Supplementary Appendix. Making Bricks from Straw: Resources and Productivity in Health Care

Edward N. Okeke

Appendix A. Field Team

Akwa Ibom team
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Jigawa team
Amina Abdullahi, Amina Bako, Eunice Yusuf, Fatima Abubakar, Fauziyya Ibrahim, Fiddausi Umar, Hamida Muhammed, Hauwa Chiroma, Hauwa Labbo, Hauwa Mari, Ismail Yunusa, Jessica Edmund, Laitu Abdu, Madina Jubril, Mercy Edmund, Nazir Iliyasu, Rabiatu Rabiu, Saadatu Abbas, Sadi Auwalu, Zainab Ahmad, Zainab Gumel, Zainab Kabir, Zainab Omolola, Zilpha Abdulaziz

Gombe team
Aisha Mohd, Aisha Wambai, Amina Bello, Danjuma Deborah, Deborah Dogo, Fauziya Mohammed, Grace Adams, Maria Helona, Maryam Abdullahi, Nafisatu Mohammed, Patience Madi, Paul Yoyila, Rebecca Abdullahi, Sadiq Abubakar, Saidu Saleh, Sambo Rebecca, Sarah Simon, Saratu B Yerima, Sikira Abdullahi, Suzanatu Bala, Usman Hannatu, and Sadiya Awala

Kano team
Aisha Abbas, Asiahu Abubakar, Binta Salisu, Feyisayo Alemeu, Fiddausi Abubakar, Fiddausi Ibrahim, Hafsat Aliyu, Hannatu Ibrahim, Ibrahim Bello O, John Dalawasi, Lami Barau, Maimuna Akawu, Musab Saad, Rabiat Jibrin, Rukayya Maidabino, Surayya Abdulrahman, Zainab Ismail, Zainab Shanono, Zuwaira Jibril, and Yakubu Suleiman

Appendix B. Discussion Prompts

- What do you think are some reasons why women do not attend antenatal care, and even when they do, do not attend up to the required number of visits?

- What do you think are some reasons why women in your catchment give birth at home?

- What do you think are some reasons why women delivering in this facility may experience poor delivery outcomes, e.g., complications such as infection and obstructed labor, and in some cases death?

- What do you think are some reasons why newborn infants born in this facility may experience poor outcomes, e.g., being born dead or dying soon after birth?

- What do you think are some reasons why children in your catchment die before their first birthday?

- What are some of the things that you can do as a facility to help increase the number of women who register for antenatal care and attend more than four visits?

- What are some of the things that you can do as a health facility to help reduce the number of women who give birth at home?

- What are some of the things that you can do as a facility to help reduce the number of women experiencing severe complications and dying during, or soon after, delivery?

- What are some of the things that you can do as a facility to help reduce the number of deliveries that end in a stillbirth and the number of newborns that die soon after birth?

- What are some of the barriers that prevent you from doing these things?

Figure A.1: Example of Action Plan #1

| Proposed actions / solutions	Steps	Responsibility	Timeframe	Estimated Cost	Date completed
FREE ANC CARD AND TEST	PROVIDE ANC CARD AND FREE TEST KITS		13/5/019 TO 17/5/019	60,000	31/7/09
HEALTH AWARENESS AND FREE DELIVERY	PROVIDE INCENTIVE e.g. wrapper		27/5/019 TO 31/7/019	100,000	31/7/19
PROVIDE TAB MISOPROSTOL OXETOCIN INJECTION AMOXCILLIN	BUY DRUGS FREE FOR CLIENT		3/6/15 30/8/15	70,000	31/7/15
PROVIDE TAB MISOPROSTOL OXETOCIN INJECTION	PROVIDE ANTESTION AND DRUGS FREE IN THE FACILITY		3/6/15 30/8/15	80,000	31/7/15
PROVIDE PENICILLIN AND AMPICILLIN	BUY DRUG AND GIVE DISCOUNT		3/5/15 30/8/15	123,000	31/7/15
PROVIDE FREE COURSE FOOD ANTI BIOTIC AND HEALTH AWARENESS	SUPPLY FOOD AND BUY DRUGS FREE FOR CHILDREN		23/6/15 27/6/15	14,000	31/7/15
					31/7/15

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Figure A.2: Example of Action Plan #2

| PROPOSED ACTIONS / SOLUTIONS	STEPS	RESPONSIB-ILITY	TIME FRAME	ESTIMATED COST	DATE COMPLETED
EQIUP FACILITY	- Raise protector at the front and back of the toilet. - Replace and service toilet (2) - Workmanship		3-6-19- 21-6-19	₦65,000=	24-6-19
	- ANC Cards : 2000 - Flyers - 2000	1/c	3-6-19- 10-6-19	₦20,000	10-6-19
	- mobilization/outreach		17-6-19 -21-6-19	₦30,000	24-6-19
	- Mega Phone	1/c		₦10,000	
	- Purchase of drugs		10-6-19 14-6-19	₦10,000	14-6-19
ELECTRICAL	- Change six ⑥ bulbs & 4 sockets	1/c	3-6-19 10-6-19	₦10,000	17-6-19
EQIUP DELIVERY Room	- Delivery kit - 3 - Apron - 5 - Plastic boat - 3 pairs - Hand Sanitizer, Olive oil & dettol	1/c	3-6-19- 6-6-19 3-6-19- 6-6-19	₦28,000.	10-6-19 10-6-19
MOTIVATION	- Pampers, Toilet roll, soap		3-6-19 5-6-19	₦5,000.-	5-6-19

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Figure A.3: Example of Action Plan #3

Proposed actions / solutions	Steps	Responsibility	Timeframe	Estimated Cost	Date completed
Provision of transport money for each women	Give free transport to client attending Anc		3/06/19 29/08/19	35,000	20/06/2020
Free Feeding (Lunch) during Anc	Provide one plate of rice, nating, moimoi		10/06/19 28/08/19	30,000	20/06/2020
Provision of motivation materials - e.g soap free drugs Omo, cola-nut - Sweet, chewing gum	Buy soap, free drugs Omo cola-nut - sweet chewing gum		13/06/19 29/08/19	20,000	20/06/2020
Health talk on personal hygiene and provision of free medication	Provide free Antibiotic to client		17/06/19 20/06/19	20,000	20/06/2020
Health talk on the importance of using mosquito net during pregnancy	Provide mosquito net to pregnant client free		20/06/19 24/06/19	15,000	20/06/2020
provision of free medication to pregnant client diagnos. with jundice and malaria	Provide free test and drugs to client		26/06/19 30/08/19	10,000	20/06/2020
Awareness on the importance of immunization provision of malaria drugs and nutritional food	Buy Antimalaris, make local supplimentary food and awareness on immunization importance		4/06/19 28/08/19	25,000	20/06/2020

Figure A.4: Baseline correlation between clinic income and spending
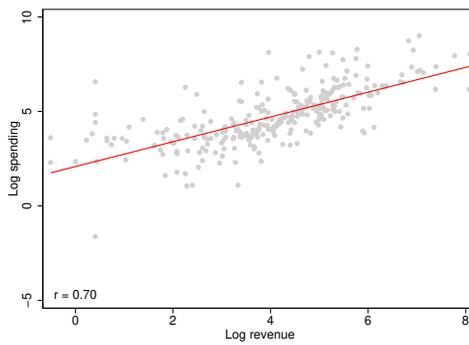
(a) Internal revenue and spending
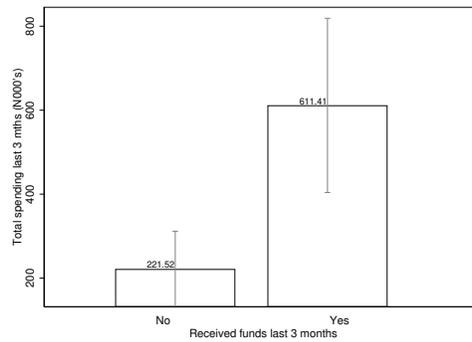
(b) External funding and spending

Note: Top figure shows the correlation between internally generated clinic revenue and spending (both in logs). Linear fitted line shown. Each dot is a clinic. Bottom figure shows the correlation between external funding and spending. 61% of clinics received no external funding of any kind. Data is for the three months preceding the baseline survey.

Figure A.5: Payments received from a non-governmental organization
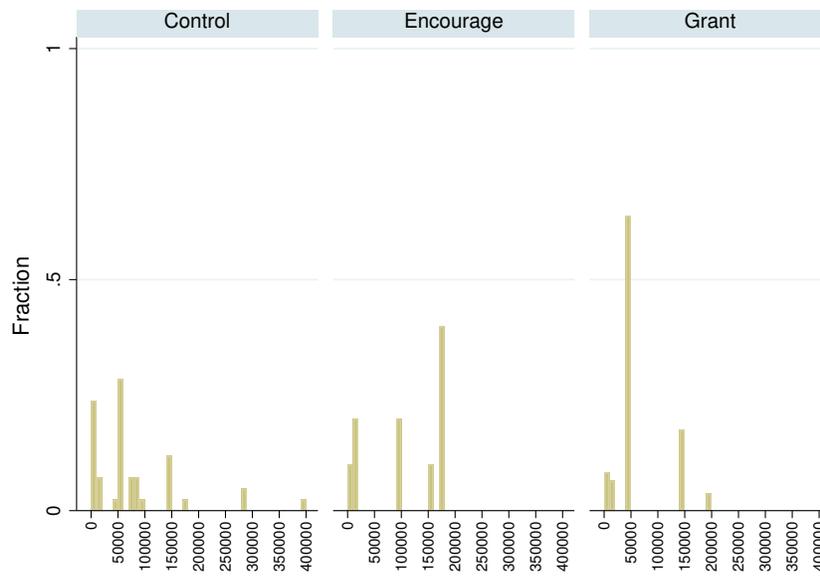
Note: This figure is a histogram showing clinics payments (in Naira) reported as coming from a non-governmental organization (bin width = N10,000; zeros are excluded). Data is for April 2019 to January 2021. One can see that there is a mass at exactly N50,000 in grant clinics, with a smaller one at N150,000. This is absent in non-grant clinics.

Figure A.6: Patient incentives

(a) Goody bags given to mothers after delivery

(b) Gifts to mothers for completing prenatal visits

(c) Free eggs being distributed to mothers during prenatal visits

Note: These photos show examples of the kinds of incentives used by health workers in grant clinics. To protect privacy identifying information is redacted. ©Edward Okeke 2025.

Figure A.7: Infrastructural spending

(a) Ceiling repair/replacement

(b) Refurbished delivery room

(c) New water supply

Note: These are 'after' photos documenting some of the effects of increased infrastructural spending. To protect privacy identifying information is redacted. ©Edward Okeke 2025.

Figure A.8: Infrastructural spending

(a) New blood glucose monitor

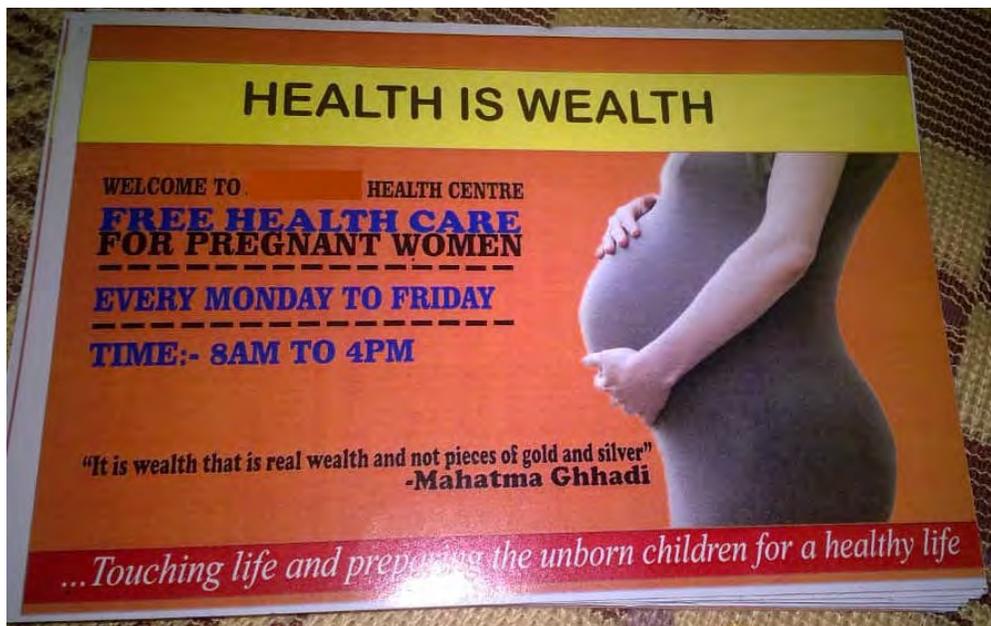(b) New blood pressure monitor

(c) New microscope

(d) New hospital bed

(e) New weighing scale

Note: Photos show examples of capital spending in grant clinics. To protect privacy identifying information is redacted. ©Edward Okeke 2025.

Figure A.9: Example of a poster used for outreach

Note: To protect privacy identifying information is redacted. ©Edward Okeke 2025.

Figure A.10: Were grant clinics more likely to maintain utilization records?
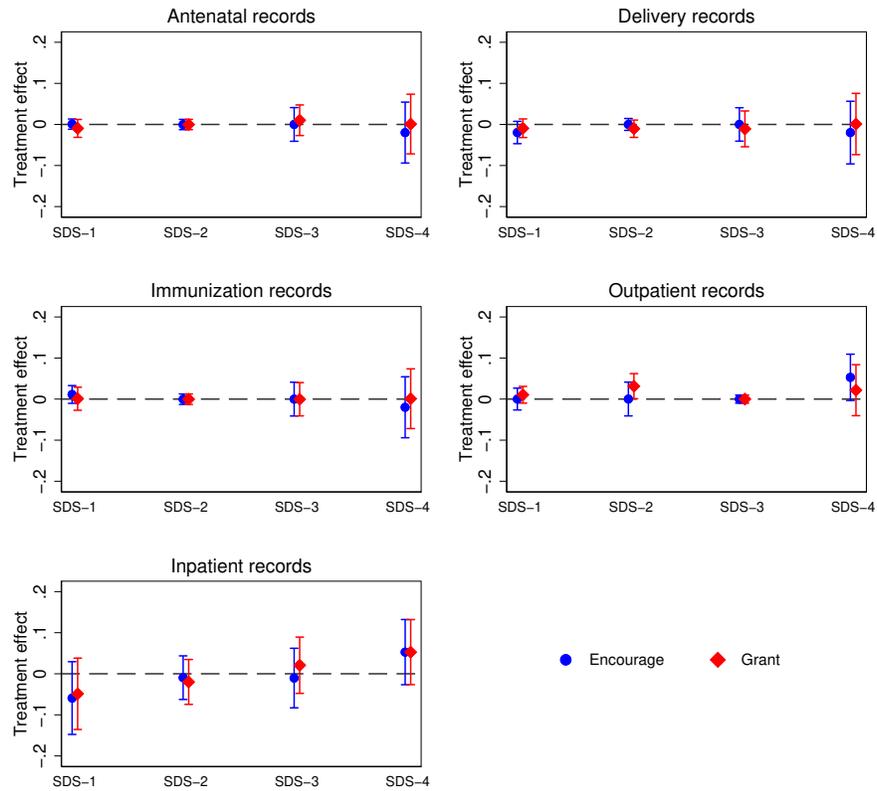
Note: The figure examines whether grant clinics were more likely to maintain each of the utilization records shown in the captions. Each outcome is regressed on an interaction between the clinic treatment and the survey wave. Results are from a linear probability model. Coefficients and 90% confidence intervals shown. SDS = Service Delivery Survey.

Figure A.11: Example of planning meeting minutes

(a) PAGE 1

(b) PAGE 2

Note: This is an example of written minutes from a planning meeting held in one clinic. To protect privacy identifying information is redacted. ©Edward Okeke 2025.

Figure A.12: Community involvement in implementation

The Management of the above mention facility with supported of HPRG
of Nigeria have agreed to employ a two female temporary staff and pay
them in order to support and bust the facility delivery on monthly basis

MONTHS: _DEC 2019_

S/N	NAMES	RANK	AMOUNT	ISSUED SIGN	RECIEVER SIGN
1.		JCHEW	N10,000:00		
2.		Cleaner	N5,000:00		
	TOTAL		N15,000:00		

Amount in Word: Fifteen Thousand Naira Only

FHC Chairman Name _____ Sign _____ Date: _31/12/019_

I/c Name: _____ Sign: _____ Date: _31/12/019_

/C Name: _____ Sign: _____ Date: _31/12/2019_

Note: This is an example of a payment voucher for newly hired staff paid by the grant. It shows joint sign-off by the health worker in charge of the clinic and the Chair of the Facility Health Committee (FHC). The Facility Health Committee is a vehicle designed to give the community greater voice and participation in health service delivery (Oguntunde et al. 2018). Members interface between the community and health workers. To protect privacy identifying information is redacted. ©Edward Okeke 2025.

Figure A.13: Effect of the conditional incentive on health care utilization
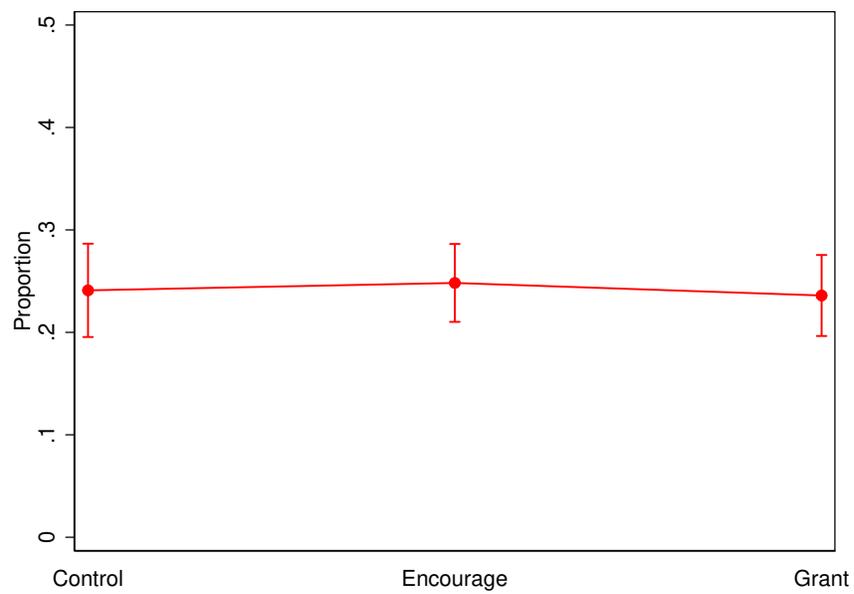
Note: This figure shows the effect of a conditional incentive offered to women. Half of the sample was offered a cash payment if the woman attended at least four prenatal visits and delivered in a health facility. The outcome shown is a delivery in the health clinic. This is regressed on an interaction between the clinic treatment indicators and the incentive treatment dummy. Treatment effects and 90% confidence intervals shown. Grant identifies mothers in areas where the health clinic was selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies mothers in areas where the health clinic was that received the exact same intervention but without the award. Control identifies mothers in control areas. The sample consists of 36147 women for whom I have follow-up data.

Figure A.14: Do incentive compliers in grant areas have more risky characteristics?
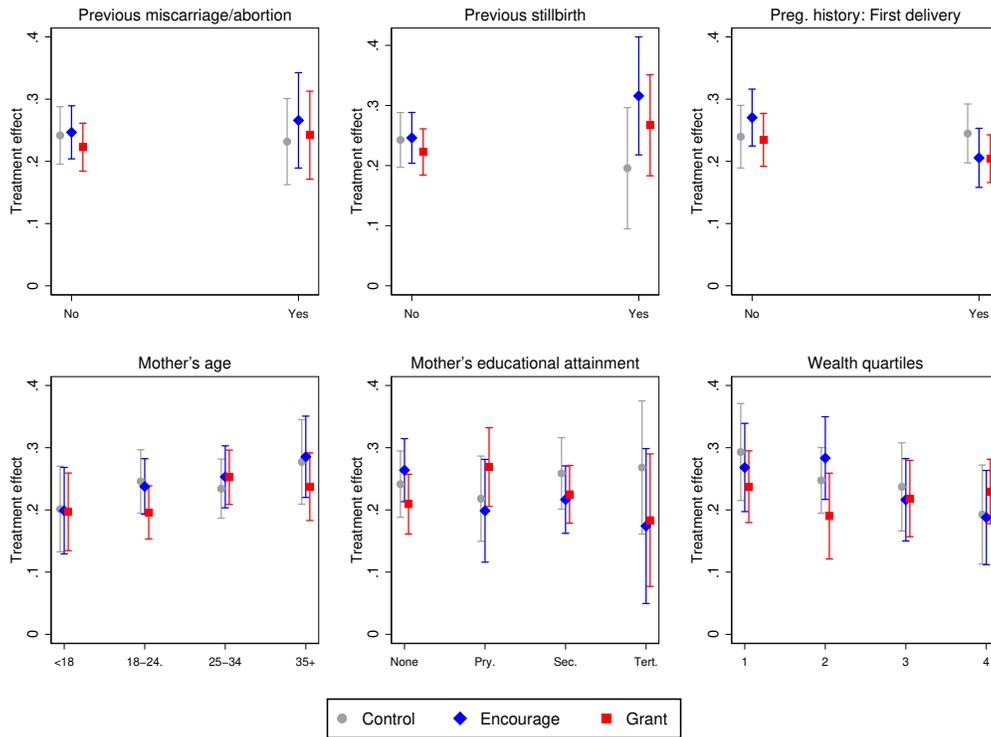
Note: This figure examines whether women induced to use health care services by the incentive had more risky characteristics in grant areas. The incentive was paid if women attended at least four prenatal visits and delivered in a health facility. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award; Control clinics are status quo clinics. Results shown are from a linear probability model regressing health care use on an interaction between the clinic and incentive treatments and the characteristic in the figure header. 90% confidence intervals shown. The sample consists of 36147 women for whom I have follow-up data.

Figure A.15: Mortality gains accrue to the least well-off households
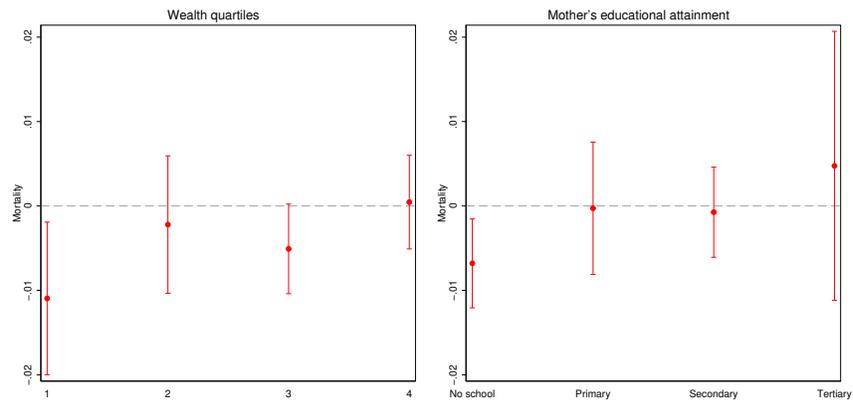
Note: This figure shows the effect of the grant on mortality among children under five years old, disaggregated by household wealth and by mother's educational attainment. Treatment effects and 90% confidence intervals come from a linear probability model of mortality regressed on an interaction between treatment assignment and the baseline characteristic in the figure header. Grant areas are compared to non-grant areas (control and encouragement). The sample consists of 21743 children in enrolled households.

Figure A.16: Baseline spending – Top 50% vs. Bottom 50% of clinics
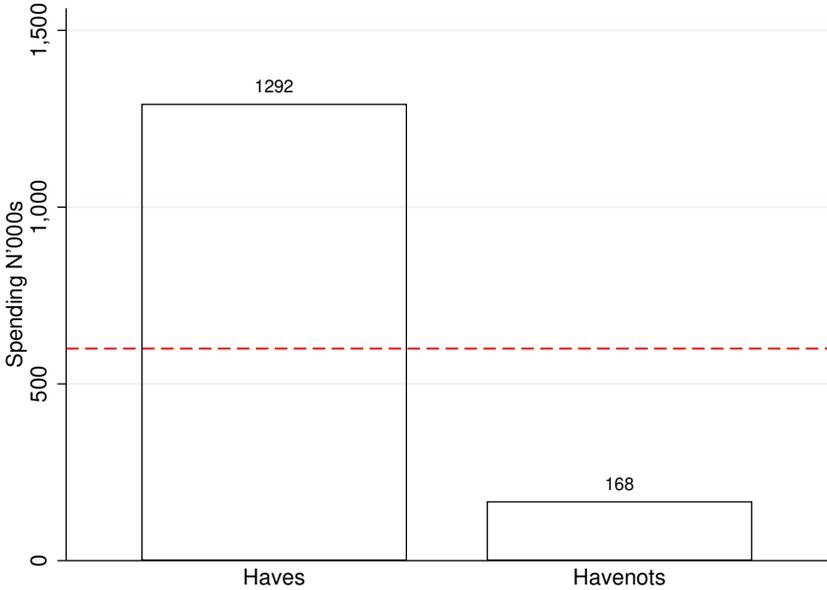
Note: This figure shows median spending at baseline for the top and bottom 50% of clinics (the Haves and Havenots respectively). Spending is for the three months preceding the baseline, annualized by multiplying by four. The red dashed line indicates the amount of the grant: N600,000.

Figure A.17: Heterogeneity by financial need
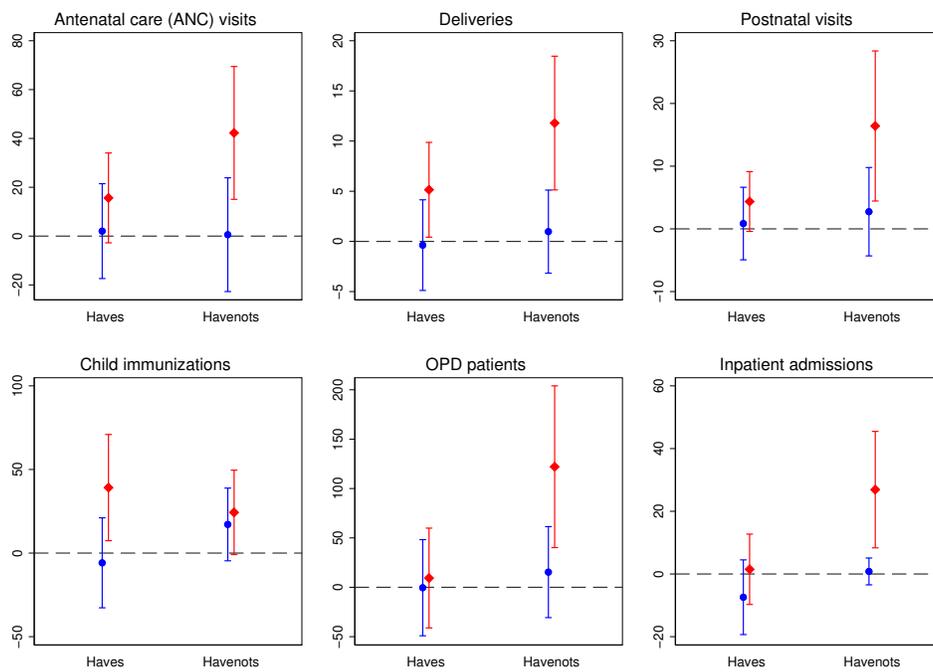
Note: This figure examines whether the grant had a larger effect in more financially constrained clinics at baseline. The Haves and Havenots denote clinics in the top and bottom half, respectively, of the baseline spending distribution. Treatment effects and 90% confidence intervals come from a generalized linear model of monthly output, shown in the figure headers, on an interaction between this indicator and treatment assignment.

Figure A.18: Heterogeneity by in-charge experience
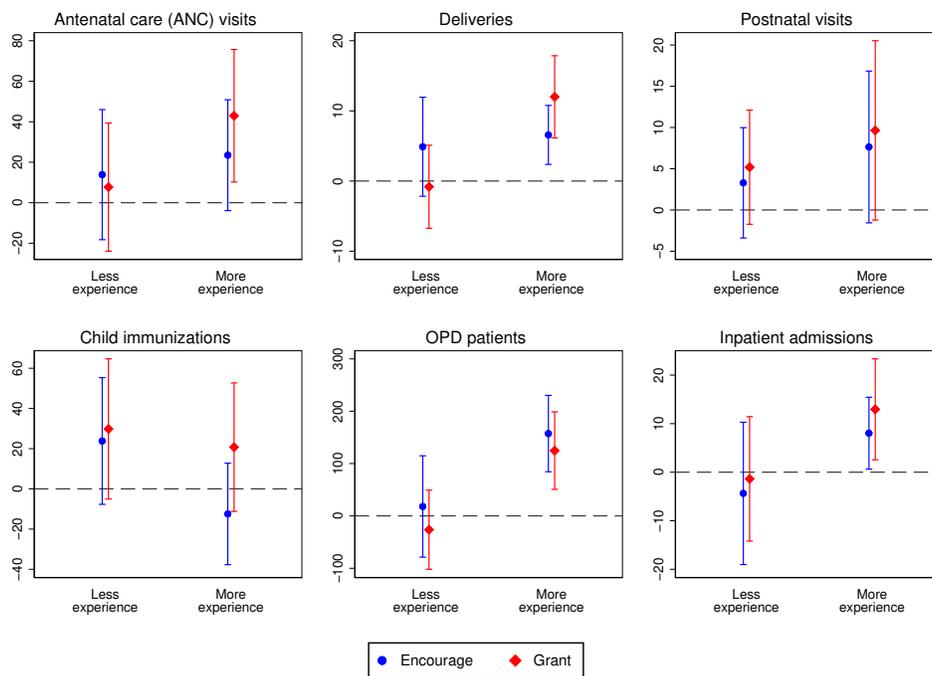
Note: This figure examines whether the grant had a larger effect in clinics with more experienced in-charges. More (less) experience denotes more (less) than the median years of cumulative experience (the median is 18). Treatment effects and 90% confidence intervals come from a generalized linear model of monthly output, shown in the figure header, on an interaction between treatment assignment and this variable. I have experience data for 219 out of 288 managers.

Figure A.19: Correlation between action share and budget share
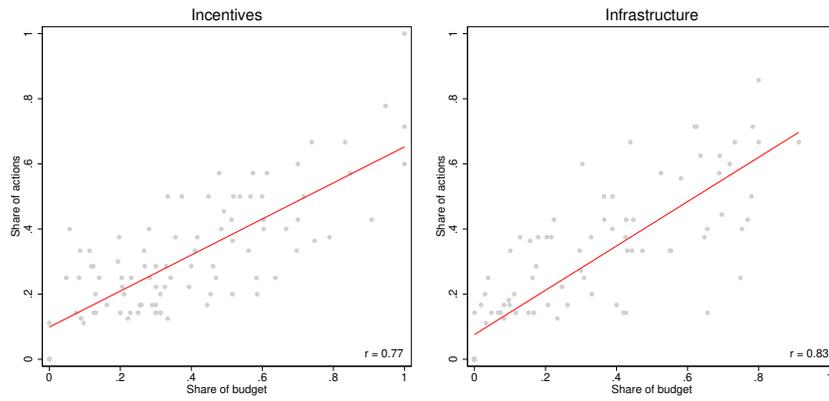
Note: The figure on the left plots the share of actions in the plan coded as Patient Incentives against the share of the budget allocated to those actions. The figure on the right plots the share of actions coded as Infrastructure against the share of the budget allocated to those actions. Linear fitted line shown. Each dot is a clinic. Sample consists of 95 grant clinics.

Figure A.20: Did grant clinics prioritize incentives or infrastructure?
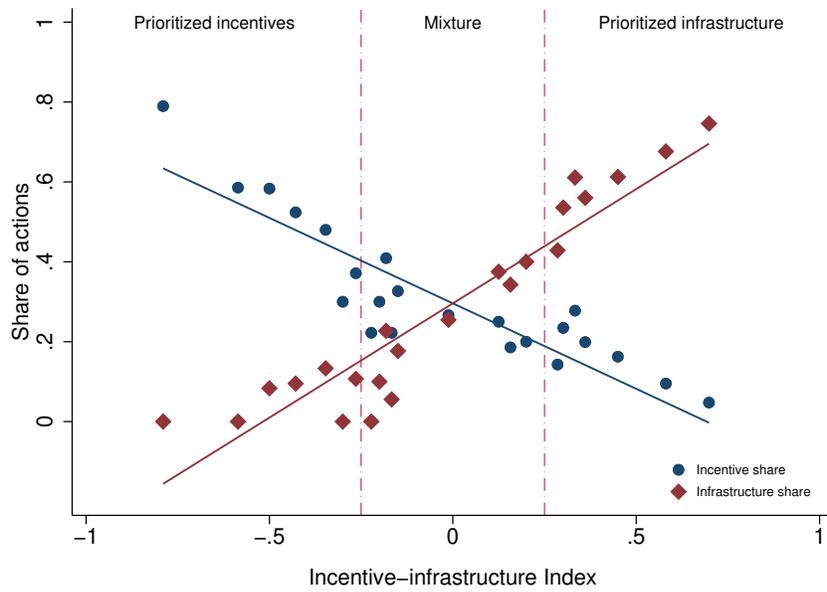
Note: The figure plots the difference between the share of plan actions related to infrastructure and the share related to incentives (on the X-axis) against these shares (on the Y-axis). Graph is a binned scatter plot with 30 equal-sized bins. Linear regression line is plotted on the underlying data. Sample consists of 95 grant clinics.

Figure A.21: Predicted grant allocation
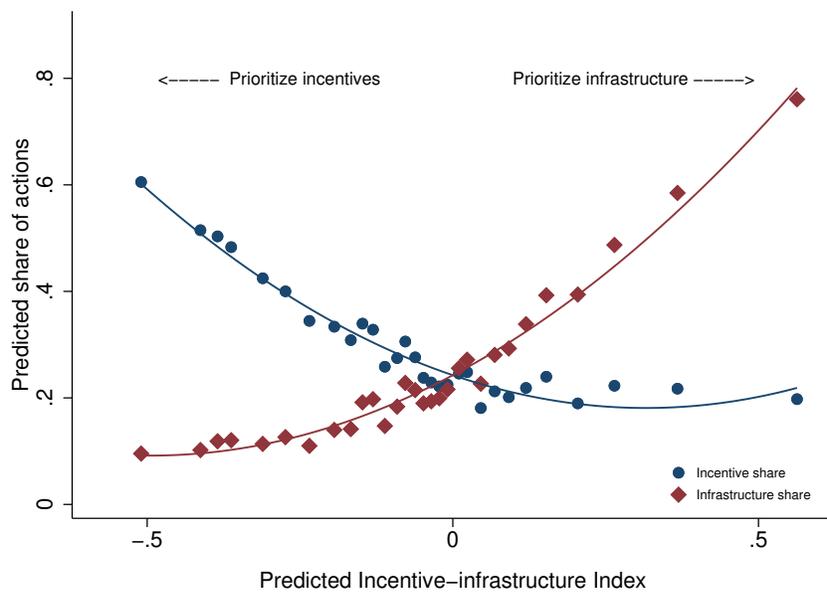
Note: The figure plots the difference between the predicted share of plan actions related to infrastructure and the predicted share related to incentives (on the X-axis) against these shares (on the Y-axis). Predictions are obtained using lasso. A negative (positive) value on the X-axis indicates greater priority given to incentives (infrastructure), with larger values indicating increasing priority. Graph is a binned scatter plot with 30 equal-sized bins. Quadratic regression line is plotted on the underlying data. Sample consists of 288 clinics.

Figure A.22: Validating the predicted incentive-infrastructure index using clinic outcomes at 16 months
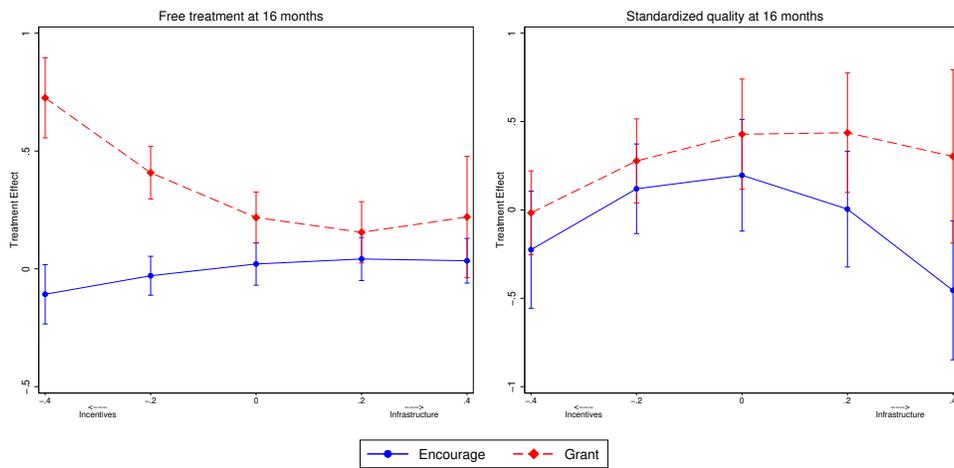
Note: This figure validates the predicted incentive-infrastructure index by examining whether it predicts eventual outcomes at 16 months. The outcome on the left is the probability that a clinic is charging zero fees for antenatal and delivery care. The outcome on the right is a standardized index of clinic quality. Point estimates and 90% confidence intervals are from a regression of each outcome on an interaction between treatment assignment and a quadratic of the index. The omitted group is control clinics. Sample consists of 288 clinics.

Figure A.23: Transparency and accountability
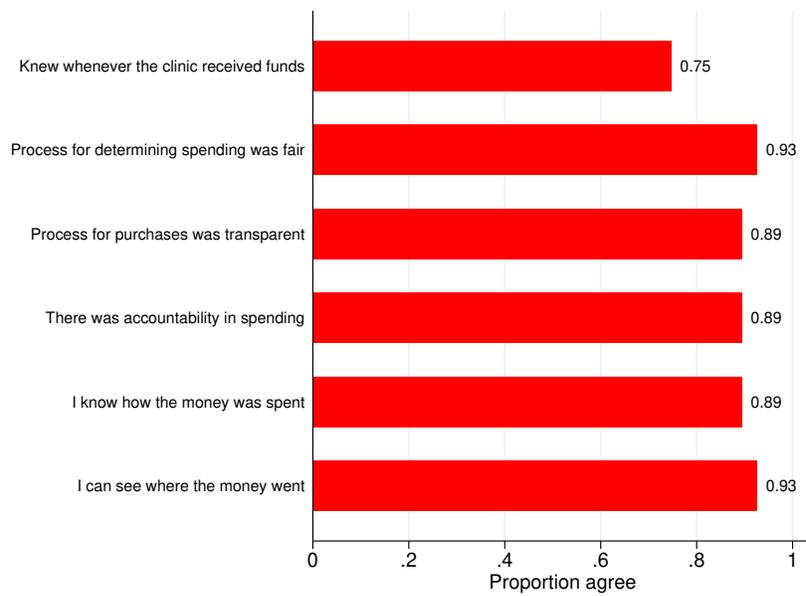
Note: The figure summarizes data from the post-intervention evaluation survey. This survey was administered to one randomly selected health worker in each clinic. Respondents were presented with a series of statements (shown on the vertical axis) and asked to indicate the extent to which they agreed/disagreed with each. The responses are dichotomized: agree or strongly agree vs. all other responses.

Figure A.24: Perceived impacts
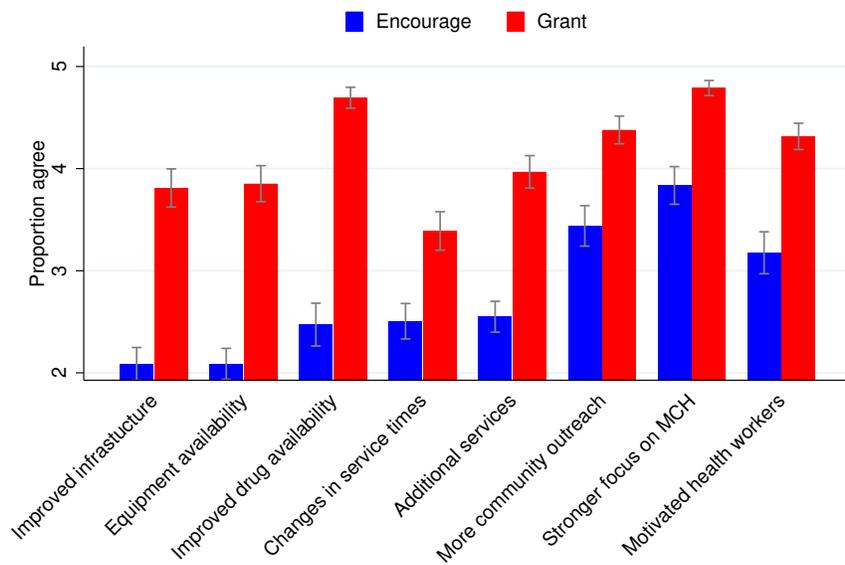
Note: The figure summarizes data from the post-intervention evaluation survey. This survey was administered to one randomly selected health worker in each clinic. Respondents were presented with a series of statements about some potential impacts of the intervention (shown on the horizontal axis) and asked to indicate the extent to which they agreed/disagreed with each. The responses are dichotomized: agree or strongly agree vs. all other responses. MCH = Maternal and Child Health. 90% confidence intervals shown.

Figure A.25: Financial record-keeping

Note: The image is a photo of a financial ledger used by clinics to track disbursements from the grant. To protect privacy identifying information is redacted. ©Edward Okeke 2025.

Table A.1: Funding from various sources

	Any funds (%)	Average if yes	Average	In-kind contribution (%)
Federal government	1.7	2,000,000	14,085	14.3
State government	12.9	107,688	12,892	42.9
Local government	2.1	136,333	2,850	10.8
Health insurance	12.5	320,008	40,140	11.8
NGO	16.0	1,379,865	192,195	55.1
Community	1.4	22,500	314	4.5
Philanthropy	4.2	862,944	33,190	5.6

Note: Column 1 is the percent of clinics that reported receiving any funds from each sources shown in the rows at baseline. The reference period is the last three months. For example: "Over the last 3 months did this facility receive any funds from ...'. NGO denotes non-governmental organizations. Amounts in Columns 2 and 3 are in Naira. Column 2 is the conditional mean. Column 3 is the unconditional mean. Average excludes erroneous values (amounts smaller than N100). Column 4 is the percent of clinics that reported receiving any in-kind contributions (typically medicines and supplies). One clinic has no financial data.

Table A.2: Effect on spending (simple OLS)

	(1)
Encourage	8.682
	(15.793)
Grant	13.984
	(11.855)
Observations	5755
Control mean	71.756
p (Grant = Control)	0.239
p (Grant = Encourage)	0.711
p (Grant = Non-Grant)	0.359

Note: The dependent variable is total monthly clinic spending. Each observation is a clinic-month. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. The results are from a simple OLS model. Model includes strata and month x year indicators and a baseline indicator for clinics with a lab. Standard errors in parentheses are clustered at the level of the health center. Data is from the service delivery surveys.

Table A.3: Did the grant crowd out other sources of external funding?

	Excludes any N50,000 payments		Excludes any N150,000 payments	
	(1) Any funds	(2) Log funds	(3) Any funds	(4) Log funds
Encourage	-0.015	-0.083	-0.015	-0.092
	(0.031)	(0.155)	(0.031)	(0.154)
Grant	0.024	0.032	0.020	-0.059
	(0.032)	(0.159)	(0.032)	(0.159)
Observations	6331	1749	6331	1739
Control mean	0.278	10.460	0.278	10.460
p (Grant = Control)	0.444	0.840	0.536	0.709
p (Grant = Encourage)	0.177	0.470	0.238	0.838
p (Grant = Non-Grant)	0.225	0.597	0.304	0.923

Note: This table examines whether the grant replaced other external funds. Any funds denotes whether clinics reported receiving a non-zero amount in a given month from any of the following sources: federal government, state government, local government, health insurance, non-governmental organizations, community, philanthropic donations, and other. Results are from a linear probability model. Log funds is the natural log of the total (conditional on any). Results are from an OLS model. Data is for April 2019 to January 2021. To avoid including grant payments—some grant clinics reported grant payments as payments from a non-governmental organization—I exclude all reported payments of exactly N50,000 in Panel A (for clinics that reported grant payments as monthly equivalents), and in Panel B further exclude all payments of exactly N150,000 (for clinics that reported actual quarterly payments). I recode them as zeros. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. All models include strata and month x year indicators and a baseline indicator for clinics with a lab. Standard errors are clustered at the clinic level.

Table A.4: How did health workers allocate the capital (Two-part model)

(a) Probability of any spending

	(1) INCENTIVES	(2) EQUIPMENT	(3) RENOVATION	(4) SUPPLIES	(5) STAFF	(6) RUNNING	(7) OUTREACH
Encourage	-0.007	-0.014	0.034	0.018	0.012	-0.024	-0.029
	(0.019)	(0.010)	(0.024)	(0.023)	(0.029)	(0.017)	(0.031)
Grant	0.173	0.045	0.041	-0.076	0.078	0.003	-0.042
	(0.019)	(0.011)	(0.022)	(0.024)	(0.029)	(0.016)	(0.031)
Observations	5755	5755	5755	5755	5755	5755	5755
Control mean	0.069	0.054	0.186	0.784	0.186	0.928	0.740
p (Grant = Control)	0.000	0.000	0.061	0.001	0.008	0.857	0.171
p (Grant = Encourage)	0.000	0.000	0.741	0.000	0.025	0.101	0.695
p (Grant = Non-Grant)	0.000	0.000	0.202	0.000	0.005	0.292	0.327

(b) Conditional spending (N000's)

	INCENTIVES	EQUIPMENT	RENOVATION	SUPPLIES	STAFF	RUNNING	OUTREACH
Encourage	8.935	0.542	0.896	-0.977	-1.874	1.522	0.155
	(4.378)	(3.862)	(1.195)	(6.182)	(2.537)	(1.140)	(0.167)
Grant	11.784	9.756	2.527	24.400	2.192	4.488	0.926
	(3.779)	(4.279)	(1.385)	(7.242)	(2.573)	(1.321)	(0.221)
Observations	720	368	1226	4404	1236	5299	4137
Control mean	19.118	19.461	9.274	65.846	16.958	11.141	3.402
p (Grant = Control)	0.002	0.023	0.068	0.001	0.394	0.001	0.000
p (Grant = Encourage)	0.511	0.022	0.234	0.001	0.123	0.035	0.000
p (Grant = Non-Grant)	0.033	0.010	0.094	0.000	0.169	0.003	0.000

Note: The dependent variable is monthly clinic spending in N000's in each category shown in the row header. From left to right: (i) patient incentives, (ii) purchase and repair of equipment, (iii) facility renovation and maintenance, (iv) purchase of medicines and consumables, (v) staff incentives, (vi) facility running costs (power supply, water, fuel, waste treatment, laundry, printing, and communications), and (vii) community outreach. Each observation is a clinic-month. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. The results in Panel A are from a logit; the results in Panel B are from a generalized linear model with a log link and a gamma distribution (average marginal effects shown). All models include strata and month x year indicators and a baseline indicator for clinics with a lab. Standard errors in parentheses are clustered at the level of the health center.

Table A.5: How did health workers allocate the capital (OLS)

	(1) INCENTIVES	(2) EQUIPMENT	(3) RENOVATION	(4) SUPPLIES	(5) STAFF	(6) RUNNING	(7) OUTREACH
Encourage	0.841	0.026	0.247	4.786	-0.271	3.085	-0.031
	(1.035)	(0.468)	(0.586)	(12.388)	(0.874)	(2.691)	(0.185)
Grant	3.147	1.028	0.436	2.768	1.473	4.695	0.438
	(0.783)	(0.356)	(0.574)	(9.736)	(0.893)	(2.072)	(0.209)
Observations	5755	5755	5755	5755	5755	5755	5755
Control mean	1.328	1.047	1.729	51.645	3.152	10.338	2.517
p (Grant = Control)	0.000	0.004	0.447	0.776	0.099	0.023	0.037
p (Grant = Encourage)	0.021	0.028	0.639	0.852	0.025	0.581	0.027
p (Grant = Non-Grant)	0.000	0.003	0.435	0.964	0.024	0.141	0.017

Note: The dependent variable is monthly clinic spending in N000's in each category shown in the row header. From left to right: (i) patient incentives, (ii) purchase and repair of equipment, (iii) facility renovation and maintenance, (iv) purchase of medicines and consumables, (v) staff incentives, (vi) facility running costs (power supply, water, fuel, waste treatment, laundry, printing, and communications), and (vii) community outreach. Each observation is a clinic-month. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. Results are from an OLS regression. All models includes strata and month x year indicators and a baseline indicator for clinics with a lab. Standard errors in parentheses are clustered at the level of the health center.

Table A.6: How did health workers allocate the capital (Extensive/Intensive margins)

(a) Probability of any spending

	(1) INCENTIVES	(2) EQUIPMENT	(3) RENOVATION	(4) SUPPLIES	(5) STAFF	(6) RUNNING	(7) OUTREACH
Encourage	-0.007	-0.014	0.034	0.018	0.010	-0.023	-0.030
	(0.021)	(0.010)	(0.024)	(0.023)	(0.029)	(0.017)	(0.032)
Grant	0.173	0.045	0.041	-0.076	0.082	0.008	-0.043
	(0.023)	(0.011)	(0.022)	(0.024)	(0.030)	(0.017)	(0.031)
Observations	5755	5755	5755	5755	5755	5755	5755
Control mean	0.069	0.054	0.186	0.784	0.186	0.928	0.740
p (Grant = Control)	0.000	0.000	0.066	0.002	0.007	0.626	0.171
p (Grant = Encourage)	0.000	0.000	0.762	0.000	0.019	0.085	0.700
p (Grant = Non-Grant)	0.000	0.000	0.219	0.000	0.004	0.201	0.327

(b) Log spending

	INCENTIVES	EQUIPMENT	RENOVATION	SUPPLIES	STAFF	RUNNING	OUTREACH
Encourage	0.616	0.018	0.165	-0.016	-0.199	0.121	0.115
	(0.218)	(0.215)	(0.128)	(0.092)	(0.198)	(0.101)	(0.073)
Grant	0.793	0.380	0.339	0.309	0.076	0.312	0.233
	(0.180)	(0.170)	(0.131)	(0.089)	(0.160)	(0.095)	(0.079)
Observations	719	365	1220	4404	1235	5299	4137
Control mean	8.305	9.158	8.472	10.317	9.079	8.762	7.789
p (Grant = Control)	0.000	0.027	0.011	0.001	0.637	0.001	0.004
p (Grant = Encourage)	0.310	0.057	0.137	0.000	0.146	0.057	0.102
p (Grant = Non-Grant)	0.001	0.011	0.017	0.000	0.225	0.003	0.008

Note: The dependent variable is monthly clinic spending in each category shown in the row header. From left to right: (i) patient incentives, (ii) purchase and repair of equipment, (iii) facility renovation and maintenance, (iv) purchase of medicines and consumables, (v) staff incentives, (vi) facility running costs (power supply, water, fuel, waste treatment, laundry, printing, and communications), and (vii) community outreach. Each observation is a clinic-month. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. The results in Panel A are from a linear probability model; the results in Panel B are from a log-linear model. All models include strata and month x year indicators and a baseline indicator for clinics with a lab. Standard errors in parentheses are clustered at the level of the health center.

Table A.7: Patient incentives

1st-level code	2nd-level code	Intervention
INCENTIVES	FEE DISCOUNTS	**Free** ANC drugs and card
INCENTIVES	FEE DISCOUNTS	**Free** ANC cards. **Free** drugs. **Free** laboratory services
INCENTIVES	FEE DISCOUNTS	Give discount to poor women for laboratory tests
INCENTIVES	FEE DISCOUNTS	Incentives to women who deliver in the PHC
INCENTIVES	FEE DISCOUNTS	[..] subsidize laboratory fee and ANC card
INCENTIVES	FEE DISCOUNTS	Discount to poor women
INCENTIVES	FEE DISCOUNTS	[...] Giving tests e.g., HIV test, urinalysis for **free**
INCENTIVES	FEE DISCOUNTS	Supply of **free** ANC card
INCENTIVES	FEE DISCOUNTS	**Free** ANC cards
INCENTIVES	FEE DISCOUNTS	Give discount on ANC card, ANC drug and test from 250 to 100
INCENTIVES	FREE DRUGS	Provision of essential drugs
INCENTIVES	FREE DRUGS	Supply of IPT for malaria and health education
INCENTIVES	FREE DRUGS	**Free** routine drugs
INCENTIVES	FREE DRUGS	Purchase of drugs for under one children to relief the poor mothers
INCENTIVES	FREE DRUGS	Drugs and other incentives to ANC and labour patients
INCENTIVES	FREE DRUGS	Provide **free** services of iron drugs
INCENTIVES	FREE DRUGS	Give discount to the poor women
INCENTIVES	FREE DRUGS	**Free** ANC drugs
INCENTIVES	FREE DRUGS	[...] **free** medication to pregnant client diagnosed with jaundice and malaria
INCENTIVES	FREE DRUGS	Provide **free** malaria drugs [...]
INCENTIVES	OTHER	Incentives for women
INCENTIVES	OTHER	Provide delivery items: mama kit, oxytocin, chlorhexidine, omo, and wrapper
INCENTIVES	OTHER	Provide **free** supplementary food, **free** malaria drugs [...]
INCENTIVES	OTHER	Incentives to women who attain up to four ANC visits
INCENTIVES	OTHER	Create awareness and encourage nursing and pregnant women on the need for RI
INCENTIVES	OTHER	Give **free** detergent and soap to client at fourth ANC visit
INCENTIVES	OTHER	Provision of delivery materials **free**
INCENTIVES	OTHER	**Free** feeding (lunch) during ANC
INCENTIVES	OTHER	Incentives for ANC
INCENTIVES	OTHER	Incentives

Note: This is an extract from the action plan data of actions coded as INCENTIVES. Ten actions are randomly selected in each category. Categories with fewer than five total actions are excluded. Light edits have been made for context and meaning. Bold text mine. PHC = Primary Health Clinic; ANC = Antenatal Care; RI = Routine Immunization; IPT = Intermittent Preventive Therapy

Table A.8: Verifying fee discounts in the household survey data

	(1) Paid nothing for antenatal	(2) Paid nothing for delivery	(3) Cost of lab tests	(4) Cost of drugs
Encourage	0.029	0.001	-12.902	-16.550
	(0.021)	(0.020)	(17.904)	(31.652)
Grant	0.091	0.077	-39.149	-75.430
	(0.023)	(0.022)	(21.131)	(30.858)
Observations	36152	36152	29478	29478
Control mean	0.245	0.266	242.535	217.903
p (Grant = Control)	0.000	0.001	0.064	0.015
p (Grant = Encourage)	0.005	0.001	0.201	0.063
p (Grant = Non-Grant)	0.000	0.000	0.082	0.013

 Note: This table verifies the fee discounts offered by grant clinics using the household survey data. The outcomes are in the table header. Grant identifies mothers living in areas where workers in the health clinic were given a grant of N600,000. Encourage identifies mothers living in areas where workers in the health clinic were that received the exact same intervention but without the award. The omitted group is mothers living in areas with a control clinic. Results are from linear probability models. Results in Columns 1 and 2 are from linear probability models (the sample consists of all women with follow-up data). The results in Columns 3 and 4 are from generalized linear models with a log link and gamma distribution (the sample consists of women who used antenatal services). All models includes strata and month x year indicators and a baseline indicator for clinics with a lab. Standard errors in parentheses are clustered at the level of the health center.

Table A.9: Infrastructure

1st-level code	2nd-level code	Intervention
INFRASTRUCTURE	AMENITIES	Provision of sitting materials at ANC unit such as chairs, tables
INFRASTRUCTURE	AMENITIES	Supply bed sheets
INFRASTRUCTURE	AMENITIES	Provide adequate seating materials
INFRASTRUCTURE	AMENITIES	To buy ceiling fan in the labour room
INFRASTRUCTURE	AMENITIES	Provision of Television with DVD and cassette for educating to pregnant mother.
INFRASTRUCTURE	BUILDING	Construct facility toilet and bathroom [...]
INFRASTRUCTURE	BUILDING	Equipping room for health workers
INFRASTRUCTURE	BUILDING	Facility maintenance
INFRASTRUCTURE	BUILDING	Sterilization of equipment and free medication for client
INFRASTRUCTURE	BUILDING	Replacing leakages in labour room
INFRASTRUCTURE	CAPACITY	Equip room as call room [...]
INFRASTRUCTURE	CAPACITY	Build /provide a separate room for ANC
INFRASTRUCTURE	CAPACITY	Renting a room for staff and purchase of delivery equipments and drugs [...]
INFRASTRUCTURE	CAPACITY	Equip ANC unit
INFRASTRUCTURE	CAPACITY	Equip call room by buying generator, delivery bed as well as wardrobes
INFRASTRUCTURE	EQUIPMENT	Buy mattress and BP apparatus and buy table and chairs for officer in charge
INFRASTRUCTURE	EQUIPMENT	Free lab investigation through provision of equipment for awareness
INFRASTRUCTURE	EQUIPMENT	Equipped the laboratory with all necessary equipment
INFRASTRUCTURE	EQUIPMENT	Buy locker to keep all drugs and documents
INFRASTRUCTURE	EQUIPMENT	Provision of delivery equipment and [...] delivery bed, weighing scale, BP apparatus
INFRASTRUCTURE	MEDICINES	Purchase of drugs
INFRASTRUCTURE	MEDICINES	Purchase of drugs
INFRASTRUCTURE	MEDICINES	Provision of ANC routine drugs, additional drugs to maternity
INFRASTRUCTURE	MEDICINES	Purchase of emergency drugs
INFRASTRUCTURE	MEDICINES	Purchase of necessary drugs for use at the maternity
INFRASTRUCTURE	OTHER	Facility management
INFRASTRUCTURE	OTHER	Access road repairs
INFRASTRUCTURE	OTHER	Maintenance of delivery equipment. Provide light for staff on night duty
INFRASTRUCTURE	OTHER	To purchase steel counter for ANC drugs
INFRASTRUCTURE	OTHER	Provision of temporary shade for ANC clients
INFRASTRUCTURE	POWER SUPPLY	Maintain generator to provide light and power fan in ANC and labor room [...]
INFRASTRUCTURE	POWER SUPPLY	Generator repairs
INFRASTRUCTURE	POWER SUPPLY	PHC should be provided with electricity or a standby generator
INFRASTRUCTURE	POWER SUPPLY	Reconnecting electricity
INFRASTRUCTURE	POWER SUPPLY	Purchase of Generator
INFRASTRUCTURE	SUPPLIES	Purchase of partograph
INFRASTRUCTURE	SUPPLIES	Printing of ANC cards
INFRASTRUCTURE	SUPPLIES	Procure partograph forms
INFRASTRUCTURE	SUPPLIES	Buy or supply misoprostol in the facility
INFRASTRUCTURE	SUPPLIES	Purchase of items for PHC
INFRASTRUCTURE	WATER	Supply of water at 1000 naira weekly
INFRASTRUCTURE	WATER	Bore hole drilling
INFRASTRUCTURE	WATER	Plumbing repairs
INFRASTRUCTURE	WATER	Supply of water and materials for cleaning
INFRASTRUCTURE	WATER	Seal leakage

Note: This is an extract from the action plan data of actions coded as INFRASTRUCTURE. Five actions are randomly selected in each category. Categories with fewer than five total actions are excluded. Light edits have been made for context and meaning. ANC = Antenatal Care

Table A.10: Staff investments

1st-level code	2nd-level code	Intervention
STAFF	HIRING	Employment of adhoc staff
STAFF	HIRING	To recruit five temporary qualified staff. Pay N3000 to each staff monthly
STAFF	HIRING	Employ a skilled female staff
STAFF	HIRING	Adopt temporary staff two [...]
STAFF	HIRING	Provision of casual midwife staff
STAFF	HIRING	Additional Service provider for Routine Immunization
STAFF	HIRING	Employment of additional personnel to man the maternity at night
STAFF	HIRING	Employment of additional provider
STAFF	HIRING	Employ village health workers (volunteer)
STAFF	HIRING	Engagement of temporary staff
STAFF	TRAINING	Train staff on ANC and provide free malaria drugs
STAFF	TRAINING	Send staff for training
STAFF	TRAINING	[...] training on how to fill partograph [...]
STAFF	TRAINING	Retrained the staff and contract some
STAFF	TRAINING	Training on how to use partograph during delivery
STAFF	TRAINING	On the job training of staff and refreshment
STAFF	TRAINING	Training and retraining of staff on the importance of partograph form
STAFF	TRAINING	Staff training
STAFF	TRAINING	Training for home visits
STAFF	TRAINING	Provide a peer lead training and workshop to increase knowledge

Note: This is an extract from the action plan data of actions coded as STAFF. Ten actions are randomly selected in each category. Categories with fewer than five total actions are excluded. Light edits have been made for context and meaning.
ANC = Antenatal Care. RI = Routine Immunization

Table A.11: Staffing

	(1) Log (staff)	(2) Temporary staff
Encourage	0.097	-0.003
	(0.067)	(0.007)
Grant	0.145	0.019
	(0.066)	(0.007)
Observations	1146	3925
Control mean	1.936	0.009
p (Grant = Control)	0.030	0.013
p (Grant = Encourage)	0.499	0.001
p (Grant = Non-Grant)	0.109	0.001

Note: This table examines staffing in participating clinics. Column 1 is the log of the number of actively employed workers in each clinic at each visit (each clinic was visited four times). Each observation is a clinic-visit. Column 2 identifies clinic workers that started working in the clinic in 2019 and stopped in 2020 (they are coded as temporary staff). Each observation is a clinic-worker. All models include strata dummies and an indicator for baseline provision of 24-hour services. Column 1 also includes visit dummies. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. Standard errors in parentheses are clustered at the level of the health center.

Table A.12: Outreach

1st-level code	2nd-level code	Intervention
OUTREACH	COMMUNITY LEADERS	Community dialogue between facility staff and WDC x 3 times
OUTREACH	COMMUNITY LEADERS	Create awareness to the community by WDC team by assistance
OUTREACH	COMMUNITY LEADERS	Advocacy visit to the traditional rulers
OUTREACH	COMMUNITY LEADERS	Meeting with entry points e.g. village heads, TBAs
OUTREACH	COMMUNITY LEADERS	Meeting with ward leaders
OUTREACH	COMMUNITY LEADERS	Meeting with wards heads
OUTREACH	COMMUNITY LEADERS	Sensitization of community leaders and TBAs
OUTREACH	COMMUNITY LEADERS	Community dialogue
OUTREACH	COMMUNITY LEADERS	Sensitization on the hospital delivery
OUTREACH	COMMUNITY LEADERS	Create awareness and improve of ANC
OUTREACH	FOLLOW-UP	Advise on at least 4 [antenatal] visits
OUTREACH	FOLLOW-UP	ANC follow up
OUTREACH	FOLLOW-UP	Tracking of defaulted on immunization
OUTREACH	FOLLOW-UP	Regular mobilisation
OUTREACH	FOLLOW-UP	Mobilization on hospital delivery
OUTREACH	FOLLOW-UP	Mobilized on ANC and free service e.g drugs
OUTREACH	FOLLOW-UP	Tracking/followup of services
OUTREACH	GENERAL	Community outreach
OUTREACH	GENERAL	Mobilisation and sensitization on the importance of ANC Services
OUTREACH	GENERAL	Home Visits/outreaches
OUTREACH	GENERAL	Outreach
OUTREACH	GENERAL	Proper outreach and health education
OUTREACH	GENERAL	To conduct mass community mobilization
OUTREACH	GENERAL	Provide transport money for staff to go out for health education
OUTREACH	GENERAL	Intensify ANC community mobilisation
OUTREACH	GENERAL	Mobilization on ANC and free service, e.g., drugs
OUTREACH	GENERAL	Sensitization on enhancing full routine immunization
OUTREACH	TBA	Training of TBAs
OUTREACH	TBA	Sensitization of TBAS
OUTREACH	TBA	To train TBAs and give retraining to VCMs
OUTREACH	TBA	Encourage facility delivery. Good training of TBAs. Maintain referral system
OUTREACH	TBA	Use of TBAs to support for health facility delivery
OUTREACH	TBA	Involving TBA to encourage pregnant women to visit the facility
OUTREACH	TBA	Training of traditional birth attendants
OUTREACH	TBA	Meeting with TBAs and WDC
OUTREACH	TBA	Meeting with Traditional Birth Attendants
OUTREACH	TBA	Training TBA volunteers in the community

Note: This is an extract from the action plan data of actions coded as OUTREACH. Ten actions are randomly selected in each category. Categories with fewer than five total actions are excluded. Light edits have been made for context and meaning. ANC = Antenatal care; TBA = Traditional Birth Attendant; VCM = Volunteer Community Mobilizer; WDC = (Political) Ward Development Committee.

Table A.13: Effect on output (OLS with log transformations)

	Antenatal visits	Baby deliveries		Postnatal visits		Child immunizations	Outpatient visits	Inpatient admissions	
	(1)	(2) Y>0	(3) Ln(Y)	(4) Y>0	(5) Ln(Y)	(6)	(7)	(8) Y>0	(9) Ln(Y)
Encourage	0.007	0.025	-0.009	0.037	-0.056	0.057	-0.000	-0.023	0.026
	(0.068)	(0.031)	(0.062)	(0.033)	(0.069)	(0.054)	(0.059)	(0.036)	(0.103)
Grant	0.237	0.110	0.172	0.107	0.110	0.157	0.113	0.140	0.076
	(0.065)	(0.029)	(0.064)	(0.032)	(0.071)	(0.060)	(0.069)	(0.037)	(0.092)
Observations	5701	5755	4811	5755	4136	5677	5731	5755	2449
Fraction of zeros	0.009	0.164		0.281		0.014	0.004	0.574	
Control mean	4.524	0.802	2.760	0.677	3.113	5.043	5.342	0.401	3.111
p (Grant = Control)	0.000	0.000	0.008	0.001	0.123	0.009	0.105	0.000	0.413
p (Grant = Encourage)	0.000	0.005	0.002	0.031	0.022	0.075	0.088	0.000	0.551
p (Grant = Non-Grant)	0.000	0.000	0.001	0.002	0.029	0.013	0.064	0.000	0.378

Note: The dependent variable is monthly clinic output for each of the services shown in the row header. Results in Columns 1, 6 and 7 are from linear regression models with a log-transformed dependent variable (zeros are dropped). Deliveries, postnatal visits and inpatient admissions are modeled in two parts: the first part models the probability of producing any output using a linear probability model, the second part models the intensive margin using a linear regression with a log-transformation. Each observation is a clinic-month. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. All models include strata and month x year indicators and control for baseline output. Additional controls included are indicators for a lab and provision of 24-hour services at baseline. Standard errors in parentheses are clustered at the level of the health center.

Table A.14: Effect on output (scaling by baseline values)

	(1) Antenatal visits	(2) Baby deliveries	(3) Postnatal visits	(4) Child immunizations	(5) Outpatient visits	(6) Inpatient admissions
Encourage	0.009	-0.086	-0.146	-0.031	-0.010	-0.059
	(0.091)	(0.133)	(0.139)	(0.067)	(0.088)	(0.106)
Grant	0.148	0.288	0.258	0.222	0.026	0.181
	(0.092)	(0.135)	(0.143)	(0.084)	(0.061)	(0.101)
Observations	5755	5755	5755	5755	5755	5755
Control mean	1.0	1.1	1.4	1.3	0.6	0.3
p (Grant = Control)	0.111	0.033	0.071	0.008	0.666	0.073
p (Grant = Encourage)	0.133	0.003	0.002	0.001	0.669	0.026
p (Grant = Non-Grant)	0.076	0.004	0.005	0.001	0.597	0.019

Note: The dependent variable is monthly clinic output for each of the services shown in the row header. Each outcome is scaled by the baseline monthly average for the experimental arm. I do not have baseline information for postnatal visits and immunizations; these are scaled by baseline deliveries and antenatal visits, respectively. Results are from linear regression models. Each observation is a clinic-month. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. All models include strata and month x year indicators. Additional controls included are indicators for a lab and provision of 24-hour services at baseline. Standard errors in parentheses are clustered at the level of the health center.

Table A.15: Effect on output (excluding outliers)

	(1) Antenatal visits	(2) Baby deliveries	(3) Postnatal visits	(4) Child immunizations	(5) Outpatient visits	(6) Inpatient admissions
Encourage	-3.319	-0.129	1.401	4.049	-1.148	-4.440
	(9.291)	(1.810)	(2.598)	(10.183)	(20.690)	(3.817)
Grant	29.463	8.211	9.007	33.059	65.645	12.846
	(10.275)	(2.478)	(3.270)	(12.479)	(28.576)	(5.228)
Observations	5749	5747	5737	5752	5750	5732
Control mean	159.3	20.0	24.4	200.4	367.6	19.0
p (Grant = Control)	0.004	0.001	0.006	0.008	0.022	0.014
p (Grant = Encourage)	0.001	0.000	0.019	0.012	0.018	0.002
p (Grant = Non-Grant)	0.000	0.000	0.005	0.004	0.012	0.003

Note: The dependent variable is monthly clinic output for each of the services shown in the row header. Results are from a generalized linear model with a log link and negative binomial distribution (average marginal effects shown). Each observation is a clinic-month. Outlier values are dropped. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. All models include strata and month x year indicators and control for baseline output. Additional controls included are indicators for a lab and provision of 24-hour services at baseline. Standard errors in parentheses are clustered at the level of the health center.

Table A.16: Effect on output (excluding Gombe state)

	(1) Antenatal visits	(2) Baby deliveries	(3) Postnatal visits	(4) Child immunizations	(5) Outpatient visits	(6) Inpatient admissions
Encourage	3.506	0.923	2.766	3.047	7.233	-2.071
	(13.608)	(2.431)	(2.763)	(13.576)	(31.452)	(6.313)
Grant	43.271	9.380	9.434	36.880	98.072	10.709
	(14.847)	(3.350)	(3.505)	(16.253)	(42.794)	(6.538)
Observations	4315	4315	4315	4315	4315	4315
Control mean	170.7	17.4	18.0	205.5	420.4	20.0
p (Grant = Control)	0.004	0.005	0.007	0.023	0.022	0.101
p (Grant = Encourage)	0.004	0.006	0.055	0.024	0.028	0.089
p (Grant = Non-Grant)	0.001	0.003	0.012	0.012	0.016	0.062

Note: The dependent variable is monthly clinic output for each of the services shown in the row header. Results are from a generalized linear model with a log link and negative binomial distribution (average marginal effects shown). Each observation is a clinic-month. Clinics in Gombe state are dropped. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. All models include strata and month x year indicators and control for baseline output. Additional controls included are indicators for a lab and provision of 24-hour services at baseline. Standard errors in parentheses are clustered at the level of the health center.

Table A.17: Effect on output (excluding pandemic months)

	(1) Antenatal visits	(2) Baby deliveries	(3) Postnatal visits	(4) Child immunizations	(5) Outpatient visits	(6) Inpatient admissions
Encourage	-2.152	0.496	0.193	11.787	26.717	-5.341
	(10.243)	(1.964)	(3.644)	(13.296)	(22.675)	(3.978)
Grant	37.927	9.340	13.504	34.794	92.855	13.279
	(11.621)	(2.787)	(5.428)	(15.038)	(30.349)	(5.720)
Observations	2592	2592	2592	2592	2592	2592
Control mean	160.9	20.5	28.7	198.3	332.1	20.0
p (Grant = Control)	0.001	0.001	0.013	0.021	0.002	0.020
p (Grant = Encourage)	0.000	0.000	0.008	0.121	0.033	0.003
p (Grant = Non-Grant)	0.000	0.000	0.006	0.031	0.005	0.005

Note: The dependent variable is monthly clinic output for each of the services shown in the row header. Results are from a generalized linear model with a log link and negative binomial distribution (average marginal effects shown). Each observation is a clinic-month. Data after February 2020 are dropped. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. All models include strata and month x year indicators and control for baseline output. Additional controls included are indicators for a lab and provision of 24-hour services at baseline. Standard errors in parentheses are clustered at the level of the health center.

Table A.18: Effect on output (excluding clinics in areas where demand-side incentives were offered)

	(1) Antenatal visits	(2) Baby deliveries	(3) Postnatal visits	(4) Child immunizations	(5) Outpatient visits	(6) Inpatient admissions
Encourage	4.240	-1.808	-0.549	13.480	8.433	3.193
	(11.507)	(2.784)	(4.074)	(13.241)	(29.670)	(4.644)
Grant	32.845	8.455	7.339	45.282	64.190	17.479
	(13.131)	(4.029)	(4.864)	(15.258)	(41.214)	(8.233)
Observations	2875	2875	2875	2875	2875	2875
Control mean	153.6	20.3	26.6	185.2	387.7	19.0
p (Grant = Control)	0.012	0.036	0.131	0.003	0.119	0.034
p (Grant = Encourage)	0.022	0.008	0.108	0.023	0.179	0.077
p (Grant = Non-Grant)	0.007	0.011	0.087	0.003	0.120	0.042

Note: The dependent variable is monthly clinic output for each of the services shown in the row header. Results are from a generalized linear model with a log link and negative binomial distribution (average marginal effects shown). Each observation is a clinic-month. Sample excludes clinics in areas where conditional payments were offered to some households. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. All models include strata and month x year indicators and control for baseline output. Additional controls included are indicators for a lab and provision of 24-hour services at baseline. Standard errors in parentheses are clustered at the level of the health center.

Table A.19: Effect on output (allowing for all interactions)

	Antenatal visits				Baby deliveries				Postnatal visits			
	0 0	0 1	1 0	1 1	0 0	0 1	1 0	1 1	0 0	0 1	1 0	1 1
Encourage	-12.7	18.5	-32.1	3.4	-2.5	-0.6	-2.0	5.0	2.4	0.6	3.4	7.5
	(18.0)	(13.6)	(36.1)	(14.2)	(3.9)	(2.7)	(3.9)	(3.0)	(6.4)	(4.8)	(5.0)	(4.1)
Grant	7.7	51.3	10.1	46.0	5.1	7.9	-0.5	14.7	3.1	15.8	-0.1	20.4
	(19.0)	(16.7)	(28.2)	(24.1)	(4.5)	(3.6)	(4.3)	(4.2)	(6.8)	(5.9)	(4.1)	(6.6)
Observations	1440	1435	1440	1440	1440	1435	1440	1440	1440	1435	1440	1440
Control mean	172	135	183	148	23	18	22	17	29	24	24	20
p (Grant = Control)	0.68	0.00	0.72	0.06	0.26	0.03	0.91	0.00	0.66	0.01	0.98	0.00
p (Grant = Encourage)	0.24	0.06	0.18	0.07	0.10	0.01	0.67	0.01	0.92	0.02	0.49	0.07
p (Grant = Non-Grant)	0.37	0.01	0.27	0.05	0.12	0.01	0.88	0.00	0.76	0.01	0.65	0.01

	Child immunizations				Outpatient visits				Any inpatient admissions			
	0 0	0 1	1 0	1 1	0 0	0 1	1 0	1 1	0 0	0 1	1 0	1 1
Encourage	-3.26	37.09	-29.89	17.59	1.54	37.41	-60.94	41.68	-0.03	0.07	-0.01	-0.07
	(18.30)	(19.83)	(28.32)	(18.36)	(52.12)	(34.57)	(45.53)	(48.08)	(0.08)	(0.06)	(0.08)	(0.06)
Grant	44.87	55.12	-1.23	43.31	34.41	111.92	3.17	131.04	0.12	0.27	0.02	0.19
	(23.79)	(21.14)	(31.97)	(27.23)	(53.37)	(68.45)	(48.74)	(70.54)	(0.07)	(0.08)	(0.08)	(0.08)
Observations	1440	1435	1440	1440	1440	1435	1440	1440	1440	1435	1440	1440
Control mean	186	184	238	193	440	335	403	294	.42	.37	.46	.36
p (Grant = Control)	0.06	0.01	0.97	0.11	0.52	0.10	0.95	0.06	0.06	0.00	0.78	0.02
p (Grant = Encourage)	0.02	0.36	0.28	0.35	0.51	0.26	0.22	0.21	0.03	0.01	0.66	0.00
p (Grant = Non-Grant)	0.02	0.04	0.60	0.18	0.45	0.15	0.46	0.10	0.02	0.00	0.68	0.00

Note: This table examines grant effects on clinic output for each of the following four groups: Incentives = 0/Information = 0; Incentives = 0/Information = 1; Incentives = 1/Information = 0; Incentives = 1/Information = 1. The dependent variable is monthly clinic output for each of the services shown in the row header. All results are from a generalized linear model with a log link and negative binomial distribution (average marginal effects shown) except for inpatient admissions where the results are from a linear probability model. Each observation is a clinic-month. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. All models include strata and month x year indicators and control for baseline output. Additional controls included are indicators for a lab and provision of 24-hour services at baseline. Standard errors in parentheses are clustered at the level of the health center. Data is from the service delivery surveys.

Table A.20: Changes in composition: general patient population

Variables	(1) Control	(2) Encourage	(3) Grant	(1)=(2)	(1)=(3)	(2)=(3)	Joint
Patient: Male	.408	.406	.401	0.92	0.73	0.79	0.94
Patient: Age (years)	16.5	16.7	16.4	0.88	0.87	0.75	0.95
Number of assets (out of 5)	1.7	1.77	1.79	0.35	0.21	0.78	0.42
Visit: Reason - Illness	.903	.903	.893	0.97	0.55	0.58	0.81
Main complaint is fever	.561	.583	.572	0.35	0.61	0.65	0.64
More than one complaint	.466	.504	.479	0.14	0.63	0.39	0.34
Number of days sick	4.38	4.55	3.94	0.85	0.55	0.31	0.54
Omnibus test (p-value)							0.78
Sample size	1771	1759	1833				

Note: This table compares the average characteristics of patients that visited health clinics in each arm during the observation period. p-values from pairwise and joint tests are reported in Columns 4-7.

Table A.21: Tests of Balance: Household Sample

Variables	(1) Control	(2) Encourage	(3) Grant	(1)=(2)	(1)=(3)	(2)=(3)	Joint
Mother's age: <18	0.077	0.074	0.079	0.73	0.76	0.53	0.82
Mother's age: 18-24	0.399	0.405	0.402	0.64	0.82	0.79	0.90
Mother's age: 25-34	0.428	0.418	0.416	0.43	0.34	0.87	0.59
Mother's age: >35	0.096	0.103	0.103	0.38	0.31	0.99	0.52
Mother's schooling: None	0.628	0.612	0.623	0.76	0.91	0.84	0.95
Mother's schooling: Primary	0.086	0.087	0.100	0.95	0.22	0.27	0.42
Mother's schooling: Secondary	0.270	0.281	0.259	0.81	0.80	0.62	0.88
Mother's schooling: Tertiary	0.016	0.021	0.019	0.31	0.51	0.75	0.59
Household assets (out of 11)	1.778	1.892	1.922	0.41	0.30	0.83	0.54
Distance to health center (km)	2.236	2.587	2.022	0.34	0.37	0.12	0.28
Weeks pregnant at enrollment	23.054	23.182	23.064	0.79	0.98	0.79	0.95
First child	0.336	0.340	0.321	0.86	0.41	0.30	0.54
Previous miscarriage/abortion	0.068	0.062	0.065	0.37	0.59	0.71	0.66
Previous stillbirth	0.032	0.027	0.030	0.24	0.73	0.44	0.49
Omnibus test (p-value)							0.77
Sample size	11757	12087	12308				

Note: Table shows summary statistics for the household sample. p-values from pairwise and joint tests are reported in Columns 4-7. The sample consists of 36147 enrolled women with follow-up data.

Table A.22: Increased utilization of grant clinics

	(1)	(2)	(3)
Encourage	-.00063	.0123	.0215
	(.0146)	(.02)	(.0278)
Grant	.0281	.0296	.0581
	(.0146)	(.0181)	(.0255)
Encourage × Pry. school		.0144	
		(.0259)	
Encourage × Sec. school		-.0551	
		(.0234)	
Encourage × Tert. school		.0049	
		(.0402)	
Grant × Pry. school		.0331	
		(.0229)	
Grant × Sec. school		-.0191	
		(.0224)	
Grant × Tert. school		-.0165	
		(.0374)	
Encourage × Wealth quartile 2			-.00714
			(.0298)
Encourage × Wealth quartile 3			-.0241
			(.035)
Encourage × Wealth quartile 4			-.0446
			(.0343)
Grant × Wealth quartile 2			-.0291
			(.0301)
Grant × Wealth quartile 3			-.0555
			(.0328)
Grant × Wealth quartile 4			-.0187
			(.0326)
Observations	36152	36152	36152
Control mean	.309	.309	.309

Note: The outcome is a delivery in the health clinic. Grant identifies mothers in areas where the health clinic was selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies mothers in areas where the health clinic was that received the exact same intervention but without the award. The omitted group is mothers in control areas. Model includes strata and month dummies. Additional controls chosen using double-selection lasso. Standard errors in parentheses are clustered at the level of the health center.

Table A.23: Effect on early-life mortality (Intent-to-Treat)

	(1) Fetal loss	(2) Fetal death	(3) Newborn death
Encourage	-.00194	.000678	-.000241
	(.00409)	(.00339)	(.00235)
Grant	-.000735	.000533	.00124
	(.00412)	(.0037)	(.0023)
Observations	36152	36152	36152
Control mean	.0505	.0498	.0314
p (Grant = Control)	.859	.886	.59
p (Grant = Encourage)	.765	.966	.496
p (Grant = Non-Grant)	.946	.951	.475

Note: Table shows an intent-to-treat comparison of early-life mortality in grant and non-grant areas. A fetal loss denotes the loss of a child early in the pregnancy (generally before the 28th week). A fetal death denotes the loss of a child after the 28th week. A newborn death denotes the loss of a child within the first month after birth. Grant identifies mothers in areas where the health clinic was selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies mothers in areas where the health clinic was that received the exact same intervention but without the award. The omitted group is mothers in control areas. Each observation is an enrolled woman. Model includes strata and month dummies. Additional controls chosen using double-selection lasso. Standard errors in parentheses are clustered at the level of the health center.

Table A.24: Effect on early-life mortality (IV)

	Unexposed sample			Exposed sample		
	(1) Fetal loss	(2) Fetal death	(3) Newborn death	(4) Fetal loss	(5) Fetal death	(6) Newborn death
Mother used health care	-0.009	-0.030	-0.002	-0.007	0.010	0.026
	(0.023)	(0.028)	(0.020)	(0.040)	(0.030)	(0.018)
Health care x Encourage	-0.013	0.004	0.019	-0.033	0.022	0.009
	(0.027)	(0.038)	(0.026)	(0.057)	(0.039)	(0.026)
Health care x Grant	-0.085	-0.012	0.016	-0.048	-0.019	-0.021
	(0.033)	(0.040)	(0.026)	(0.055)	(0.046)	(0.028)
Observations	19915	19915	19915	16237	16237	16237
First-stage F-statistic	25.8	25.8	25.8	21.3	21.3	21.3

Note: The table shows results from two-stage least squares regression models. A fetal loss denotes the loss of a child early in the pregnancy (generally before the 28th week). A fetal death denotes the loss of a child after the 28th week. A newborn death denotes the loss of a child within the first month after birth. The endogenous variables are in order: a dummy for health care use (mother attended at least four prenatal visits or delivered in a health facility) and interactions between this dummy and the clinic treatment dummies. The instruments are in order: a dummy for whether the household was randomly selected to receive a conditional payment (paid if the mother attended at least four prenatal visits and delivered in a health facility) and interactions between this dummy and the clinic treatment dummies. Each observation is an enrolled woman. The unexposed (to Covid-19) sample includes all women with a predicted pregnancy end date before February 1, 2020. The exposed (to Covid-19) sample includes all women with a predicted pregnancy end date after February 1, 2020. Model includes strata and month (of interview) dummies and controls for mother characteristics (age, schooling, prior pregnancy history, baseline self-reported health, and household wealth). Standard errors in parentheses are clustered at the level of the health center.

Table A.25: Comparing mean characteristics of mothers who used health services

Variables	(1) Control	(2) Encourage	(3) Grant	(1)=(2)	(1)=(3)	(2)=(3)	Joint
Mother's age: <18	0.076	0.067	0.078	0.31	0.85	0.24	0.43
Mother's age: 18-24	0.394	0.404	0.413	0.53	0.19	0.60	0.42
Mother's age: 25-34	0.433	0.420	0.413	0.40	0.18	0.63	0.39
Mother's age: >35	0.097	0.109	0.097	0.26	0.95	0.25	0.47
Mother's schooling: None	0.606	0.575	0.611	0.59	0.92	0.52	0.80
Mother's schooling: Primary	0.089	0.089	0.101	0.96	0.30	0.34	0.52
Mother's schooling: Secondary	0.284	0.305	0.264	0.65	0.67	0.37	0.67
Mother's schooling: Tertiary	0.022	0.031	0.023	0.23	0.84	0.32	0.45
Household assets (out of 11)	1.798	1.977	1.953	0.27	0.32	0.88	0.47
Distance to health center (km)	2.054	2.324	1.905	0.43	0.57	0.22	0.47
Weeks pregnant at enrollment	23.566	23.735	23.639	0.76	0.90	0.85	0.95
First child	0.354	0.359	0.343	0.80	0.62	0.44	0.74
Previous miscarriage/abortion	0.062	0.056	0.059	0.43	0.64	0.76	0.73
Previous stillbirth	0.028	0.022	0.025	0.18	0.52	0.48	0.40
Omnibus test (p-value)							0.82
Sample size	5830	5978	6169				

Note: This table compares the characteristics of mothers who used health services in grant, encouragement, and control areas. p-values from pairwise and joint tests are reported in Columns 4-7. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award; Control clinics are status quo clinics.

Table A.26: Health workers in grant clinics were more likely to be on duty

	(1) Worker is on duty	(2) Worker is present
Encourage	0.009	0.005
	(0.014)	(0.015)
Grant	0.034	0.027
	(0.015)	(0.016)
Observations	10621	10621
Control mean	0.653	0.633
p (Grant = Control)	0.025	0.082
p (Grant = Encourage)	0.087	0.137
p (Grant = Non-Grant)	0.024	0.065

Note: The outcome in Column 1 is whether a given worker in the clinic was on duty on the day of the visit. Column 2 examines whether that worker was physically in the clinic at the time of the survey. Each observation is a clinic-visit-worker (288 clinics x 4 visits x number of active workers in the clinic). Estimates are from linear probability models. All models include strata dummies and an indicator for baseline provision of 24-hour services. The models control for whether the worker belongs to the leadership team (i.e., is the in-charge or second-in-charge) and for worker tenure in the clinic (start year fixed effects). Model also includes visit date fixed effects. Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. Standard errors in parentheses are clustered at the level of the health center.

Table A.27: Workers in grant clinics were less likely to leave

	(1) All departures	(2) Quits and Transfers
Encourage	0.003	-0.018
	(0.025)	(0.021)
Grant	-0.037	-0.042
	(0.024)	(0.021)
Observations	3921	3921
Control mean	0.282	0.223
p (Grant = Control)	0.131	0.046
p (Grant = Encourage)	0.069	0.211
p (Grant = Non-Grant)	0.050	0.055

Note: This table examines worker retention. Each observation is a clinic-worker (288 clinics x number of workers in the clinic). Column 1 shows fewer staff departures in grant clinics (defined as workers reported as no longer working in the clinic, for any reason, at some point during the observation period). Column 2 looks specifically at resignations or transferrals out of the clinic. All results are from linear probability models. All models control for whether the worker is part of the leadership team (i.e., is the in-charge or second-in-charge) and for worker tenure in the clinic (start year fixed effects). Grant identifies health clinics randomly selected to receive a grant of N600,000 paid out in four equal installments; Encourage identifies clinics that received the exact same intervention but without the award. The omitted group is clinics in the control arm. Standard errors in parentheses are clustered at the level of the health center.

Table A.28: Missing data in 2022 is uncorrelated with treatment assignment

	(1) Antenatal visits	(2) Baby Deliveries	(3) Child immunizations	(4) Outpatient visits
Encourage	-0.010	-0.005	0.010	0.002
	(0.026)	(0.027)	(0.029)	(0.027)
Grant	0.021	0.025	0.016	0.017
	(0.031)	(0.032)	(0.031)	(0.031)
Observations	2592	2592	2592	2592
Control mean	0.088	0.094	0.093	0.089
p (Grant = Control)	0.501	0.425	0.607	0.571
p (Grant = Encourage)	0.259	0.306	0.849	0.588
p (Grant = Non-Grant)	0.324	0.315	0.687	0.533

Note: Each observation is a clinic-month. Data is for January to December 2022. The dependent variable is a dummy for missing data in a given month. The omitted group are health centers in the control arm. Standard errors in parentheses are clustered at the clinic level.