the individual information treatment. We find no difference in the effects of the debate arm, the individual mortality information arm and the debate + mortality information arm (see breakdown of the results in Table B.3).

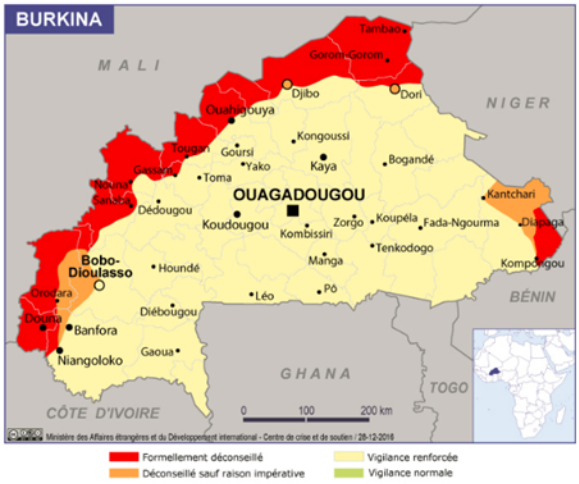
Figure A.3: Start dates of Free Family Planning Program as reported by CSPS



Note: The inner borders drawn correspond to the 45 administrative provinces. Officially, the program was piloted in July 2019 in two regions (Cascades and Centre Ouest) and scaled up in July 2020. The map reports the actual date when the program started being implemented in health care centers included in the sample. The data was collected through in-person visits conducted at endline. The information is missing for facilities located in areas surveyed by phone; they are not shown on the map. The baseline and interventions took place between February and June 2018 and the endline took place between February and June 2021. See Table A.7 (second-last row) for the results excluding the regions where the national free family planning program was piloted in 2019.

Figure A.4: Gradual worsening of security situation in Burkina Faso over the study period

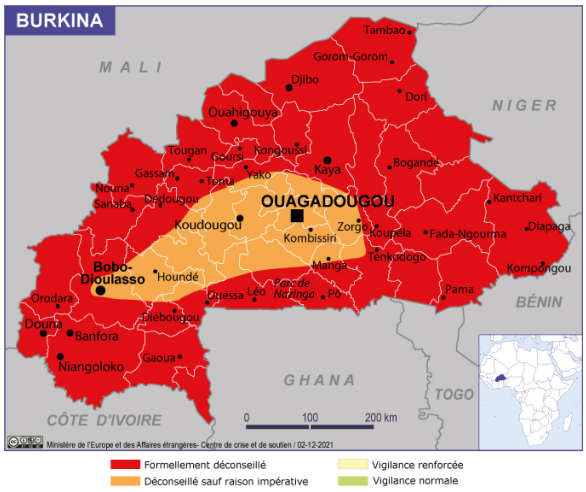
(a) June 2017



(b) July 2019

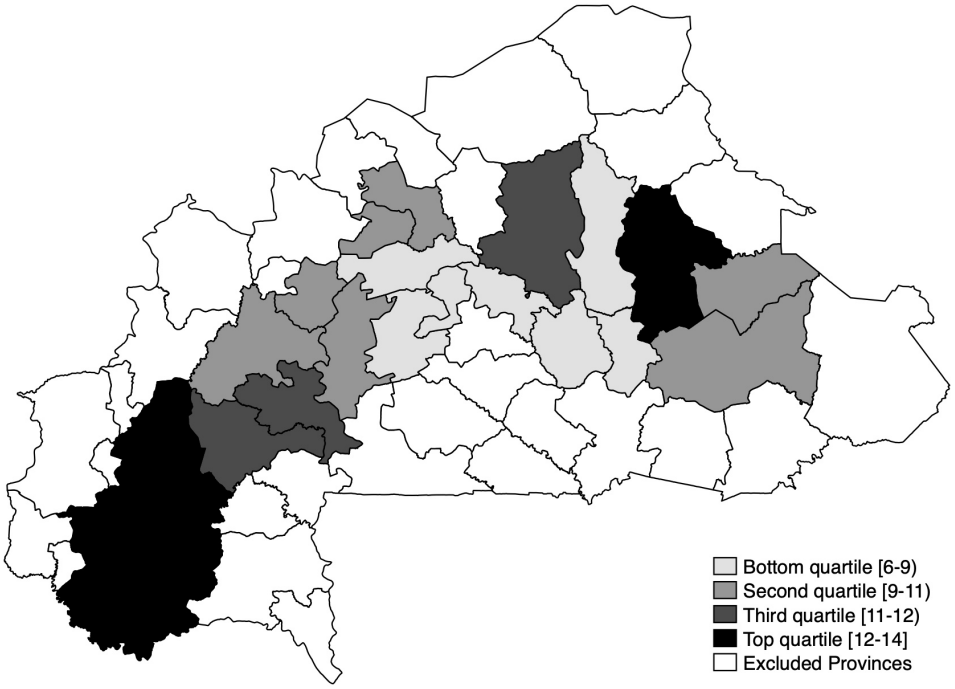
(c) December 2020

(d) December 2021

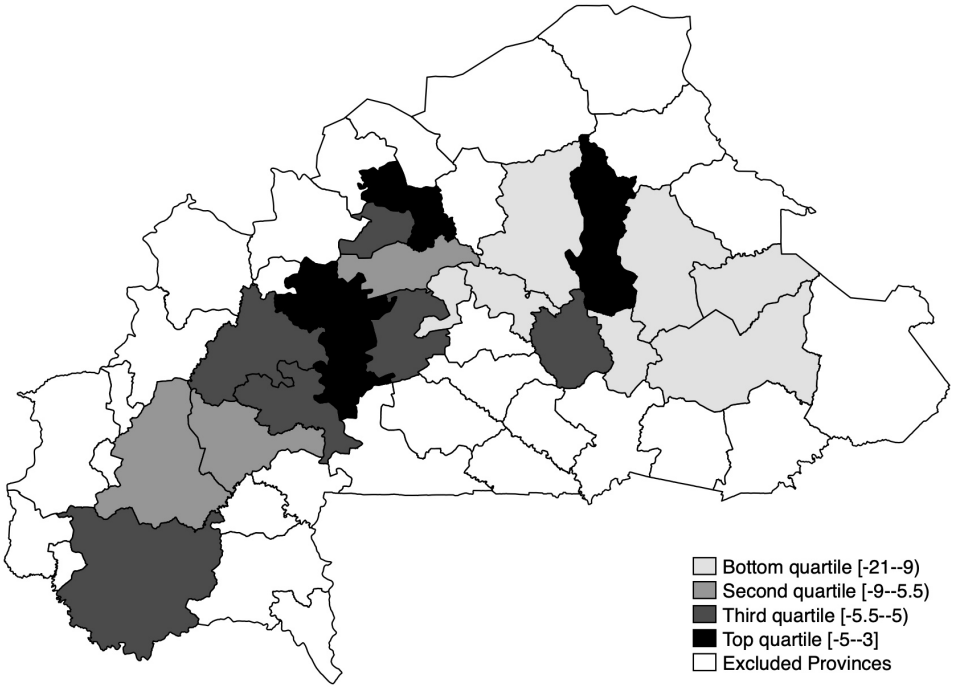


Notes: Maps published by the French embassy in Burkina Faso. Red corresponds to areas where the recommendation is "No travel". Orange corresponds to areas where travel can be considered only under special circumstances. Source: https://www.diplomatie.gouv.fr/fr/conseils-aux-voyageurs/conseils-par-pays-destination/burkina-faso/#securite

Figure A.5: Under 5 mortality rates by province: levels and trends



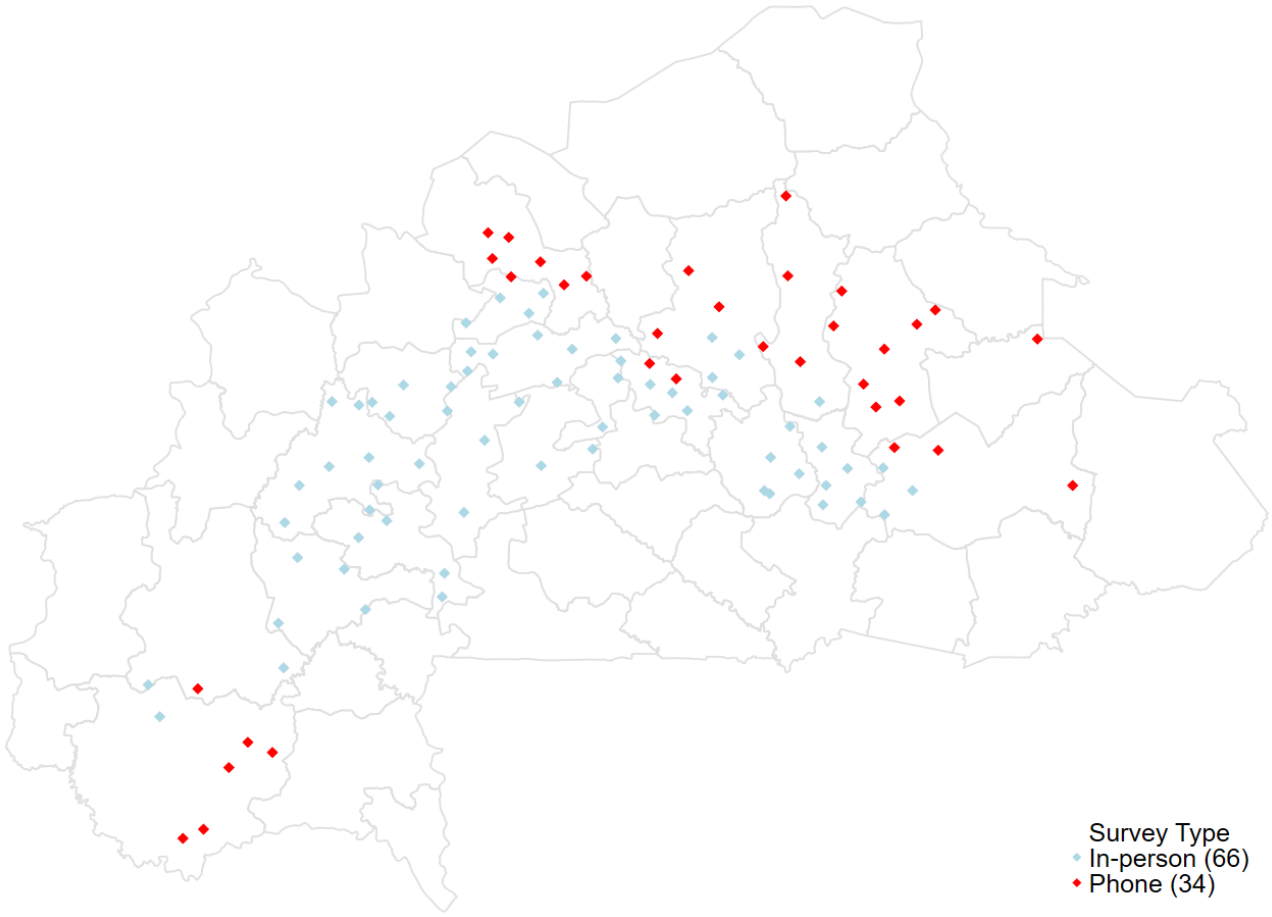
(a) Recent levels



(b) Recent trends

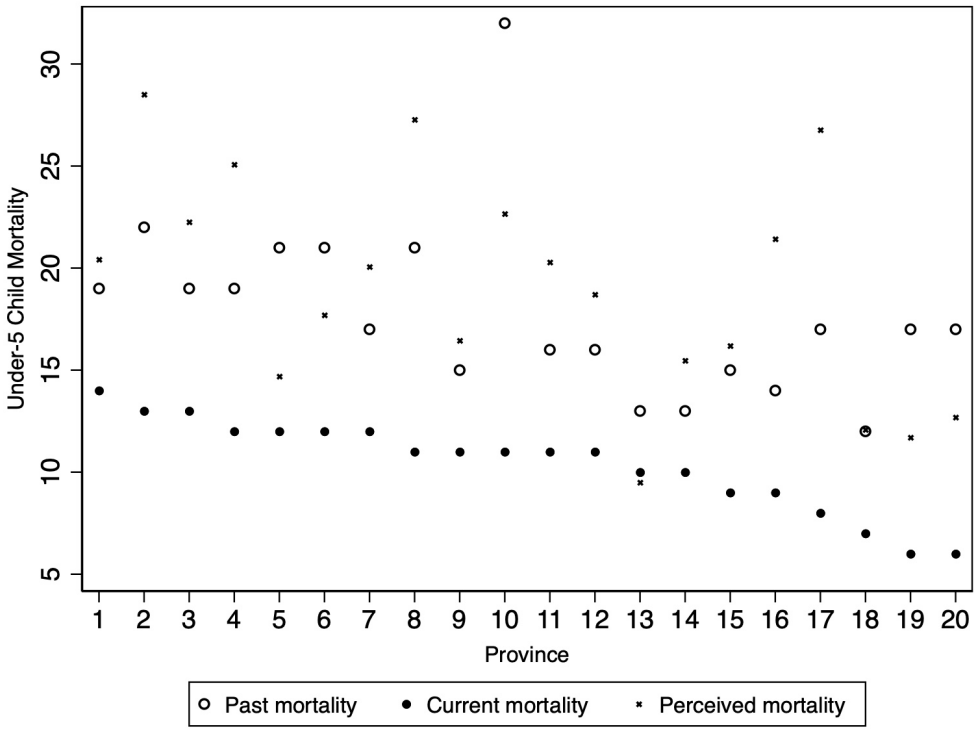
Notes: Source: Listing data. Graph (a) shows the estimated under 5 mortality rates for cohorts born between 2007 and 2012, by province. Darker colors indicate higher rates. Graph (b) shows the estimated change in under 5 mortality rates between cohorts born between 2007 and 2012 and cohorts born between 1973 and 1998, by province. Darker colors indicate smaller declines.

Figure A.6: Location of in-person vs. phone survey at endline



Note: Each dot represents a health center. N=100. The inner borders drawn correspond to the 45 administrative provinces. All respondents in all villages assigned to a given health center were surveyed using the same mode. The decision of which center could not be surveyed in person due to security concerns was made by the Burkina Faso office of Innovations for Poverty Action.

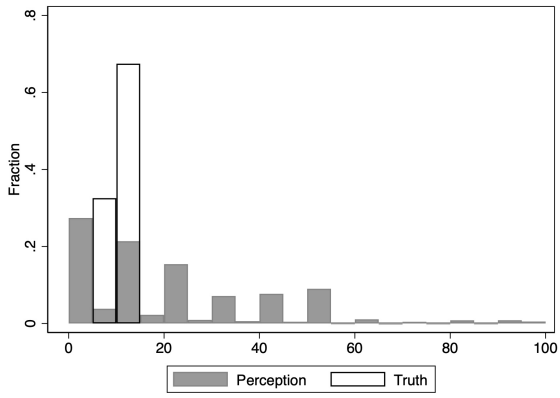
Figure A.7: Baseline mis-perceptions of the child mortality rate



Notes: We compare the average perceived rates reported by women surveyed at baseline (shown with crosses, N=11,298) with the observed rates measured during the listing, by province. The solid dots represent the most recent cohorts, born between 2007 and 2012. The hollow dots represent older cohorts, born between 1973 and 1998. Provinces are ordered by recent mortality rates.

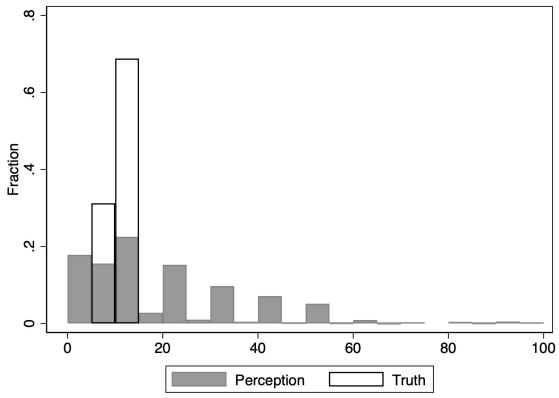
Figure A.8: Distribution of perceived vs actual mortality at baseline

(a) Women



Baseline survey with focal wives. N: 11,298.
Perceived rate: average= 19.8; median= 10

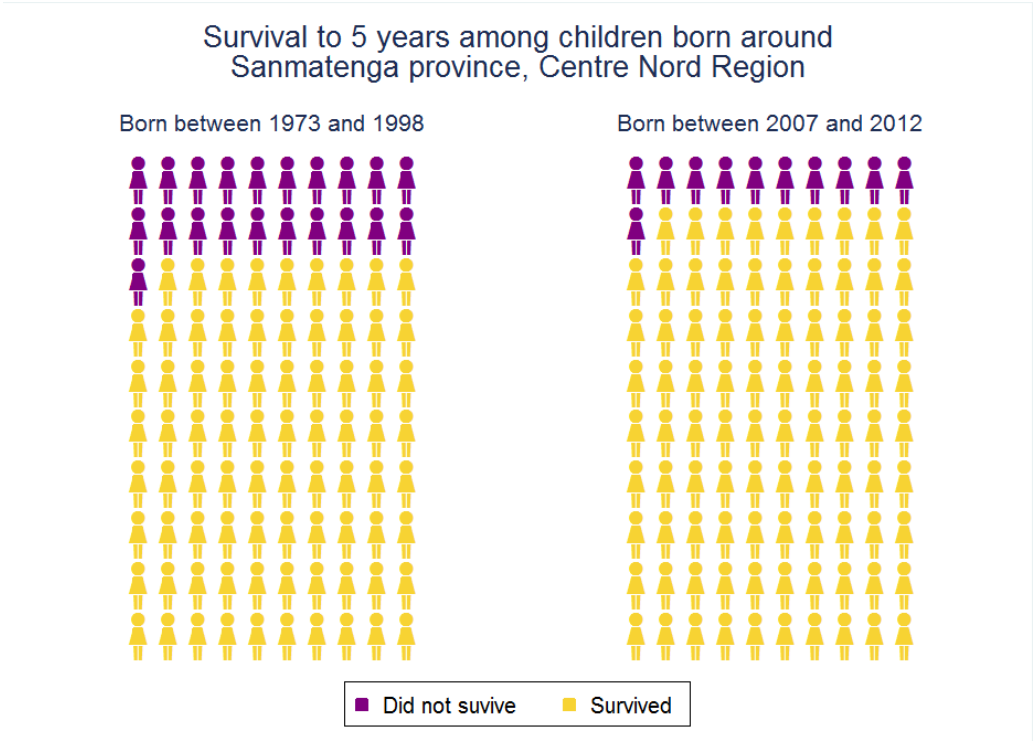
(b) Men



Baseline survey with husbands. N: 9,797.
Perceived rate: average= 17.6; median= 10

Notes: The white bars show the distribution of the actual mortality rate measured during the listing for children born in 2007-2012 (average= 10.5; median= 10). The grey bars show the baseline distribution of the perceived rate reported by women in graph (a) and by men in graph (b). The bins are as follows: [0,4], [5,9], [10,14] ... [90,94] and [95,100]. Rates are expressed in percentage points.

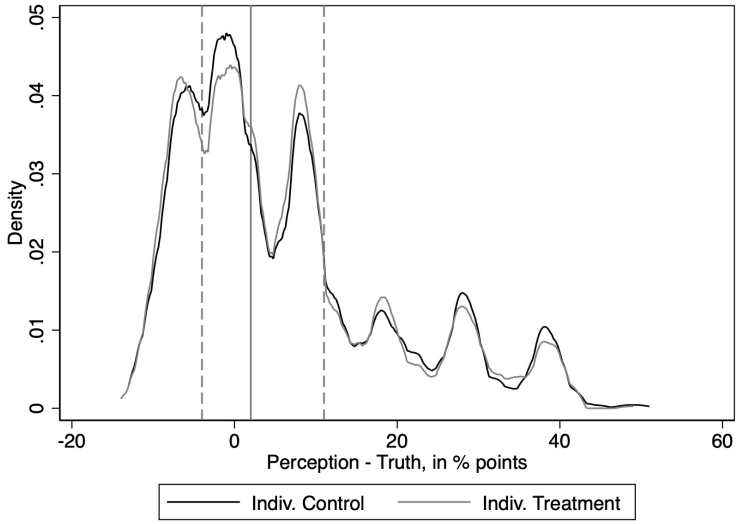
Figure A.9: Area-specific infographic used for mortality information treatment



Notes: We created one such graphic for each of 20 provinces based on data from over 190,000 births collected during the listing survey. See section 5.2.2 for details.

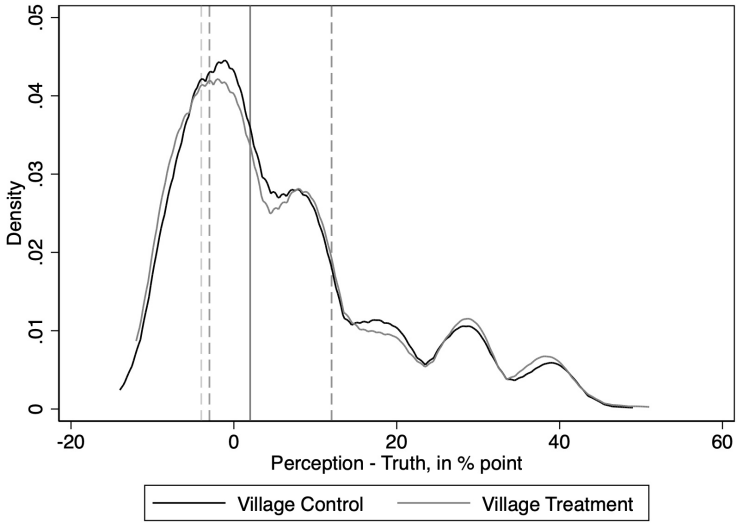
Figure A.10: Distribution of the gap between perceived and actual mortality at endline

(a) Individual Mortality Info Treatment versus Control



Note: Treatment (N: 1290, average=5.9), Control: (N : 3137, average=6.16), Pvalue = 0.93

(b) Village Mortality Info Treatment versus Control



Note: Treatment (N:2264, average=6.19), Control: (N : 2229, average=6.28), Pvalue = 0.48

Notes: The figure shows a Kernel estimate of the distribution of the gap between the perceived rate reported by women at endline and the actual, local mortality rate measured during the listing for children born in 2007-2012. Graph (a) restricts the sample to villages assigned to individual interventions and compares the distribution in the mortality information treatment arm (in gray) and the distribution in the pure control arm (in black). Graph (b) restricts the sample to villages assigned to debates and compares the distribution in the debate + mortality information treatment arm (in gray) and the distribution in the pure debate arm (in black). The solid vertical lines indicate the average in each group; the dashed vertical lines indicate the first and third quartiles in each group. Rates are expressed in percentage points.

Table A.1: Balancing tests in baseline survey (for the non-attrition sample)

	Baseline Mean			Difference	
	(1) Control	(2) Treatment	(3) N	(4) Effect Size	(5) P-value
# of pregnancies before baseline	3.493	3.525	12546	.007	0.76
Currently using modern contraception	.332	.312	12546	-.03	0.34
Total # of children desired	5.4	5.479	12546	.039	0.31
Total # of children desired (Husband)	5.564	5.637	12546	.028	0.47
Under-5 mortality rate (%)	14.471	16.289	12546	.097	0.05
Agrees: there is a quantity-quality tradeoff	.712	.690	12546	-.086	0.22
Agrees: times are changing and there is no social norm on family size	.754	.727	12546	-.098	0.21
Agrees: modern contraception is a reliable way to control births	.793	.78	12546	-.065	0.45
Agrees: there is a quantity-quality tradeoff	.468	.444	12546	-.067	0.20
Agrees: times are changing and there is no social norm on family size	.504	.479	12546	-.069	0.21
Has unmet need for contraception	.378	.391	12540	.016	0.60
Wife does not want another child in next 2 years	.656	.655	11968	-.014	0.60
Husband does not want another child in next 2 years	.579	.5730	8505	-.024	0.34
Currently using modern contraception	.332	.313	12537	-.029	0.34
At baseline: not using modern contraception and not pregnant	.578	.587	12546	.01	0.74
Could not afford contraception if ever wanted to use it	.386	.436	11458	.073	0.03
Agrees: modern contraception is not dangerous to health	.782	.796	11258	.016	0.56
Wife does not want another child in next 2 years	.656	.655	11968	-.014	0.60
Agrees: community disapproves couple using contraception to delay 1st birth	.645	.648	12546	.035	0.23
Reports women sometimes punished or stigmatized for using contraception	.398	.367	11551	-.046	0.14
Wife's age	28.359	28.372	12546	.013	0.59
Husband could be surveyed	.759	.742	12546	-.02	0.64
Age Gap between Husband and Wife	9.791	10.2	12546	.035	0.33
Husband's age at baseline missing	.035	.032	12546	-.015	0.52
Wife reports husband is polygamous	.428	.46	12546	.048	0.24
Ever attended formal school?	.178	.161	12546	-.026	0.45
Has had at least one child who died	.276	.267	12546	-.023	0.35
HH has a radio	.478	.496	12546	.062	0.09
Municipality covered by DMI	.577	.565	12546	-.04	0.75
Equals 1 if radio that broadcasts the DMI PF ads, 0 otherwise	.331	.379	12546	.051	0.67
Wants another child	.924	.921	12546	-.007	0.72
Wants another child in next 2 years	.344	.345	11968	.014	0.60
Ever used modern contraception	.478	.463	12539	-.012	0.70
Currently using modern contraception	.332	.313	12537	-.029	0.34
Wife overestimates under 5 child mortality	.521	.579	9717	.102	0.01
Health Center < 2km away	.166	.17	12546	.034	0.59
Agrees: modern contraception is a reliable way to control births	.513	.502	12546	-.042	0.45

Notes: columns 1 and 2 display the mean of each variable in the 100% subsidy arm (treatment) and in the 10% subsidy arm (control). To compute the effect size (column 4) and the p-value (column 5), all specifications include province fixed effects and endline controls (whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey). Robust standard errors are clustered at health center level. The sample is restricted to individuals surveyed at endline (the analytic sample).

Table A.2: Baseline visit outcomes (for the non-attrition sample)

	(1) Accepted voucher booklet	(2) Refused voucher because no need	(3) Refused voucher because scared husband/ someone finds out	(4) Husband could be surveyed
Full Subsidy	0.043**	-0.020	-0.008	-0.009
	(0.021)	(0.015)	(0.006)	(0.018)
Province FE	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No
Observations	12,546	12,529	12,529	12,546
Control (10% Subsidy) Mean	0.679	0.145	0.056	0.746

Notes: All specifications include province fixed effects. Controls are: whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. Robust standard errors in parentheses. Clustering at health center level. The sample is restricted to individuals surveyed at endline (the analytic sample). $^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$

Table A.3: Attrition at endline

	(1) Focal wife surveyed	(2) Husband surveyed
Full Subsidy	-0.016	-0.012
	(0.016)	(0.016)
Baseline Controls	No	No
Observations	14,609	14,609
Control (10% Subsidy) Mean	0.874	0.884

Notes: All specifications include Province fixed effects. Robust standard errors in parentheses. Clustering at health center level. $^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$

Table A.4: Summary statistics from baseline survey: husbands

	Mean	SD	N
Husband's age	40.24	11.37	10,781
Focal wife's age	28.58	5.42	10,782
Wife reports husband is polygamous	0.48	0.50	10,784
Husband has no formal education	0.81	0.40	10,784
Muslim	0.64	0.48	10,778
Fertility:			
# of children (from all wives)	6.06	4.91	8,567
Wants another child	0.92	0.27	10,437
Wants another child in next 2 years	0.44	0.50	9,734
Total # of children desired	9.48	6.98	8,527
Exposure to contraception:			
Ever heard of contraception/methods to delay births	0.89	0.31	10,778
Ever used modern contraception	0.40	0.49	10,504
Currently using modern contraception	0.31	0.46	10,178
Distance to closest local health center (kilometres)	5.42	4.06	10,784
Personal views (first-order beliefs):			
Agrees: modern contraception is not dangerous to health	0.74	0.44	9,303
Agrees: modern contraception is not against tradition	0.78	0.41	9,346
Agrees: modern contraception is a reliable way to control births	0.90	0.31	8,056
Agrees: there is a quantity-quality tradeoff	0.80	0.40	8,097
Perceived social norms (second-order beliefs):			
Agrees: times are changing and there is no social norm on family size	0.86	0.35	8,149
Agrees: community disapproves use of contraception to delay 1st birth	0.61	0.49	10,784
Reports women sometimes punished/stigmatized for using contraception	0.37	0.48	9,636
Child mortality:			
True under 5 mortality rate (%)	10.56	2.12	10,784
Husband's percieved under 5 mortality rate (%)	17.63	16.73	9,651
Husband overestimates under-5 mortality	0.52	0.50	9,651

Notes: Data from Baseline survey with husbands.

Table A.5: Treatment effects: other potential benefits to the wife

	(1) Emotional Violence Index (12m)	(2) Physical Violence Index (12m)	(3) Sexual Violence Index (12m)	(4) IPV Index (past 12m)	(5) Self reported health today is very good	(6) Agrees to statement that life is good	(7) Husband polyga-mous at endline	(8) Satisfied with using birth control method	(9) Should a woman have control over the number of children?	(10) Agrees that contraception allows households greater control over their lives	(11) Has no one to talk to about reproductive health
Full Subsidy	-0.043	-0.016	-0.057**	-0.040**	0.037	-0.026	-0.001	0.011	-0.037	-0.006	-0.019
	(0.036)	(0.028)	(0.027)	(0.020)	(0.027)	(0.023)	(0.009)	(0.009)	(0.024)	(0.033)	(0.016)
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No	No	No	Yes	No	No	No	No
Observations	8,399	8,327	8,400	8,402	12,527	12,499	11,774	5,966	8,295	7,934	12,038
Control (10% Subsidy) Mean	0.001	0.000	0.000	0.009	0.395	0.759	0.430	0.902	0.455	0.421	0.143

Notes: In the endline survey, we included a module on intimate partner violence (IPV). We used well-validated questions to measure various domains of violence, and extensively piloted them in the field during summer 2019. The sample size for the IPV module is smaller because it could only be administered in-person; for women surveyed by phone, we could not guarantee confidentiality.
Endline controls are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. Province fixed effects are used in all specifications. Robust standard errors in parentheses. Clustering at the health center level. Column 7 additionally controls for husband's polygamous status at baseline. $^{***}p < 0.01, ^{**}p < 0.05, ^{*}p < 0.1$

Table A.6: Treatment effects on primary outcomes by subsamples (with baseline controls)

Sub-sample		(1) Had a live birth since baseline	(2) Had a pregnancy since baseline	(3) Used medical contracep-tion in last 3 yrs	(4) Month(s) used modern contraception (last spell of each type) in last 3 yrs	(5) Used IPA subsidy voucher
Need for Contraception:						
Had unmet need for contraception at baseline (N=4,649)	Full Subsidy	-0.011	-0.014	0.022	-0.062	0.043***
		(0.014)	(0.014)	(0.018)	(0.475)	(0.014)
	Control Mean	0.662	0.736	0.437	7.229	0.128
Wife did not want another child over next 2 yrs at baseline (N=7,583)	Full Subsidy	-0.019	-0.024*	0.020	-0.166	0.040***
		(0.013)	(0.013)	(0.015)	(0.428)	(0.012)
	Control Mean	0.611	0.703	0.559	10.649	0.157
Husband did not want another child over next 2 yrs at baseline (N=4,724)	Full Subsidy	-0.014	-0.035**	0.031*	0.311	0.036***
		(0.016)	(0.016)	(0.017)	(0.448)	(0.012)
	Control Mean	0.612	0.712	0.560	10.594	0.155
Was not using modern contraception at baseline (N=8,191)	Full Subsidy	-0.010	-0.012	0.000	-0.283	0.030***
		(0.012)	(0.011)	(0.014)	(0.362)	(0.009)
	Control Mean	0.641	0.709	0.421	6.854	0.113
Was not using modern contraception and was not pregnant at baseline (N=7,052)	Full Subsidy	-0.014	-0.013	0.005	-0.014	0.034***
		(0.013)	(0.013)	(0.015)	(0.384)	(0.009)
	Control Mean	0.585	0.677	0.408	6.551	0.109
Could not afford contraception at baseline (N=4,519)	Full Subsidy	-0.027*	-0.034**	0.014	-0.009	0.039***
		(0.016)	(0.014)	(0.016)	(0.498)	(0.013)
	Control Mean	0.616	0.702	0.505	9.055	0.148
Other Frictions:						
Health Center < 2km away (N=2,060)	Full Subsidy	-0.025	-0.037	0.055*	0.669	0.088***
		(0.028)	(0.028)	(0.030)	(0.834)	(0.022)
	Control Mean	0.578	0.680	0.558	10.022	0.150
Disagrees with modern contraception being harmful for health (N=8,563)	Full Subsidy	-0.008	-0.012	0.002	-0.481	0.038***
		(0.012)	(0.013)	(0.014)	(0.391)	(0.010)
	Control Mean	0.617	0.705	0.573	10.633	0.159
Neither wanted another child over next 2 years (N=3,771)	Full Subsidy	-0.013	-0.037**	0.039**	0.318	0.037**
		(0.018)	(0.018)	(0.019)	(0.481)	(0.014)
	Control Mean	0.599	0.709	0.567	11.044	0.163

Notes: Endline controls are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. Province fixed effects are used in all specifications. Robust standard errors in parentheses. Clustering at health center level. Control Mean refers to that of 10% subsidy sub-sample. Province fixed effects used across all specifications. The median age of wives is 28. The regions with family planning pilot in 2019 are Cascades and Centre Ouest. $^{***}p < 0.01$,** $p < 0.05$,* $p < 0.1$

Table A.7: Treatment effects on primary outcomes: other subsamples

Sub-sample		(1) Had a live birth since baseline	(2) Had a pregnancy since baseline	(3) Used medical contracep-tion in last 3 yrs	(4) Month(s) used modern contraception (last spell of each type) in last 3 yrs	(5) Used IPA subsidy voucher
Young wives (<=median age)	Full Subsidy	-0.020	-0.013	0.016	-0.266	0.021*
		(0.015)	(0.013)	(0.016)	(0.474)	(0.012)
	Observations	6,290	6,291	6,066	6,056	6,277
	Control Mean	0.722	0.810	0.549	9.255	0.148
Older wives (>median age)	Full Subsidy	-0.011	-0.022	-0.016	-0.419	0.044***
		(0.014)	(0.016)	(0.018)	(0.443)	(0.011)
	Observations	6,252	6,252	6,065	6,051	6,242
	Control Mean	0.523	0.599	0.512	9.962	0.136
Monogamous husband	Full Subsidy	-0.018	-0.018	0.010	-0.077	0.031***
		(0.013)	(0.013)	(0.016)	(0.420)	(0.011)
	Observations	6,974	6,975	6,756	6,743	6,969
	Control Mean	0.660	0.750	0.556	9.870	0.149
Polygamous husband	Full Subsidy	-0.011	-0.015	-0.010	-0.635	0.034***
		(0.014)	(0.013)	(0.018)	(0.481)	(0.012)
	Observations	5,568	5,568	5,375	5,364	5,550
	Control Mean	0.573	0.645	0.496	9.256	0.132
Senior wife in a polygamous marriage	Full Subsidy	-0.014	-0.013	-0.012	-0.741	0.050***
		(0.025)	(0.025)	(0.029)	(0.675)	(0.019)
	Observations	1,728	1,728	1,669	1,666	1,721
	Control Mean	0.556	0.626	0.515	9.971	0.126
Junior wife in a polygamous marriage	Full Subsidy	-0.009	-0.016	-0.011	-0.576	0.026**
		(0.016)	(0.015)	(0.019)	(0.532)	(0.013)
	Observations	3,840	3,840	3,706	3,698	3,829
	Control Mean	0.581	0.653	0.487	8.937	0.134
Low # of pregnancies at baseline (< 5)	Full Subsidy	-0.013	-0.016	0.002	-0.336	0.024**
		(0.013)	(0.012)	(0.015)	(0.432)	(0.011)
	Observations	8,927	8,928	8,622	8,608	8,909
	Control Mean	0.679	0.769	0.523	8.977	0.140
High # of pregnancies at baseline (>= 5)	Full Subsidy	-0.027	-0.027	-0.007	-0.345	0.054***
		(0.018)	(0.020)	(0.021)	(0.527)	(0.013)
	Observations	3,615	3,615	3,509	3,499	3,610
	Control Mean	0.483	0.545	0.550	11.173	0.146
Was using modern contraception at baseline	Full Subsidy	-0.028	-0.027	0.014	-0.267	0.041***
		(0.018)	(0.019)	(0.019)	(0.609)	(0.014)
	Observations	4,043	4,043	3,911	3,907	4,037
	Control Mean	0.587	0.697	0.752	15.159	0.200
Excluding regions with Family Planning pilot (2019)	Full Subsidy	-0.020	-0.022*	-0.003	-0.372	0.032***
		(0.012)	(0.013)	(0.016)	(0.424)	(0.010)
	Observations	11,378	11,379	11,014	10,991	11,357
	Control Mean	0.623	0.706	0.548	9.936	0.147
Excluding villages affected by insecurity	Full Subsidy	-0.020	-0.016	0.023	0.373	0.049***
		(0.013)	(0.014)	(0.017)	(0.415)	(0.011)
	Observations	8,280	8,280	8,263	8,251	8,275
	Control Mean	0.601	0.680	0.496	8.842	0.109

Notes: Endline controls are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. Province fixed effects are used in all specifications. Robust standard errors in parentheses. Clustering at health center level. Control Mean refers to that of 10% subsidy sub-sample. Province fixed effects used across all specifications. The median age of wives is 28. The regions with family planning pilot in 2019 are Cascades and Centre Ouest. $^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$

Table A.8: Treatment effects when potential misperceptions are absent (with baseline controls)

Sub-sample		(1) Had a live birth since baseline	(2) Had a pregnancy since baseline	(3) Used medical contracep-tion in last 3 yrs	(4) Month(s) used modern contraception (last spell of each type) in last 3 yrs	(5) Used IPA subsidy voucher
Social Norms:						
Does not believe community disapproves use of contraception (N=4,277)	Full Subsidy	-0.020	-0.019	0.003	-0.568	0.044***
		(0.014)	(0.013)	(0.016)	(0.477)	(0.013)
	Control Mean	0.627	0.703	0.531	9.600	0.150
Does not report women being punished or stigmatized for using contraception (N=6,855)	Full Subsidy	-0.023	-0.021	-0.005	-0.531	0.035***
		(0.014)	(0.014)	(0.014)	(0.426)	(0.011)
	Control Mean	0.634	0.714	0.559	10.239	0.155
Mortality Perceptions:						
Does not overestimate under-5 child	Full Subsidy	-0.012	-0.001	0.034**	0.433	0.035***
mortality (N=4,227)		(0.016)	(0.016)	(0.015)	(0.451)	(0.012)
	Control Mean	0.628	0.707	0.527	9.473	0.148

Notes: Endline controls are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. Province fixed effects are used in all specifications. Robust standard errors in parentheses. Clustering at health center level. Control Mean refers to that of 10% subsidy sub-sample. Province fixed effects used across all specifications. The median age of wives is 28. The regions with family planning pilot in 2019 are Cascades and Centre Ouest. $^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$

Table A.9: Treatment effects on primary outcomes: fully interacted (with baseline controls)

	(1) Had a live birth since baseline	(2) Had a pregnancy since baseline	(3) Used medical contraception in last 3 yrs	(4) Month(s) used modern contraception (last spell of each type) in last 3 years	(5) Used IPA subsidy voucher
Full Subsidy	-0.034*	-0.024	0.013	-0.196	0.050***
	(0.018)	(0.018)	(0.021)	(0.475)	(0.016)
Village Debate or Edutainment	-0.015	-0.002	0.014	0.293	0.034**
	(0.016)	(0.015)	(0.018)	(0.455)	(0.013)
Individual Edutainment	0.009	0.006	0.000	0.480	0.016
	(0.021)	(0.020)	(0.021)	(0.623)	(0.016)
Individual Mortality Info	-0.000	-0.004	0.021	0.800	-0.014
	(0.023)	(0.019)	(0.022)	(0.641)	(0.014)
Village Interventions X Full Subsidy	0.022	0.003	-0.007	0.236	-0.024
	(0.022)	(0.021)	(0.025)	(0.599)	(0.020)
Individual Edutainment X Full Subsidy	0.027	0.039	0.021	-0.406	-0.026
	(0.030)	(0.029)	(0.030)	(0.804)	(0.026)
Individual Mortality Info X Full Subsidy	0.025	0.006	-0.030	-0.800	0.015
	(0.033)	(0.030)	(0.032)	(0.829)	(0.022)
Province FE	Yes	Yes	Yes	Yes	Yes
Baseline Controls	Yes	Yes	Yes	Yes	Yes
Observations	12,542	12,543	12,131	12,107	12,519
Control Mean	0.628	0.701	0.526	9.373	0.129

Notes: Province fixed effects are used in all specifications. Robust standard errors in parentheses. Clustering at the village level. Control mean refers to that of the pure control. Baseline controls are: number of births at baseline; whether wife was using modern contraception at baseline; number of children desired by wife at baseline ; number of children desired by husband at baseline ;under 5 mortality rate reported by wife at baseline; wife and husband's first order beliefs at baseline i.e. whether or not they each agree that "there is a quantity-quality trade-off", "times are changing and there is no social norm on family size" and (in response to a vignette) "Z. should use long-lasting contraception to delay 5th birth"; wife's age at baseline, spousal age gap at baseline, polygamous union at baseline, whether husband was surveyed at baseline, whether the wife has ever gone to school, whether she has had a child who died at baseline, exposure to DMI radio programs at baseline. Endline controls are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. $^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$.

Table A.10: Treatment effects of village interventions on wife's beliefs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	First-order beliefs				Second-order beliefs			
	Modern contraception is not dangerous to health	Modern contraception is not against tradition	Modern contraception is a reliable way to control births	There is a quantity-quality tradeoff	Community disapproves couple using contraception to delay 1st birth	Women sometimes punished/ stigmatized for using contraception	Modern contraception is a reliable way to control births	There is a quantity-quality tradeoff
Panel A: Effect of village interventions								
Village Debate or Edutainment	0.001	-0.029***	-0.008	-0.007	0.010	0.011	0.000	0.002
	(0.010)	(0.011)	(0.006)	(0.010)	(0.015)	(0.013)	(0.004)	(0.004)
CSPS FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No	No	No	No	No
Observations	11,459	11,461	12,546	12,546	12,546	11,314	12,511	12,501
Control Mean	0.818	0.814	0.908	0.841	0.649	0.483	0.627	0.524
Panel B: Effect of village interventions by baseline beliefs								
Village Debate or Edutainment	-0.002	-0.008	-0.022	-0.014	0.001	0.008		
	(0.018)	(0.019)	(0.028)	(0.022)	(0.019)	(0.017)		
Agrees at baseline	0.051***	0.014	0.068***	0.073***	0.018	0.030**		
	(0.014)	(0.015)	(0.018)	(0.015)	(0.012)	(0.014)		
Village Int. X Agrees at baseline	0.004	-0.023	0.012	0.010	0.014	-0.001		
	(0.019)	(0.020)	(0.028)	(0.022)	(0.017)	(0.020)		
CSPS FE	Yes	Yes	Yes	Yes	Yes	Yes		
Baseline Controls	No	No	No	No	No	No		
Observations	10,331	10,358	10,588	10,498	12,546	10,464		
Control Mean	0.775	0.822	0.826	0.811	0.627	0.478		

Notes: Robust standard errors in parentheses. Clustering at village level. CSPS fixed effects used across all specifications. Endline controls used are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. In all regressions, we include other demand treatment arms (Individual Mortality Info and Individual Edutainmment) but we don't report the coefficients in the table. The control mean in Panel A is the average outcome in the group that did not receive any demand intervention. The control mean in Panel B is the average outcome in the group that did not receive any demand intervention and disagrees at baseline. Second order beliefs in column 7 and 8 refer to the proportion of people in the community that the respondents think agree with the outcome statement as opposed to columns 3 and 4 where the outcome measures whether the respondent herself agrees with the outcome statement. Panel B controls for whether the wife agreed with the outcome statement at baseline and interacts this with the village interventions. We cannot estimate the regression in columns 7 and 8 in panel B because we did not collect the relevant variable at baseline. $^{***}p < 0.01, ^{**}p < 0.05, ^{*}p < 0.1$

Table A.11: Treatment effects of village interventions on primary outcomes by baseline beliefs

Sub-sample		(1) Had a live birth since baseline	(2) Had a pregnancy since baseline	(3) Used medical contracep-tion in last 3 yrs	(4) Month(s) used modern contraception (last spell of each type) in last 3 yrs	(5) Used IPA subsidy voucher
Personal views (first-order beliefs):						
Modern contraception is not dangerous to health (N=10867)	Village Debate or Edutainment	-0.037*	-0.016	0.009	0.295	-0.007
		(0.020)	(0.019)	(0.022)	(0.541)	(0.016)
	Agrees at baseline	-0.058***	-0.031**	0.077***	1.790***	0.025**
		(0.016)	(0.016)	(0.018)	(0.417)	(0.013)
	Village Interventions X Agrees at baseline	0.042*	0.023	-0.011	0.114	0.028*
		(0.022)	(0.021)	(0.023)	(0.584)	(0.016)
Modern contraception is not against tradition (N=10900)	Village Debate or Edutainment	-0.017	-0.008	0.022	0.451	-0.003
		(0.021)	(0.022)	(0.022)	(0.558)	(0.017)
	Agrees at baseline	-0.018	-0.014	0.030	0.376	-0.012
		(0.018)	(0.017)	(0.019)	(0.463)	(0.012)
	Village Interventions X Agrees at baseline	0.018	0.016	-0.027	-0.125	0.021
		(0.024)	(0.023)	(0.024)	(0.595)	(0.017)
Modern contraception is a reliable way to control births (N=10227)	Village Debate or Edutainment	0.022	0.041	-0.020	-0.916	0.033
		(0.038)	(0.036)	(0.038)	(0.911)	(0.022)
	Agrees at baseline	0.032	0.049**	0.122***	1.213**	0.076***
		(0.025)	(0.024)	(0.025)	(0.609)	(0.014)
	Village Interventions X Agrees at baseline	-0.036	-0.050	0.034	1.711*	-0.006
		(0.039)	(0.036)	(0.038)	(0.894)	(0.021)
There is a quantity-quality tradeoff (N=10138)	Village Debate or Edutainment	-0.033	-0.022	0.013	0.751	0.013
		(0.025)	(0.023)	(0.027)	(0.639)	(0.020)
	Agrees at baseline	-0.016	-0.017	0.084***	1.892***	0.017
		(0.018)	(0.016)	(0.019)	(0.442)	(0.014)
	Village Interventions X Agrees at baseline	0.028	0.021	0.003	-0.028	0.017
		(0.026)	(0.024)	(0.027)	(0.638)	(0.020)
Perceived social norms (second-order beliefs):						
There is no social norm on family size (N=10275)	Village Debate or Edutainment	0.005	0.013	-0.036	-0.600	0.013
		(0.028)	(0.027)	(0.030)	(0.708)	(0.021)
	Agrees at baseline	0.014	0.024	0.053**	0.899*	0.031**
		(0.021)	(0.020)	(0.021)	(0.539)	(0.015)
	Village Interventions X Agrees at baseline	-0.017	-0.019	0.059**	1.527**	0.017
		(0.029)	(0.028)	(0.030)	(0.730)	(0.021)
Community disapproves couple using contraception to delay 1st birth (N=12107)	Village Debate or Edutainment	-0.008	0.014	0.007	0.730*	0.008
		(0.016)	(0.014)	(0.017)	(0.396)	(0.014)
	Agrees at baseline	0.000	0.020	0.014	0.607*	-0.011
		(0.013)	(0.013)	(0.014)	(0.330)	(0.010)
	Village Interventions X Agrees at baseline	0.010	-0.012	-0.005	-0.554	0.008
		(0.018)	(0.017)	(0.019)	(0.444)	(0.014)
Reports women sometimes punished/stigmatized for using contraception (N=11152)	Village Debate or Edutainment	-0.002	0.011	0.005	0.204	0.007
		(0.013)	(0.012)	(0.015)	(0.370)	(0.012)
	Agrees at baseline	0.008	0.022*	0.004	-0.355	-0.018*
		(0.014)	(0.013)	(0.014)	(0.352)	(0.011)
	Village Interventions X Agrees at baseline	-0.002	-0.018	-0.009	0.475	0.021
		(0.019)	(0.017)	(0.020)	(0.488)	(0.015)

Notes: Robust standard errors in parentheses. Clustering at village level. CSPS fixed effects used across all specifications. Endline controls used are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. In all regressions, we include other demand treatment arms (Individual Mortality Info and Individual Edutainmment) but we don't report the coefficients in the table. N refers to the number of observations that had a non-missing response to the belief question at baseline. The number of observations may vary slightly between outcomes; in this case, we report the minimum number across all 4 regressions. $^{***}p < 0.01$,$^{**}p < 0.05$,$^{*}p < 0.1$

Table A.12: High returns to quantity

Statistic	Mean	N	Mean	N	Source
	Husband		Wife		
Will not be able to cope in old age without support of child	0.74	206	0.81	226	Scoping
Share of children expected to send enough money back to sustain parents	0.20	252	0.26	277	Scoping
Labor constrained to expand farm activity	0.39	67523			Listing
Associate lack of children with: No labour for land	0.10	8567	0.13	12424	Baseline
Associate lack of children with: No labour for chores	0.07	8567	0.17	12424	Baseline
Associate lack of children with: Unhappiness	0.07	8567	0.14	12424	Baseline

Notes: Scoping visits were conducted between September 2016 and March 2017. We conducted semi-qualitative interviews with married men and women of reproductive age across 8 regions. The listing exercise took place in Fall 2017 in 500 villages. The baseline took place in Spring 2018 in 499 villages.

Appendix B

Table B.1: Treatment effects: spousal communication

	(1)	(2)	(3)	(4)
	Wife		Husband	
	Talked to husband about modern contraception in past 3 years	Ever discussed number of children with husband	# wives with whom husband ever talked about contraception	# wives with whom husband ever talked about number of children
Full Subsidy	0.010	-0.036**	-0.063**	-0.052***
	(0.017)	(0.016)	(0.026)	(0.019)
Province FE	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No
Observations	11,440	12,535	11,774	11,774
Control (10% Subsidy) Mean	0.588	0.320	0.726	0.335

Notes: Endline controls are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. Robust standard errors in parentheses. Clustering at health center level. $^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$.

Table B.2: Treatment effects on primary outcomes: fully interacted (version with village interventions not pooled together)

	(1)	(2)	(3)	(4)	(5)
	Had a live birth since baseline	Had a pregnancy since baseline	Used medical contraception in last 3 yrs	Month(s) used modern contraception (last spell of each type) in last 3 years	Used IPA subsidy voucher
Full Subsidy	-0.036*	-0.025	0.006	-0.281	0.047***
	(0.019)	(0.018)	(0.023)	(0.541)	(0.017)
Village Debate	-0.008	0.015	0.008	0.031	0.018
	(0.021)	(0.020)	(0.025)	(0.661)	(0.017)
Village Debate + Mortality Info	-0.017	0.003	0.009	0.282	0.031
	(0.021)	(0.019)	(0.029)	(0.703)	(0.019)
Village Edutainment	-0.007	0.006	0.018	0.552	0.029**
	(0.021)	(0.020)	(0.025)	(0.630)	(0.015)
Individual Edutainment	0.006	0.003	-0.006	0.393	0.013
	(0.022)	(0.020)	(0.021)	(0.627)	(0.015)
Individual Mortality Info	0.010	0.008	0.025	0.886	-0.015
	(0.025)	(0.021)	(0.022)	(0.665)	(0.014)
Village Debate X Full Subsidy	0.033	0.000	0.008	1.068	-0.023
	(0.030)	(0.029)	(0.037)	(0.924)	(0.026)
Village Debate + Mortality Info X Full Subsidy	0.013	-0.011	-0.031	-0.520	-0.021
	(0.030)	(0.028)	(0.041)	(0.954)	(0.028)
Village Edutainment X Full Subsidy	0.021	0.014	-0.012	-0.232	-0.036
	(0.028)	(0.029)	(0.037)	(0.895)	(0.026)
Individual Edutainment X Full Subsidy	0.031	0.044	0.030	-0.285	-0.024
	(0.031)	(0.030)	(0.031)	(0.832)	(0.025)
Individual Mortality Info X Full Subsidy	0.027	0.009	-0.025	-0.728	0.017
	(0.034)	(0.031)	(0.033)	(0.842)	(0.022)
Province FE	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No	No
Observations	12,542	12,543	12,131	12,107	12,519
Control (10% Subsidy) Mean	0.628	0.701	0.526	9.373	0.129

Notes: See Table 6.

Table B.3: Treatment effects on primary outcomes

	(1) Had a live birth since baseline	(2) Had a pregnancy since baseline	(3) Used medical contraception in last 3 yrs	(4) Month(s) used modern contraception (last spell of each type) in last 3 years	(5) Used IPA subsidy voucher
Panel A: Supply Intervention (Price Subsidy)					
Full Subsidy	-0.017	-0.019	0.000	-0.318	0.032***
	(0.012)	(0.012)	(0.015)	(0.399)	(0.010)
Province FE	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No	No
Observations	12,542	12,543	12,131	12,107	12,519
Control (10% Subsidy) Mean	0.623	0.705	0.531	9.609	0.142
Panel B: Demand Interventions: Pooled					
Village Debate or Edutainment	-0.002	0.006	0.003	0.371	0.013
	(0.010)	(0.010)	(0.013)	(0.307)	(0.010)
Individual Edutainment	0.021	0.025	0.009	0.228	0.003
	(0.015)	(0.015)	(0.015)	(0.416)	(0.012)
Individual Mortality Info	0.022	0.013	0.015	0.562	-0.004
	(0.017)	(0.015)	(0.016)	(0.420)	(0.011)
CSPS FE	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No	No
Edutain. Indiv=Vill.	0.108	0.184	0.727	0.732	0.412
Panel C: Demand Interventions: Breakdown					
Village Debate	0.007	0.012	0.011	0.661	0.007
	(0.014)	(0.013)	(0.016)	(0.411)	(0.012)
Village Debate + Mortality Info	-0.012	-0.005	-0.014	-0.110	0.021
	(0.014)	(0.012)	(0.017)	(0.405)	(0.013)
Village Edutainment	0.000	0.011	0.013	0.541	0.012
	(0.013)	(0.012)	(0.017)	(0.395)	(0.012)
Individual Edutainment	0.021	0.025	0.009	0.227	0.003
	(0.015)	(0.015)	(0.015)	(0.416)	(0.012)
CSPS FE	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No	No
Edutain. Indiv=Vill.	0.198	0.372	0.810	0.516	0.529
Deb=Deb + Mortality	0.207	0.221	0.180	0.096	0.324
Deb = Edutain. Vil	0.662	0.905	0.885	0.793	0.705

Notes: All specifications include province fixed effects (Panel A) or health centers (CSPS) fixed effects (Panels B and C). Controls are: Whether the village had to be surveyed by phone due to security concerns at endline and date of the endline survey. Robust standard errors in parentheses. Panel A: clustering at health center level. Panels B and C: clustering at village level. $^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$

Table B.4: Treatment effects of demand interventions on perceived Under 5 mortality rates, by sub-samples

	(1) Women who Over-estimate	(2) Women who Underesti-mate	(3) Women who had lost child	(4) Women who had not lost child	(5) Province Where Mortality Increased	(6) Province Where Mortality Decreased
Village Debate	0.340	-0.624	0.606	-0.146	-0.699	0.171
	(0.685)	(0.601)	(0.909)	(0.503)	(0.671)	(0.630)
Village Debate + Mortality Info	0.649	-0.809	1.596*	-0.285	1.108	-0.691
	(0.647)	(0.594)	(0.860)	(0.476)	(0.741)	(0.531)
Village Edutainment	0.595	-1.344**	-1.170	-0.161	-1.048	-0.238
	(0.639)	(0.633)	(0.883)	(0.468)	(0.673)	(0.559)
Individual Edutainment	0.065	0.129	2.256**	-0.167	1.231*	-0.415
	(0.645)	(0.731)	(1.106)	(0.466)	(0.741)	(0.467)
Individual Mortality Info	-0.130	-0.822	0.413	-0.475	0.286	-0.439
	(0.695)	(0.708)	(0.961)	(0.475)	(0.768)	(0.493)
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	No	No	No	No	No
Observations	5,299	4,314	2,430	9,039	3,276	9,117
Control (10% Subsidy) Mean	16.912	16.199	16.687	16.318	16.780	16.314

Notes: The table presents the effects of demand interventions on percieved under-5 mortality rates for different sub-samples: women who overestimated (col 1) or underestimated (col 2) child mortality at baseline; women who had lost (col 3) or not (col 4) a child at baseline; provinces where the mortality increased (col 5) or decreased (col 6) between baseline and endline. $^{***}p < 0.01$,$^{**}p < 0.05$,$^{*}p < 0.1$

Appendix C: Impact of macro shocks

Several events took place during our study period: namely the gradual deterioration of security, the health sector strike between July 2019 and December 2019, the onset of COVID in March 2020, and finally the announcement of the national FP policy in July 2020. We now discuss whether our null effects could be explained by these events and the extent to which they may have modified the impact of the free subsidy. We start by noting that the effect of these events on births is uncertain. For example COVID could disrupt access to contraception, but also temporarily lower the demand for children given the new health risks.

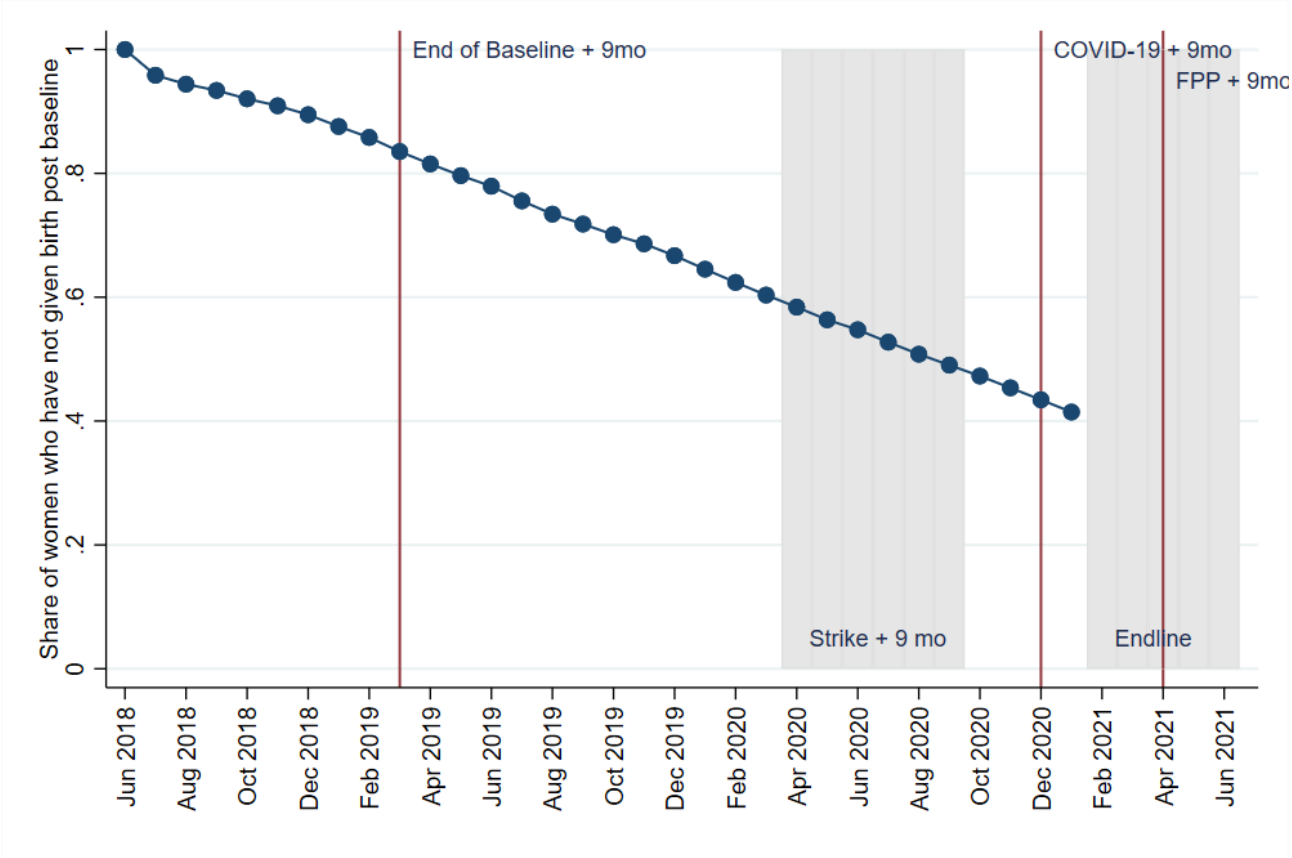
We start by showing in Figure C.1 how the timing of these events appears to affect the share of women who have not given birth in our sample, following them month by month. First, COVID and the national FP policy happened too late to be a threat; these events could only affect births towards the very end of our study period. Second, we see that the likelihood of having a child varies smoothly throughout the study period; in particular there is no change in slope during the period corresponding to 9 months after the strike, suggesting that the strike is unlikely to have caused a sudden shortage of contraceptives and a rise in unwanted pregnancies.

To investigate the effect of security issues, we exclude health centers strongly affected by the violence (using our monitoring data). The results are reported in Table A.7. The estimates remain small and insignificant. Finally, the government made contraception free ahead of the roll-out of its national program in two regions, Cascades and Centre Ouest (see Figure A.3). Table A.7 shows that the null results are robust to excluding these two regions.

We conclude that our null results are not explained by the fact that the intervention took place during tumultuous times. We also note that times are in fact often tumultuous in this region, which makes our results policy-relevant precisely because we were able to implement the experiment during these times.[38]

[38]Beyond Burkina Faso, the jihadist violence has been affecting Mali, Niger, Mauritania, Chad, Cameroon, Benin, Togo and Cote d'Ivoire for more than 10 years. Just after our endline, there were two military coups in Burkina Faso (January 2022 and September 2022). Between 2020 and 2024, there were military coups in Mali, Chad, Guinea, Sudan, Niger and Gabon.

Figure C.1: Share of women who had not given birth by calendar month



Note: The baseline and interventions took place between February and June 2018. Note that the drop between June and July 2018 is artificial: for the purpose of this figure, all the women who gave birth during the roll out of the baseline were recoded as having given birth in July 2018 i.e. once information on the entire sample had been collected. The endline took place between February and June 2021. After January 2021, we cannot report the share of women who have not given birth in the whole sample because we do not observe all the women anymore. That is why the graph stops in January 2021. The first red vertical line indicates the first month when the whole sample could be affected in terms of births (9 months after the endline of the baseline). The second red line indicates 9 months after the start of the COVID-19 pandemic. The third red line indicates 9 months after the announcement of the national family planning policy (FPP). The first shaded area indicates 9 months after the period of the strike.