Community Benefits Health

Evaluation of an Innovative Behavior Change Project in Upper West, Ghana

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Background

Challenge

Despite improvements in maternal, newborn and child health (MNCH) in Ghana over the last 20 years, maternal mortality and under-five mortality remain high, and the country fell short of meeting the Millennium Development Goal (MDG) targets for reducing these deaths[1].

Ghana's 2015 Statistics[2]	MDG Targets
Maternal Mortality: • **319** deaths per 100,000 live births	159
Under-five Mortality: • **62** deaths per 1,000 live births	42
Infant Mortality: • **43** deaths per 1,000 live births	27

High levels of poverty coupled with cultural practices in rural Ghana contribute to low levels of women's empowerment and pose barriers to improved health behaviors. Common practices, for example, include concealing a pregnancy for months to avoid bad luck, visiting a traditional healer instead of a health professional throughout pregnancy, delivering at home without skilled care and discarding colostrum (antibody-rich first milk) because it's "dirty." Decision makers and influencers in a woman's life, such as her husband, may push her to continue these traditions, even when skilled health care is accessible. Consequently, there is a need to address social norms and cultural practices that influence care-seeking and healthy behaviors around pregnancy, delivery and newborn care.

Opportunity

- The government of Ghana has prioritized increasing the number of women accessing MNCH services.
- To make the greatest impact on maternal health, the government in 2010 prioritized: family planning, skilled delivery services and emergency obstetric and neonatal care (EmONC).
  - The government's 2010 plan stresses public education, behavior change and communication.
  - The plan also targets men with education about maternal and neonatal danger signs and care[3].
- Ghana Health Service (GHS) has invested heavily in health care delivered at community level through its Community Based Health Planning and Services (CHPS) strategy[4].

Partners

As lead agency, Concern Worldwide U.S. worked in tandem with multiple partners.

Implementing Partners	Global Research Partner	Local Research Partners	Design Partner	Funder
Ghana Health Service ProNet North	JSI Research & Training Institute, Inc.	Kintampo Health Research Center Endogenous Development Studies	ThinkPlace Foundation	Bill & Melinda Gates Foundation

Project Description

Community Benefits Health (CBH) is a pilot project that creatively uses health messaging and non-monetary incentives to cultivate communities' commitment to improving MNCH. It was implemented in the Upper West Region, which has the highest levels of poverty in Ghana. The behavior change project was launched by Innovations for Maternal, Newborn & Child Health, an initiative of Concern Worldwide U.S. that is supported by the Bill & Melinda Gates Foundation. Innovations tests creative solutions for improving the survival and health of women, babies and children.

Implemented between April 2014 and March 2016, the pilot targeted 33 villages in six CHPS zones within the districts of Jirapa, Lambussie, and Wa West. It consisted of the following two components:

Comprehensive health communication:

- Included drama and popular videos that community members created themselves and performed in, home visits and small group discussions from trained peer educators, community-based meetings facilitated by Community Health Officers (CHOs) and radio programs.
- Targeted not just women but the influential people and decision makers in their lives, such as chiefs, husbands, elders and mothers-in-law.
- Formed governing committees composed of respected community members who carried out the program and ensured that everyone participated.

Non-monetary, community-based incentive:

- Required that the incentives benefit pregnant women and new mothers.
- Engaged the communities to design an incentive that benefits everyone, using an approach called human-centered design (HCD). Ten communities chose a borehole and two chose a community ambulance known as an emergency transport system.
- An emergency vehicle gets an expectant woman in need to a health center quickly while a closer borehole solves the problem of mothers traveling long distances to collect water, freeing time to seek health care.
- Promised the incentives to the entire community if they fulfilled certain conditions such as men participating in educational meetings on maternal and child health issues.
- Awarded the incentives in three stages as these targets were met.

By motivating and rewarding behavior change, Community Benefits Health aimed to promote healthy behaviors and reduce resistance to accessing services, ultimately changing normative behaviors or community-wide social norms. The project targeted a variety of MNCH behaviors but focused more deeply on achieving the following outcomes:

1. Antenatal care (ANC) within the first three months of pregnancy
2. Four or more ANC visits during pregnancy
3. Skilled birth attendance
4. Postpartum care (PPC) within 48 hours after delivery
5. Initiation of breastfeeding within 30 minutes after delivery
6. Exclusive breastfeeding until six months

Design

Community Benefits Heath used a three-arm design with two intervention arms and one comparison group:

- Messaging only arm: Three CHPS zones (Sigri, Chetu, Olli) with a population of about 7,000 people
- Messaging + Incentive arm: Three CHPS zones (Saawie, Chebogo, Dabo) with a population of about 5,000 people
- Comparison arm: Three CHPS zones (Gbare, Kpare, Varimperi) with a population of about 6,000 people. These communities received no messaging or incentive from Community Benefits Health.

The three-arm design was aimed at enabling us to tease out the added value of the incentive above and beyond the effect of the communication interventions. These three arms are referred to as Msg, Msg+ and Control, respectively.

Scope of the Evaluation

We implemented a strategy to rigorously evaluate the effect and cost-effectiveness of the intervention, to inform new approaches to program design, to promote learning about the potential of Human Centered Design in MNCH programs and to shed light on the extent to which the project's activities aligned with human rights[5,6]. The evaluation questions and designs are presented in Table 1 below.

Research, Monitoring and Evaluation Strategy

Evaluation Question	Evaluation Design	Data Sources
Did the pilot effectively improve the target MNCH outcomes? Did the incentives have an added impact? Why or why not?	**Mixed-method approach** • **Impact evaluation:** Three-arm, quasi-experimental design, with household surveys at baseline (Dec 2013-Jan. 2014) and endline (April-May 2016) • **Qualitative investigation:** focus group discussions, in-depth interviews, and key informant interviews at endline (March 2016)	**Quantitative**: Women age 15-49 and men age 15-59 who had a child in the last 2 years • Baseline: 826 women and 801 men in 2,721 households • Endline: 955 women and 637 men in 2,882 households **Qualitative**: 61 mothers, 52 fathers, 65 community influencers, 5 program and Ghana Health Services staff
Is the intervention cost-effective? Which arm (Msg or Msg+) is more cost-effective?	**Cost-effectiveness analysis** using impact estimates and the project's costs to estimate the lives saved from the intervention and the cost per person	Cost data and document review on the cost-effectiveness of MNCH interventions
Are the implementation strategies effective? Are the assumptions guiding the theory of change pathways valid?	**Process documentation** (PD) using qualitative data to describe the pathway from project design to implementation to outcomes, identifying drivers and barriers that influenced the process of change	Two rounds of focus group discussions, in-depth interviews, key informant interviews with Community Health Officers, mothers, fathers, community influencers
How were Human Centered Design (HCD) methods applied? How did they influence program implementation and outcomes?	**Case study** using process documentation and focused qualitative data to document the application of HCD in refining the pilot design and shaping the implementation strategy	Four rounds of document review and key informant interviews and focus group discussions with program staff, community members and the program's designers
How are the project's activities aligned with the human rights-based approach?	**Synthesis report** using evaluation data and limited primary qualitative data	Primary data with vulnerable women and adolescents and health care providers

This evaluation brief summarizes the intervention's effect on health outcomes and social networks, and highlights key successes, challenges and lessons learned.

Evaluation Findings

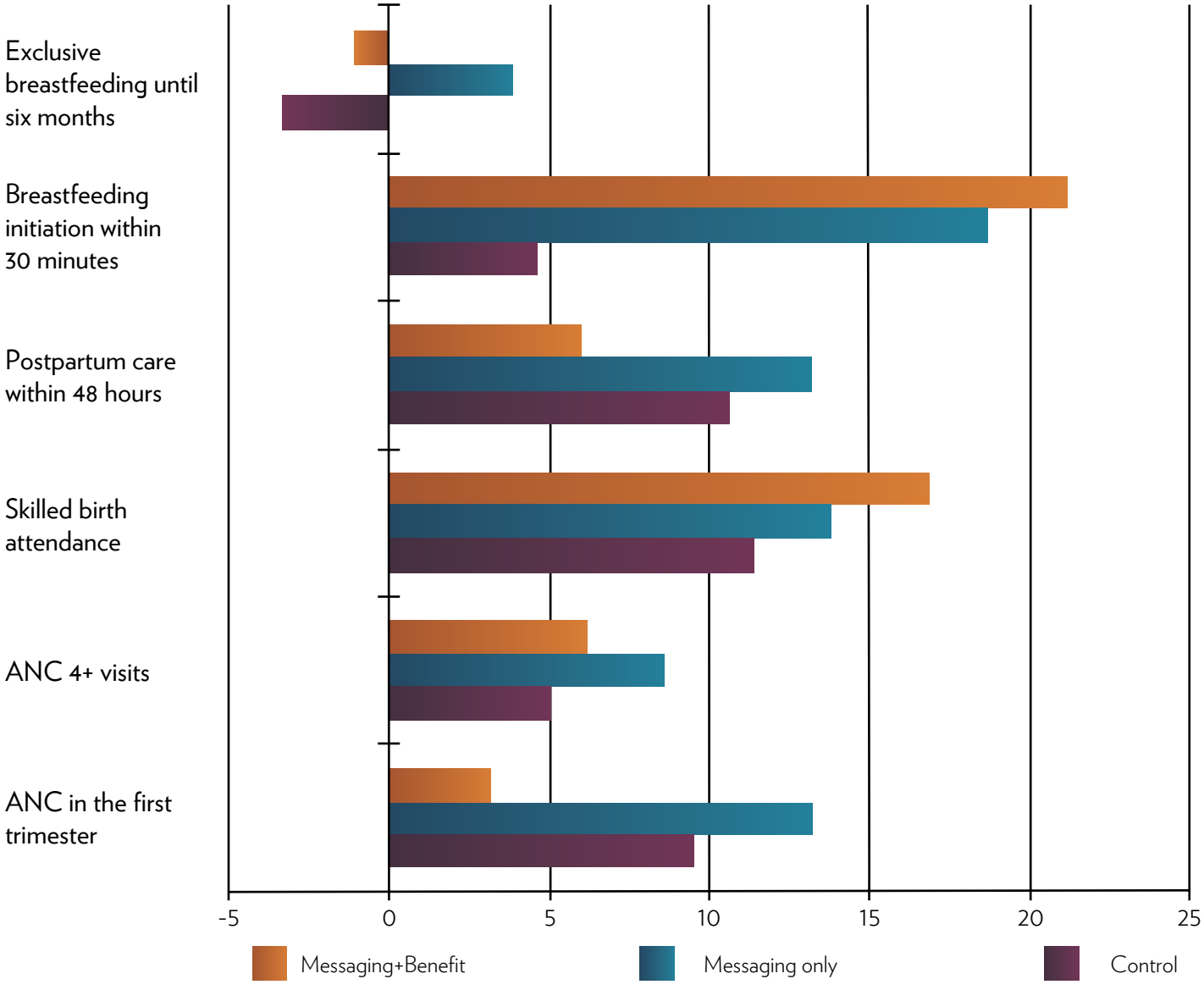
Effects of the Intervention

The results below measure the effectiveness of Community Benefits Health by the changes over time, as shown in the accompanying charts.

Our findings suggest that Community Benefits Health had a very strong effect on breastfeeding initiation within 30 minutes of birth and almost none on exclusive breastfeeding. On the four goals around seeking skilled care, we recorded improvements in the two intervention arms, though a similar increase in the control arm suggests a lower effect of the project.

- Immediate breastfeeding initiation: outstanding increase in the Msg arm (18.7 percentage points), and in the Msg+ arm (21.2 points), and only a minimal change in the control group (4.6%)
- Exclusive breastfeeding: modest improvement in the Msg arm and virtually no change in the two other arms
- Skilled birth attendance: large increase (more than 10 percentage points) in all three arms
- Postpartum care: large improvement in the Msg and control arms, and modest gain (between 5% and 10%) in the Msg+ group
- Early ANC initiation: large increase in the Msg group, modest improvement in the control, and virtually no change in the Msg+ group
- ANC 4+ visits: modest gain in all three arms

Percent changes from baseline to endline



Percent Change in Outcomes from Baseline to Endline

	Comparison			Messaging Only			Messaging + Incentive		
	Baseline	Endline	*Change*	Baseline	Endline	*Change*	Baseline	Endline	*Change*
ANC in first trimester	75.4	84.9	***9.5***	77.5	90.7	***13.2***	88.1	91.3	***3.2***
ANC 4+ visits	89.3	94.3	***5.0***	86.6	95.2	***8.6***	91.1	97.3	***6.2***
Skilled birth attendance	66.3	77.7	***11.4***	72.4	86.2	***13.8***	68.0	84.9	***16.9***
Postpartum care within 48 hours	73.7	84.3	***10.6***	71.1	84.3	***13.2***	79.8	85.8	***6.0***
Breastfeeding initiation within 30 minutes	47.4	52.0	***4.6***	44.0	62.7	***18.7***	40.1	61.3	***21.2***
Exclusive breastfeeding until six months	89.4	86.1	***-3.3***	73.0	76.9	***3.9***	78.6	77.5	***-1.1***
Number of women	291	358	–	341	378	–	194	219	–

Exposure to the Project

The three arms of the project were geographically quite near to one other. As a result, individuals in the control group may have been directly or indirectly affected by the project through their social and economic interactions—an inadvertent effect known as spillover or contamination. Community leaders in the Msg arm may have heard of the incentives and redoubled efforts to improve MNCH behaviors with the hope of earning the incentive. Indeed, our data reveals the presence of unintended spillover effects:

- 16.5% of women in the control group had heard of CBH in the last 12 months (21.4% and 19.9% in the intervention arms).
- 33.5% of women in the control group reported participating in a small group meeting with community peer-educators in the last two years (41.7% and 50.8% in the intervention communities). This suggests they participated in CBH interventions taking place in nearby communities that were part of the Msg or Msg+ arm.
- Women in the Msg arm heard about the benefits from a community leader (11.1% vs 14.3% in the Msg+ arm), or from a health worker (28.3% vs 35.6%) – this may corroborate reports that individuals in the Msg arm were motivated to reach health targets, with the hope to also earn an incentive.

Consequently, a more elaborate analysis of our data is needed to quantify the effects of the CBH intervention and measure additional gains (if any) associated with the incentives. The additional analysis was still underway as this brief went to press, which is why the brief focuses mainly on changes over time.

Social Networks & Male Involvement

We used both quantitative and qualitative means to examine whether the composition of social networks—who women spoke with about issues such as pregnancy and breastfeeding--changed as a result of the program. Our results indicated a shift: women were more likely to speak with family members, friends and partners in their households or nearby villages rather than just health professionals. This trend emerged most clearly in the Msg and Msg+ communities.

In addition, after exposure to Community Benefits Health, husbands spoke of providing more support to keep their families healthy. This increased male involvement included breaking with custom to accompany pregnant women for ANC visits, relieve them of heavy chores, ensure proper nutrition and take care of the children.

"We the men are now responsive to the health needs of our wives and children than before. We buy our wives the needed food and we take them for ANC."
– Chebogu man

Community Benefits Health also helped to strengthen the relationship of community members with their local health professionals, Community Health Officers (CHOs). Before the program, community members would bypass the CHO but now many community members recognize that CHOs can detect health conditions such as anemia that they themselves cannot.

"The CHO has been very good to us. He visits us at home and also advises us on how to take care of our pregnancies, children and hygiene."
– Dabo woman

Conclusions

Successes

The evaluation registered several successful outcomes:

- Collaboration with traditional authorities and structures during the implementation provided an opportunity for chiefs and leaders to be community champions for maternal and newborn health.
- Male involvement increased significantly in community activities around MNCH and in the health of women and children.
- Close collaboration with the Ministry of Health and Ghana Health Service (GHS) as well as with key global partners such as UNICEF, JICA and World Bank legitimized the project.
- Purposeful involvement of beneficiaries during the design and implementation of the program created users' buy-in and sense of ownership.
- Ten communities earned new boreholes, and two communities received community emergency vehicles by achieving their collective targets.
- The project galvanized community unity, cohesion and enthusiasm around women's and children's health.

Challenges

- Implementation was interrupted due to resource flow constraints, potentially decreasing the program's effects.
- Complexity of the program design complicated its implementation and evaluation.
- Ghana Health Service's requirements for the location of the three study arms and the timing of the provision of the incentive may have compromised the evaluation.
- Contextual factors such as out-migration during the dry season limited the involvement of some communities and decreased exposure of beneficiaries.
- Communities already had high levels of some of the targeted behaviors before the program started, which limited its potential to influence large increases.
- Supply-side bottlenecks such as the turnover of Community Health Nurses (CHNs) and Community Health Officers (CHOs) affected the program.

Lessons Learned

- The project could have engaged more intensively with the most vulnerable and hard-to-reach groups in program design and implementation, particularly in light of the high overall levels of certain targeted health behaviors found at the outset, as those groups had the most "room for improvement" and the most to gain.
- Enlisting support of communities and traditional authorities at the start and consistently working through community structures, was an important and helpful approach that likely increased the effects of the interventions.
- Periodic check-ins over the life of a program, using rapid qualitative assessments, allowed us to make critical programmatic adjustments.

Selected References

1 UNDP & Government of Ghana. 2015. Ghana Millennium Development Goal Report 2015

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[5] Lafond et al. 2015. Evaluating Innovation in Maternal, Newborn and Child Health (MNCH): A Research, Monitoring and Evaluation Strategy. Knowledge Matters 12 (2015): 43-45.

[6] Smith-Estelle et al. 2015. Incorporating Human Rights Principles in Health Programming. Knowledge Matters 12 (2015): 40-42

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