

The Use of Design Thinking in MNCH Programs: A Case Study of the Community Benefits Health (CBH) Pilot, Ghana

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The Community Benefits Health (CBH) pilot was implemented by Concern Worldwide and ProNet North in collaboration with the Ghana Health Service as part of the Innovations for Maternal, Newborn, and Child Health Initiative (*Innovations*), funded by the Bill & Melinda Gates Foundation. JSI served as the global research partner for *Innovations* (Phase II) and conducted this case study in collaboration with Endogenous Development Service. Cate Shaw of ThinkPlace reviewed drafts and provided technical guidance and framing to interpret the design process. This case study is one of four in a series that reports on the application of design thinking in MNCH programming in Africa.

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Cover photo:

Community health nurses participating in a design workshop, Volta Region, Ghana.
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Executive Summary

Responding to growing interest among designers, global health practitioners, and funders in understanding the potential benefits of applying design thinking methods and tools to solving complex social problems, the Innovations for Maternal, Newborn, and Child Health (MNCH) Initiative (*Innovations*) developed and piloted innovative interventions to address common barriers to improving the effectiveness of basic MNCH health services in low-resource settings. Central to the initiative's overall strategy was experimentation and learning related to the application of "design thinking," a form of inquiry that is applied in the conceptual stages of a planning process and subsequent stages of program or product development. A fundamental rationale for the use of design thinking is that it provides important insights into user experience, needs, and desires and helps to translate these insights into tailored interventions or products, increasing the likelihood of user adoption and reducing the risk of intervention failure. In spite of increased reports of the use of design thinking in developing country settings, there is little systematically recorded evidence of the value of these approaches in the form of in-depth documentation or formal evaluations that link the application of design thinking to health program performance or health outcomes. Moreover, there are few validated metrics to assess the effect of design thinking.

This case study focuses on the use of design thinking in the Community Benefits Health (CBH) pilot that aimed to improve MNCH-related behaviors among women of childbearing age by influencing community-wide social norms over the two-year pilot period in select Ghanaian communities. The behavior change interventions included a behavior-change messaging strategy and an innovative, community-wide nonmonetary incentive scheme. The research design used a mixed-method, comparative case study approach. We constructed research propositions to describe and explain the application and influence of design thinking in the CBH pilot and focused our research using the constructs of fit, uptake, buy-in, ownership, and the effectiveness of the CBH model. We refined these propositions over time and, as data emerged, constructed a theoretical pathway to illustrate the influence of design thinking on the CBH intervention. The in-depth case study methodology was intentionally designed to be exploratory and analytical but not evaluative.

Description of Design Thinking in CBH

Between December 2013 and January 2014, Concern Worldwide applied design thinking techniques to develop and refine the CBH pilot. A professional designer from ThinkPlace worked with project implementers and communities to conduct the design thinking phase. ProNet North, the Ghanaian implementing organization, facilitated this effort, drawing on their knowledge of and experience in Wa West District. The application of design thinking occurred in four phases: Intent; Research, Discovery, and Synthesis; Co-creation and Validation; and Defining the Implementation Approach. It began with identifying the end users for the pilot; the key questions the implementing teams wished to explore about the lives of the end users; and the expected outcome of the design process, which was to draft ideas around incentives and messaging for the pilot. It also identified potential community influencers and organizing structures that would provide a foundation for implementing the health messaging and

community-wide incentive scheme. The core design team supplemented the design research findings with findings from the baseline survey on community members' knowledge, attitudes, and practices around MNCH and tested incentive ideas in three villages (Saawie, Chebogu, and Dabo). Based on iterative community feedback, the team selected two possible incentives from which communities in the messaging-plus-incentive intervention arms could choose: a borehole or emergency transport. The core design team also developed an 8-step process of change management, adapted from John Kotter, for use by the CBH pilot to maximize community engagement and participation in encouraging positive MNCH-related behaviors among women.

The Influence of Design Thinking

To understand the influence of design thinking in CBH, we constructed a theoretical pathway, or grounded theory, during the course of our analysis. In this pathway, we hypothesized that through the application of design thinking, CBH achieved fit, meaning the pilot created an essential match between program strategies and community needs and desires related to improving the health of women and children. According to this pathway, fit would then contribute to the effectiveness of the health messaging strategies as well as the uptake, or adoption, of the incentive scheme and the community-driven behavior change in the messaging-plus-incentive arm. Over time, the use of design thinking, along with other program strategies, would translate into changes in women's health-seeking behavior and continued community support and involvement in women's health-seeking decisions. In CBH, we defined this lasting influence of design as buy-in, or continued acceptance of the incentive scheme and sustained improvement in women's health-seeking behavior, and ownership, or demonstrated commitment to the need to support women in their health-seeking decisions and practices.

Findings

To understand the role of design thinking in CBH, we consider both the independent endline evaluation of the pilot and the specific data gathered to understand the influence of design thinking. The evaluation found that exposure to the CBH program overall significantly improved uptake of three of the six study outcome behaviors: early initiation of ANC, ANC4, and skilled birth attendance across both intervention groups. The evaluation showed no significant influence on behavior related to breastfeeding or PNC. With respect to the influence of CBH on community involvement in women's health seeking behavior—one of the hypothesized driver of women's behavior change – the evaluation revealed a shift in the type of people in whom women confided and the people from whom women sought advice about pregnancy and breastfeeding compared to baseline.

Although the evaluation findings suggest that exposure to the CBH incentive scheme and the CBH health messaging strategy are likely to have increased community behavior in supporting women's health seeking decisions, our exploration of design thinking in CBH suggests a positive but limited role in the influence of design thinking on pilot processes and outcomes. As such, our findings only partially support the grounded theory on the design thinking pathway. It is clear that design thinking facilitated community acceptance of specific aspects of the pilot. For example, it played a direct role in the

adoption of the nonmonetary community incentive scheme. The insights gained through the design phase in the incentive-plus-messaging communities led to early-stage community profiles that ensured that the incentive options fit community needs. Design thinking insights also influenced the use of community structures, such as governance committees and traditional celebrations, to rally the community toward earning the incentive. Communities accepted both their participation in the incentive scheme and the management of the scheme through the CGC that resulted in acquisition of a borehole or emergency transport in all cases. Both design-influenced decisions (on incentive choice and use of traditional structures) were effective in creating a fit between program interventions and end users, and facilitated the adoption of new practices or ideas.

In terms of the limitations of the influence of design thinking, design insights were helpful in identifying important community influencers and networks that women could rely on for health advice. However, the idea of engaging a wide range of community influencers, like leaders, husbands, and mothers-in-law, to extend the reach of traditional health messages is a behavior change strategy that is often used in public health programming. It did not emerge exclusively from the design phase.

It is important to consider other factors that can affect the potential for design-led interventions to take hold. For example, the extent to which design thinking was able to influence early community adoption of the incentive scheme was tempered by the manner in which program managers integrated the intervention into CBH communities. Community adoption of the incentive scheme emerged slowly because program managers and CGCs failed to communicate effectively the rationale for introducing the incentive scheme or making the link between the incentive and community support for increasing women's use of primary health care and early breastfeeding. It is also regrettable that insights from design thinking were not used to create specific health messages. We see the weak link between design-phase learning and the health messaging content as a missed opportunity for the CBH pilot. Finally, it is possible that design thinking could have had a greater influence on CBH if the timeframe allotted to the introduction and application of design thinking techniques had been longer. Time and resource constraints may therefore have limited the pilot's opportunity to tap the full potential of design thinking.

To conclude, our analysis of the influence of design thinking in CBH suggests that design thinking aligned effectively with the evidence-based theory and principles of public health behavior change programming that the CBH team had already planned to use throughout the pilot. It reinforced broad-based implementation strategies to improve health-seeking and health-promoting behaviors, building on traditional community structures and practices, and it deepened and refined understanding of community needs and behaviors among the CBH team. The most beneficial aspect of design thinking in CBH was the introduction of novel ways of co-designing aspects of the program strategy with communities and prototyping incentives with program staff and communities to increase the chances that communities would accept their role in CBH and demonstrate to program staff the power of iteration and feedback from communities to program managers. Program staff consistently reported heightened sensitivity to the value of iterative feedback loops between end users and program decision-makers due to design thinking, which enabled responsive and adaptive programming.

1 Introduction

The Innovations for Maternal, Newborn, and Child Health (MNCH) Initiative (*Innovations*) developed and tested innovative interventions and strategies to address common barriers to improving the effectiveness of basic MNCH health services in low-resource settings. Central to the initiative's overall strategy was experimentation and learning related to the application of "design thinking" in MNCH programs. Design thinking is a methodology that designers use to solve complex problems and find desirable solutions for clients.¹ The *Innovations* Initiative responded to growing interest among designers, global health practitioners, and funders in understanding the potential benefits of applying design thinking methods and tools—normally reserved for developing and marketing products—to solve complex social problems, such as improving access to life-saving health services among women and children in the developing world (Brown and Wyatt 2010). In this social innovation space,² it is assumed that design thinking can enhance traditional public health planning and implementation strategies and thereby improve their effectiveness and the pace at which improvement takes place. Although there is a growing collection of experience in applying design thinking in global health in countries such as India (IDEO 2009), Uganda, Senegal (Fabricant, Milestone, and Qureshi 2014), and Nicaragua (Villa and Hammer 2013), there is a need for focused documentation and analysis of the practical challenges and benefits of the approach and evidence of its influence. In spite of increased reports of the use of design thinking in developing-country settings, there is little systematically documented evidence of the value of these approaches in the form of in-depth documentation or formal evaluations that link design thinking to health program performance or health outcomes. Moreover, there are few validated metrics to assess the effect of design thinking.

This case study focuses on the use of design thinking in the Community Benefits Health (CBH) pilot that aimed to improve MNCH-related behaviors among women of childbearing age by influencing community-wide social norms over the two-year pilot period in select Ghanaian communities. The behavior change interventions included a behavior-change messaging strategy and an innovative, community-wide nonmonetary incentive scheme. This design thinking case study documents and analyzes the application of design thinking methods and tools within the CBH pilot and its influence on problem definition, pilot design, implementation, and outcomes. Specifically, it examines the pathways through which the CBH intervention has succeeded or failed in achieving its objectives, focusing on the role that design thinking played at the different stages of the development and implementation of the intervention. This document presents one of four case studies of the *Innovations* Initiative's experience with design thinking. A companion document—a comparison of all four cases—analyzes the evolution of design thinking concepts in the *Innovations* Initiative and compares experiences across all four cases to generate learning and stimulate discussion on the use of design thinking methods and tools in MNCH programs in different settings and for different purposes. The findings of the individual and comparative case studies are intended to inform future investment in design thinking in global health in developing country settings.

¹ <http://www.tonchevassociates.com/blog-bedford/2015/6/24/what-is-design-thinking>

² For the purpose of this protocol, we define social innovation as "The process of inventing, securing support for, and implementing novel solutions to social needs and problems." (Phillis et al. 2008)

2 Design Thinking Defined

Design thinking is a form of inquiry that is applied in the conceptual stages of a planning process and subsequent stages of program or product development (Box 1). The process of design thinking is described as open-minded,³ iterative, and human-centered and is intended to result in new, innovative, and groundbreaking solutions. It is used to help define problems from the user perspective, explore user needs and desires with respect to a particular issue or problem, and identify solutions to address those needs and desires. In the context of global health, design thinking is emerging as an approach to enhance the effectiveness of health program interventions. It helps to tailor program interventions to user needs and desires in order to improve the uptake and sustained use of health products, services, and behaviors. The application of design thinking methods and techniques is often referred to as human-centered design (HCD). For the purpose of this case study, we will use the term “design thinking” to describe the application of design thinking methods and tools in the CBH pilot.

Box 1: Design thinking described

- “...an analytic and creative process that engages a person in opportunities to experiment, create and prototype models, gather feedback, and redesign...” (Razzouk and Shute 2012)
- “...a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success” (Brown 2009)
- “Design thinking is a powerful approach to innovation that can be used to generate breakthrough ideas.” (Brown 2009)

Characteristics of design thinking

- A human-centered approach
- A process of inquiry that involves divergent and convergent thinking
- Iteration of ideas or designs to refine them before widespread use

Central to the design thinking approach is that designers gain insights into the lives of end users and other key actors to develop empathy for them. In CBH, end users were community members, which included influencers like community leaders, mothers-in-law, husbands, and mothers in most cases. Empathy is defined in various ways,⁴ including the image of “standing in the shoes of others.” In the context of design, it allows designers to “connect with people on a fundamental level” (Brown 2009). Empathy, Brown notes, is “the most important distinction between academic thinking [or modes of inquiry] and design thinking.” Design thinking introduces techniques that build empathy in order to create emotional as well as practical links between designers and users and generate ideas or solutions that are readily taken up by the users.

Empathic understanding goes beyond knowledge: when empathising you do not judge, you “relate to [the user] and understand the situations and why certain experiences are meaningful to these people (Battarbee 2004),” a relation that involves an emotional connection (Battarbee and Koskinen 2005).

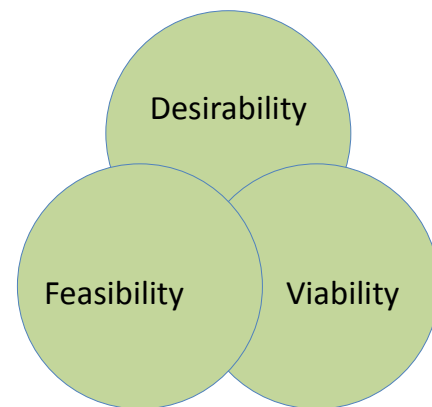
³ i.e., receptive to new and different ideas or the opinions of others (American Heritage Dictionary of the English Language, 2009).

⁴ Cognitive empathy is understanding someone's thoughts and emotions in a very rational rather than emotional sense. Emotional empathy is also known as emotional contagion and is “catching” someone else's feelings, so that you literally feel them too (<http://www.skillsyouneed.com/ips/empathy.html>).

A second element of design thinking is the use of facilitation techniques to stimulate divergent thinking where possible by multidisciplinary teams to generate a wide range of possible ideas for addressing a particular challenge or complex problem, followed by convergent thinking to gradually eliminate options and integrate concepts, such as viability and feasibility, into the process of refining solutions.

Finally, design thinking often integrates the iteration of ideas and solutions on a small scale to test ideas and refine them with end users before introducing them on a wider scale. Iterative approaches, using co-creation or codesign techniques, often take the form of visualization and prototyping.⁵ They are nonlinear and cyclical processes of design in which designers test designs, assess effectiveness, define lessons learned, and apply these lessons to refine the design and/or implementation over time. Feedback from stakeholders is used to create further iterations of the product/solution and to make designs more compelling for end users and programs more effective within their target populations (IDEO 2009), increasing the pace of uptake and reducing the risk of program failure.

Figure 1: Overlapping lenses of design thinking



The use of design thinking at the early stages of programs represents a different approach to conceptualization and planning than what is traditionally used in public health programming. Design theory, for example, notes that the design process often starts by using a “desirability lens” to examine the needs, desires, and behaviors of the people whom designers want to affect with solutions. The desirability lens is used throughout the process and is critical to designers’ developing and maintaining empathy for end users, which increases the likelihood of creating a solution that is responsive to unmet or latent user needs and desires. During the later phases of the process, designers bring in the “feasibility lens” and “viability lens” to refine their solutions based on financial, capacity, and other considerations. Figure 1 presents a conceptualization of the overlapping lenses of design thinking. For additional descriptions of the practice of design thinking, see Annex A.

⁵ Prototyping is the act of turning ideas into actual products, services, and systems that are then tested, iterated, and refined. It is an iterative technique for quickly testing a rough and low-cost version of a solution and using the test data to make improvements (Kasper and Clohesy 2008). Prototypes are disposable tools used throughout the concept development process to validate ideas, to help generate more ideas, and to help designers to think in realistic terms about how users would interact with the concept (IDEO 2009). It can validate a component of a medical device, a basket of health goods, or an incentive to inspire communities to change health behavior. Prototypes go through stages of testing, learning, and refining, inspired by a notion that it is acceptable to fail because failure moves one closer to a better design. As the project nears completion and heads toward real-world implementation, prototypes tend to increase from low fidelity to high fidelity.

3 Mapping the Influence of Design Thinking in MNCH programs

The use of design thinking in MNCH programming is a new phenomenon with limited evidence or documentation of the way in which it is intended to affect the shape, execution, and outcome of MNCH programs. Thus, we found it necessary to construct research propositions (e.g., hypotheses) to describe and explain the application and influence of design thinking in the CBH pilot and to focus our research. We refined these propositions over time and, as data emerged, constructed a theoretical pathway to illustrate the influence of design thinking on MNCH. Below, we present our original research propositions and research focus. The pathway of the influence of design thinking in CBH is discussed in Section 7.

3.1 Research Propositions and Focus

The case study was guided by the following general research propositions (i.e., hypotheses) that focus on the application and influence of design thinking in MNCH programs. The concepts in these propositions were then adapted for specific use in the CBH case study (see Box 2, Section 7.1):

Research propositions:

The application of design thinking methods and tools will:

- Create designer empathy for end users/target population
- Result in fit⁶ of problem definition with target population/user desires, needs, and barriers related to MNCH programming
- Result in fit of MNCH intervention/pilot with target population/user desires, needs, and barriers related to MNCH programming
- Result in end user buy-in and sense of ownership of the MNCH intervention
- Increase the pace of uptake of the MNCH intervention
- Play an enabling/driving role in the achievement of pilot outcomes

These propositions translated into the following foci for data collection:

- **Application** of design thinking concepts, processes, methods, and tools to:
 - Problem definition
 - Solution identification
 - Intervention design
 - Implementation
 - Evaluation

⁶ For the purpose of this case study, “fit” is defined as: Program design addresses the root causes for why women do not access and utilize MNCH services through provision of nonmonetary incentives that incentivize the entire community to support women’s access to MNCH services. General definition of fit: of a suitable quality, standard, or type to meet the required purpose. Synonyms include reflects, corresponds to, mirrors, is tailored to, is responsive to, takes into account.

- **Translation** of results of application of design thinking concepts, processes, methods, and tools to:
 - Problem definition
 - Solution identification
 - Intervention design
 - Implementation
- **Effect** of applying design thinking with respect to:
 - Designer empathy for end user/target population
 - Fit of problem definition and intervention design with end user desires and needs and barriers to MNCH programming
 - Uptake of the intervention and pace of uptake
 - End user buy-in and sense of ownership of intervention/behavior
 - Achievement of pilot outcomes
- **Role of contextual factors** on the process and influence of design thinking

3.2 Methods

The research design for the design thinking exploration used a mixed-method, comparative case-study approach, which enabled investigators to explore the application of design thinking in MNCH programming during the *Innovations* Initiative and its influences on MNCH programs in different settings. The CBH pilot intervention in Ghana constitutes a single case of applying design thinking in the context of MNCH programming. Cross-case comparisons will be conducted with all four of the *Innovations* Initiative's pilots to generate overall learning on the application of design thinking methods and tools to MNCH programming within real-world contexts. The CBH case was selected as one of four pilots implemented in the second phase of the *Innovations* Initiative (2012-2016).

3.3 Data Sources

To complete the case study on design thinking, the research team relied on several sources of primary and secondary data. We drew on: 1) the primary data collected for routine pilot monitoring; 2) a rigorous program evaluation (baseline and endline studies) to measure the effectiveness of this innovative program model in stimulating community networks to improve health-seeking behavior among women; and 3) process documentation, consisting of in-depth qualitative research during implementation to document and assess the proposed and actual pathways between program intervention and program effectiveness, as proposed in the pilot's theory of change, and to document, prospectively, the drivers of change.

We also conducted separate and focused primary data collection at the same time as the process documentation to document and explore the application and influence of design thinking methods and tools. In all cases, primary data on design thinking were collected using in-depth, semi-structured interviews, group discussion, and observation. Data collection included three rounds of interviews and

observations beginning approximately nine months after the initial design thinking activities took place (focusing on the application of design thinking), and continuing one year into program implementation focusing on the influence of design thinking) and ending 24 months into program implementation. In the first round, respondents included program managers, research advisors, and program and research implementers from all partner organizations (Concern Worldwide, JSI, ProNet North). In subsequent rounds, we interviewed the same respondents as well as community members. In some cases, repeat interviews were conducted with particular key informants to explore the effect of design thinking over time and the evolution of the perceptions of program managers and implementers on the role of design thinking. The team conducted 75 interviews, focus group discussions, and observations. The case study team also reviewed program-related documents, program monitoring data, and the findings of the final evaluation of CBH. The study teams consisted of Ghanaian and international researchers, the majority of whom collected data and conducted analysis in all three rounds of data collection.

3.4 Analysis

The case study method derives its analytical power from sequential development of themes and theory that are generated from an immersion in the data. Thus, data analysis to describe and explore the application of design thinking in CBH took place in stages. After the first round of document review and data collection, researchers reviewed and synthesized interviews, reports, and graphic summaries of the design thinking activities; constructed a timeline of events; and produced a brief description of each activity. These detailed descriptions of the content and process of the design thinking activities helped define and bound the specific focus of this study of design thinking in CBH. The descriptions were shared with program staff and design professionals who were involved in the activities and who then verified their accuracy. These verified descriptions then constituted the key design thinking activities whose influence was explored through subsequent rounds of data collection.

As the data collection progressed (process documentation as well as case study-specific data collection), researchers employed NVivo 10 and 11 software (QSR International 2014) to code and sort qualitative data. Codes captured the perceptions of design thinking and the influence of design thinking on designers'/program managers' perceptions of the end users and their program design and management choices. Codes were also used to capture concepts such as the fit between end user needs and desires and program design elements and the extent to which the program as designed had its intended effect (end user uptake, buy-in, ownership). To ensure coding quality, two team members coded the same 10 transcripts for each round. Coders held frequent meetings to discuss coding patterns and used NVivo to check intercoder reliability coefficients.

To synthesize findings, we first identified common themes, forming initial theories and findings and generating additional questions, which were then incorporated into the next round of data collection. Researchers refined codes with each iteration of the analysis. These codes were applied at each stage to identify the emergence of or absence of evidence of fit, uptake, buy-in, and ownership and changes in these variables over time and among intervention groups. We also continued to construct program

timelines, define thematic grouping and classification of the data, and triangulate primary data with other sources noted above.

Following the second round of data collection, researchers used the emerging themes to begin to construct a grounded theory about the way in which design thinking was applied in CBH and influenced the pilot. This theoretical pathway helped the research team explore the relationship between the five elements of design thinking that were assessed in each round of data collection. The pathway was further refined with the last round of data collection and completed once the full data were analyzed. We validated case study findings through discussions with CBH program managers and evaluation team members and by engaging the original design professional involved in CBH to reflect on and interpret the theoretical pathway, analysis, and conclusions.

3.5 Strengths and Limitations

Many reviews and evaluations of program experience in the health sector in low-resource settings use mixed methods to assess program outcomes and effectiveness, combining objective quantitative measures with qualitative exploration of implementation pathways to explain and explore aspects of program success or failure. The CBH case study is unique for the volume of data collected over time to understand the influence of design thinking in the pilot through a range of data sources. The mixed-methods approach enabled triangulation of results, and the extended time frame allowed researchers to explore nascent themes with key respondents and program managers as they emerged, confirming or adapting them as needed, and integrating new questions into subsequent rounds of data collection. The second methodological strength of the study design was its focus on description and reflection of pilot experience with the use of design thinking across four programs. The ability to make explicit comparisons and contrasts among pilots with similar design thinking experience was a strong methodological advance over the use of a single case to reflect on experience.

There were limitations as well. The in-depth study methodology was intentionally designed to be exploratory and analytical but not evaluative. The findings should not be interpreted as a statement on the impact of design thinking, since we did not include a counterfactual or comparison case that implemented the same program without the use of design thinking. Still, the case study methodology has uncovered information about the opportunities and challenges of applying design thinking in MNCH programming that may be relevant to other teams considering its use.

Finally, we were unable to sufficiently address a key research proposition—the influence of design thinking on the pace of uptake of the CBH pilot within communities—due to the poor quality of health management information system data on health service usage over the course of pilot implementation.

3.6 Ethical Approval

Ethical approval for this study was part of the broader approval obtained for all research activities from the Ghana Ethics Review Committee (ID No. GHS-ERC: 07/09/13).

4 Community Benefits Health Pilot Description

The CBH pilot was implemented between April 2014 and March 2016 in six communities located in three districts (Jirapa, Lambussie, and Wa West) in Ghana's Upper West Region. The ultimate aim of the project was to improve MNCH-related behaviors among women of childbearing age by influencing community-wide social norms over the two-year pilot period. The behavior change interventions included a behavior-change messaging strategy and a community-wide nonmonetary incentive scheme. The pilot was designed to evaluate pilot impact on behavior change after two years, comparing the relative influence of health messaging in one study arm with a strategy that combined health messaging and the promise of a community-wide nonmonetary incentive in the other arm. A third study arm served as the control.

The pilot team introduced the comprehensive health messaging strategy in both intervention arms. This strategy included: video and drama presentations at the community level; home visits from peer educators; the use of community influencers, like community leaders, to influence behavior change; community meetings facilitated by community health officers; and posters and radio programs that created awareness about the importance of ANC, skilled birth attendance, and postpartum care services in addition to encouraging early initiation and exclusive breastfeeding. The pilot team did not create new health messaging content for CBH. Instead, they adapted existing health messaging materials developed by the Japan International Cooperation Agency, UNICEF, and other organizations. Further, the team developed health messaging strategies that focused on the following topics: early initiation of ANC in first trimester; four or more antenatal care visits; early initiation of breastfeeding; exclusive breastfeeding in the first six months; postnatal care (PNC) at birth, within 48 hours, and at seven days for mother and newborn; accessing skilled delivery; increasing male involvement in MNCH; creating awareness about negative cultural practices and beliefs around MNCH; and building community support for MNCH in general. The ProNet North and Concern Worldwide teams conceptualized the health messaging strategy in the early stages of the pilot, and it evolved over time as the pilot team drew on findings from the behavior change literature, formative research⁷, the CBH baseline findings (Dougherty, L. and Stammer, E. 2014), and to some extent, the CBH design thinking research.

In one of the intervention arms (the messaging-plus-incentive arm), the pilot team also introduced the concept of a community-wide incentive scheme to encourage community engagement in women's health decision-making and community support for behavior change. Each community chose its own incentive from a shortlist of five options. The incentive scheme was designed as to benefit all members of the community, not simply individuals, and the pilot team promised to award the incentive at the end of the pilot if the community met specific conditions related to community involvement in women's health and women's health-seeking practices. These conditions included: men's attendance at health education sessions and support from men and mothers-in-law to ensure that pregnant women attended ANC; practiced breastfeeding; skilled delivery, and PNC at birth, within 48 hours and at seven days for

⁷ Report on Location Scoping Trip to Upper West Region for the Community Benefits Health Project by Laura McGough

mother and newborn; and the formation of the Community Governance Committees (CGC) to manage the incentive scheme and engage the community in this behavior change process.

In the messaging-plus-incentive communities, the CBH team awarded the incentives in a series of “win celebrations.” These celebrations took place when communities achieved agreed steps, such as an increase in the number of men participating in health education sessions in the first six months of the pilot and CGCs holding monthly meetings with a quorum at every meeting. The pilot team identified monthly CGC meetings as the key mechanism for enabling regular communication and exchange among community members around MNCH issues. The celebrations for communities that selected a borehole included steps such as surveying the well site and digging the hole, installing the pump, and then, at the end of the pilot, attaching the handle to make it operational. For communities that selected an emergency transport system, the celebrations consisted of a visit to a local manufacturer with community representatives, the construction of a garage, and handing over the keys in a final ceremony.

The CGCs facilitated the incentive scheme and served as a link between ProNet, the Ghana-based implementing partner, and the communities. The CGCs were comprised of community members, including village chiefs, community health volunteers, and women’s group leaders. They engaged with the community by encouraging and facilitating community members’ attendance at designated events and community meetings (*durbars*). At these meetings, the CGC leadership updated the community on progress made toward achieving pilot goals and discussed outstanding conditions that the communities had to meet to ensure they received the incentive. The CGC also monitored community participation in the key activities that would qualify the community for the incentive and conducted home visits to provide information on health issues like ANC and skilled delivery. Many CGCs decided to fine or punish community members if they did not attend planned meetings or events, exhibited disorderly behavior during meetings, or did not attend ANC visits or deliver their babies in a health facility with a skilled birth attendant, although the CBH pilot team did not condone the use of these kinds of disincentives.

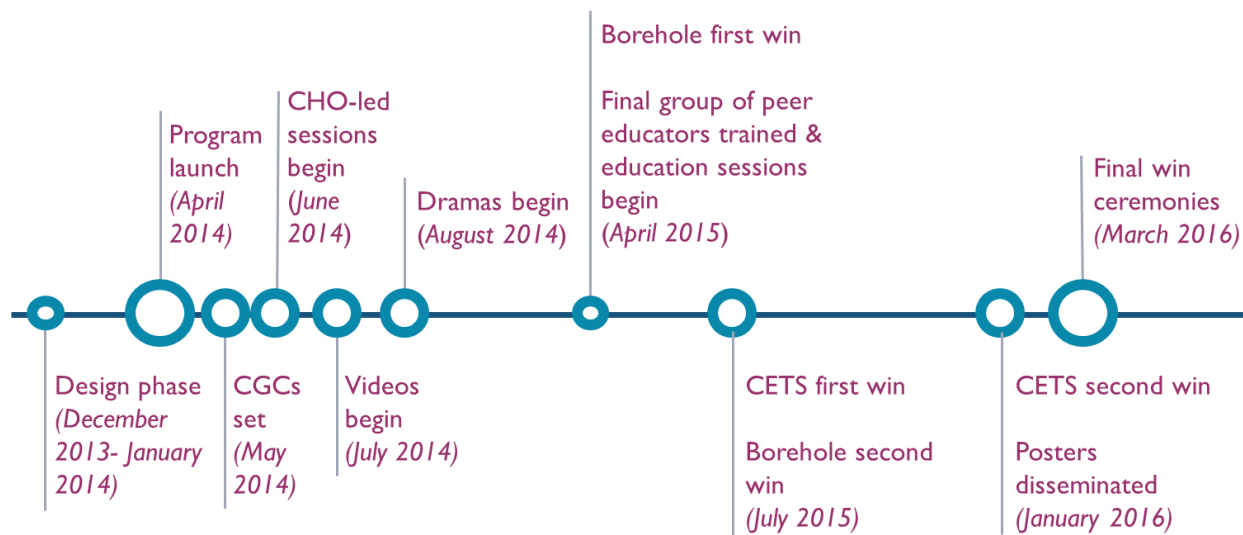
The CGCs also developed community bylaws that they used to encourage community members to increase their involvement in women’s health-related decisions and practices. Communities were encouraged to undertake activities like mother-to-mother support groups and fetching firewood for pregnant women and new mothers, and husbands were encouraged to accompany their wives to ANC visits and facility-based deliveries. The CGCs deemed the bylaws as optional for community members, but some CGCs set targets such as “From May to December, 15 men from the community should assist their wives when they attend ANC” or “Fifteen men and 15 mothers in-law should assist their pregnant wives/daughters-in-law to deliver at health facilities.” Men who accompanied their wives to ANC were rewarded with soap.

As described in Figure 2 below, the CBH team defined the initial pilot concept in early 2013 and in late 2013 chose intervention sites in collaboration with the funder and representatives of the Ghana Health Service. Project planning took place in early 2014, resulting in an inception report and a research, monitoring, and evaluation plan to guide the project management team and partners. To refine the project plan and in the spirit of innovation that defined the initiative, the pilot team engaged a

professional designer from ThinkPlace who worked with the communities and program and technical staff from ProNet North and Concern Worldwide to apply design thinking to help shape the CBH intervention, specifically around the choice of community incentive and community involvement in women's health-seeking practices. Elements of the learning and experience that emerged from this three-week design phase were incorporated into the official project plan and are detailed below.

Figure 2: Timeline of activities for the CBH pilot, JSI

When activities were implemented



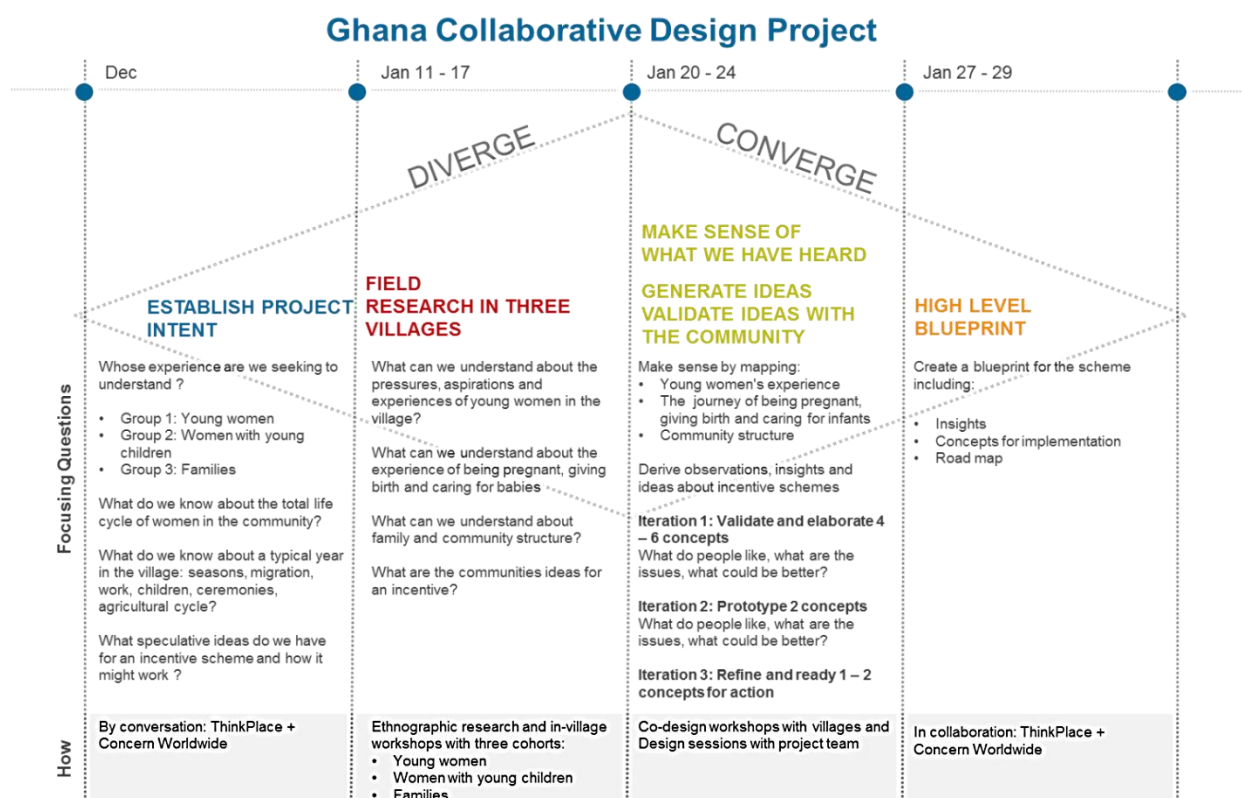
Source: CBH Slide doc; Dougherty, Leanne and Stammer, Emily. Submitted to Innovations for MNCH Initiative, December 2016.

5 Description of the Application of Design Thinking in CBH

From December 2013 and January 2014, Concern Worldwide applied design thinking techniques to develop and refine the CBH pilot. Figure 3 describes the activities associated with each stage of design thinking over this period. During this phase, the core design team, consisting of a professional designer from ThinkPlace and staff from Concern Worldwide and ProNet North, worked with three villages in the Upper West region of Ghana. The professional designer spent two weeks in Wa West District with the public health specialists and program managers.

The design thinking phase began in December 2013 with a briefing between Concern Worldwide, ProNet North, and ThinkPlace to establish a shared understanding of pilot objectives. During this stage, the core design team identified the end users for the pilot; the key questions they wished to explore about the lives of the end users; and the expected outcome of the design process, which was to draft ideas around incentives and messaging for the pilot. Following this briefing, ThinkPlace led a one-day orientation for ProNet North to introduce the team to the principles of design research and enable them to participate in the formative design research.

Figure 3: Timeline of application of design thinking in CBH



Source: ThinkPlace Foundation, CBH Blueprint, version 3; 2014.

During a three-day fieldwork period, the core design team examined community experience related to use of MNCH services and the challenges women faced in accessing care. ProNet North facilitated the design team's engagement with communities because of their deep understanding of the local context and fluency in local languages. This activity was followed by a daylong workshop to synthesize design research findings and observations and identify major themes. At this stage, the JSI research, monitoring, and evaluation advisor joined the team to share findings from the recent baseline survey, which further illuminated understanding of community members' knowledge, attitudes, and practices around MNCH.

Next, the team conducted a one-day ideation activity to synthesize findings from the baseline survey and the design research and provide a holistic understanding of the community's experience and barriers to accessing MNCH care. The team then used those insights to develop ideas for community-wide incentives and tested these ideas in three villages (Saawie, Chebogu, and Dabo). They refined the original incentive ideas based on community preferences and feedback on the feasibility of specific incentives, and their understanding of the ways in which the incentive would help the community address different challenges (e.g., access to water, emergency transport, etc.). In the last stage, the ThinkPlace consultant then constructed a pilot blueprint based on insights from the design research. The blueprint contained detailed descriptions of findings about the communities in terms of their political and social structures and socioeconomic hardships that hindered women's access to MNCH services. The blueprint functioned as a road map for pilot implementation and laid out the steps for implementing change by working through existing community structures, leveraging traditional community norms around celebrations and gatherings to trigger behavior change, and linking the incentive to behavior change. CBH implementers reported using the blueprint to guide their work planning and undertook all eight steps defined in the blueprint. We describe below the specific activities that constituted the design thinking process in CBH and in subsequent sections report the experience through the observations and perspective of the program managers and designers during this period. Annex B provides the visual outputs of the design thinking process at different stages, illustrating the ways in which design thinking helped program staff gain insights into user needs, desires, and experiences and shaped these insights into design decisions.

The application of design thinking occurred in four phases: Intent; Research, Discovery and Synthesis; Co-creation and Validation; and Defining the Implementation Approach. Table 1 summarizes the design thinking activities, mapping out the purpose of each, the tools and methods used, intermediate findings, and the resulting design decisions. Each decision represents an adaptation or addition to the original program model.

Table 1: Summary of application of design thinking tools and methods in the CBH pilot

Activity	Location	Participant Roles/ Organization	Purpose/Goals	Tools/Methods	Findings	Design Decisions	Time-line
Establishing Intent & Preparation	Australia, US, Accra	ThinkPlace, Concern, ProNet North	Produce a pilot intent to be used as a guiding point through the course of developing incentives for the pilot	<ul style="list-style-type: none"> Iteration Briefing between Concern Worldwide and ThinkPlace 	Current state of MNCH behaviors Desired end state of MNCH behaviors	Establishing the intent statement of the pilot and establishing the 9 guiding design principles that would frame the development of the pilot.	Intent
Field Research	Saawie, Chebogu, Dabo	Husbands, experienced mothers, young mothers, mothers-in-law, community Leaders	Understand the context for the incentives and build empathy with the community.	<ul style="list-style-type: none"> Role playing Discovery interviews Mini-focus groups Medical center observations 	Learned about daily life, needs, and desires for incentives from each of the groups interviewed. Observed differences between men and women related to potential incentives. Men and women tend to have separate money. Myths around women keeping their pregnancies secret.		Research & Discovery
Synthesis	ProNet North Office-Ghana	ThinkPlace, ProNet North, JSI	Synthesize information gathered during field research in order to facilitate Making Sense and Ideation with the larger design team	<ul style="list-style-type: none"> Rapid analysis Capability building 	Process led to a better understanding of the community context/needs.	Reinforced the importance of including community structures and community leaders in the design and implementation of the pilot to increase the chances of adoption of the incentive and the messaging.	
Making Sense	ProNet North Office-Ghana	ThinkPlace, Concern, ProNet North, JSI, KHRC	Synthesizing information gleaned from the interviews with various stakeholders in each community	<ul style="list-style-type: none"> Clustering Harvesting Journey mapping Personas 	Apparent that many of the women's daily activities are time consuming which prevents them from seeking MNCH care.	Incentives should take into account the life experiences of women for maximum utility across all community members.	
Ideation/ Develop the Incentive	ProNet North Office-Ghana	ThinkPlace, Concern, ProNet North, JSI, KHRC	Using the 9 guiding principles, generate ideas for possible incentives that could be tied to intended outcomes and. Ideas to be used in the 3 test villages	<ul style="list-style-type: none"> Brainstorming 	Generated 8-9 potential incentive ideas that were further fleshed out.	Final list was reduced to 5 incentives: Grinding Mills, Boreholes, Community Transport System, Watching World Cup, Dry Season Garden	Co-creation and Validation
Validating Results	Saawie, Chebogu, Dabo	Husbands, experienced mothers, young mothers, mothers-in-law, community leaders	Present 3 incentive ideas that matched best with each community profile and allow members to vote	<ul style="list-style-type: none"> Mini-focus group to test incentive Voting for incentive 	Chief influenced voting in some communities. Men and women voted for different incentives.	Community selection of incentive to support MNCH	

Generating Blueprint	ProNet North Office- Ghana	ThinkPlace, Concern, ProNet North, KHRC	Create the framework in which CBH could operate and a road map for various streams of work and next steps	Eight Steps for Implementing: <ul style="list-style-type: none"> • Pilot Establishment • Build Trusted Relationship • Design Incentive • Establish Governing Committee • Establish Strategy for Change • Engage Whole Community in Change • Evaluate the Change • Handover Incentive to the Community 	Generation of blueprint that takes field teams through the process of the incentive selection process and can be scaled up to subsequent communities
	Additional Communities Yibele, Kelegan, Tuberegan, Puosiyire, Sigri, Deku, Ypaala, Mwantang, Kussele	ProNet North	Help communities prioritize and decide on incentive that would support MNCH in each community <ul style="list-style-type: none"> • Mini-focus group to test incentive • Voting for incentive 		
Scale Up					Determined incentives for subsequent communities.

Defining the Implementation Approach

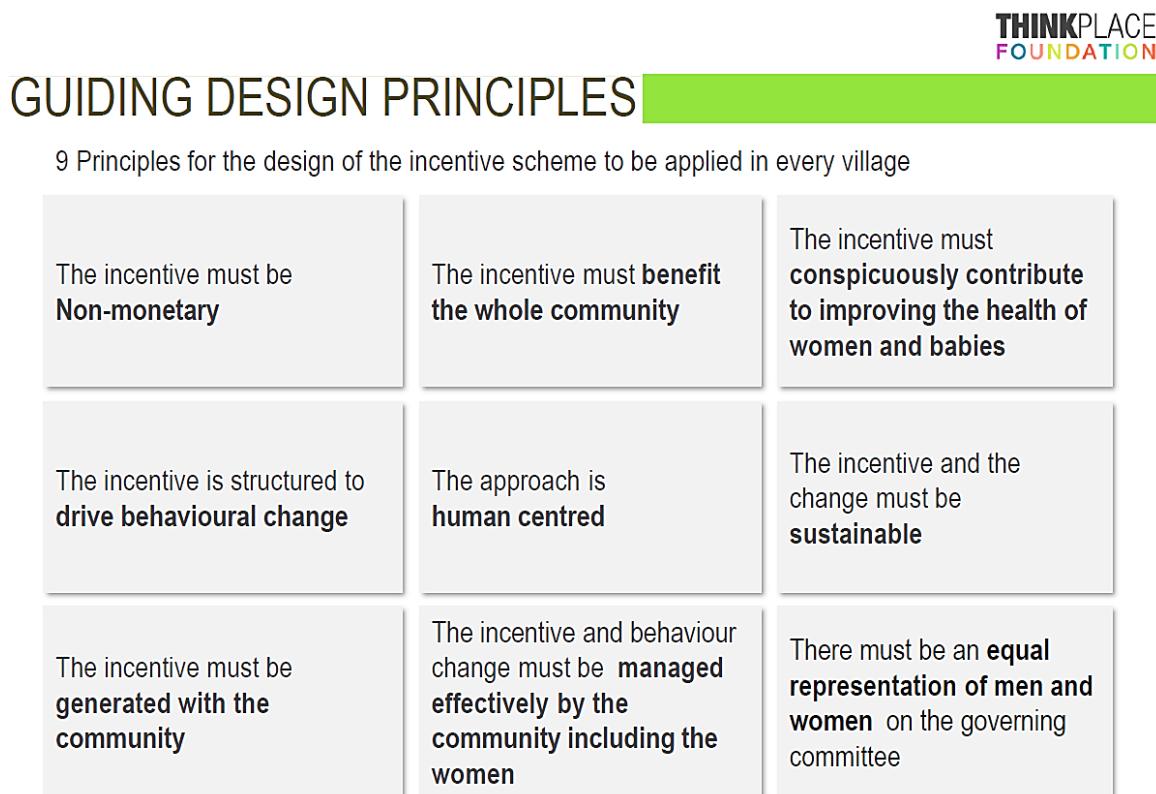
5.1 Establishing Intent

At the beginning of the design phase, the core design team created a statement of intent to guide the selection of community-wide incentives for the pilot and the pilot approach. The statement of intent underwent three cycles of iteration, starting with a rough outline of the pilot followed by two in-depth conversations with the implementers: Concern Worldwide and ProNet North. The first briefing between ThinkPlace and Concern focused on orienting ThinkPlace to the CBH pilot. ThinkPlace then held a workshop with ProNet North to introduce them to design thinking and provide ThinkPlace with details on the context of CBH communities and how the health services currently functioned.

The intent statement: *During this project the design team will work with three villages in the Upper West Region of Ghana to collaboratively design a pilot for a nonmonetary incentive scheme/s aimed at changing the behavior in the whole community to better support the antenatal and postnatal care of women and babies.*

The intent statement established a shared understanding of the current state and desired future state beyond the pilot, and a design approach for the pilot that included guiding design principles and cultural sensitivities that the team framed the development of the pilot (Figure 4).

Figure 4: Nine guiding design principles



THINKPLACE FOUNDATION USES DESIGN THINKING TO CREATE POSITIVE, SYSTEMIC AND COMMUNITY-CENTRED INNOVATION

Source: ThinkPlace Foundation, CBH Blueprint, version 3; 2014

5.2 Research, Discovery, and Synthesis

After developing the intent statement, the team undertook field research to explore the economic, social, and cultural contexts within which the nonmonetary incentives would be introduced. The purpose of the research was to gain intimate understanding of community needs and desires related to MNCH behavior and community relationships and livelihoods and enable the core design team to develop empathy for community members. The design research team also documented community infrastructure and resources in order to design incentives that could function effectively and, once introduced, would not require additional external resources for maintenance. The team undertook exploratory interviews in three villages (Saawie, Chebogu, and Dabo) with leaders, men, mothers-in-law, experienced women, and young women (Figure 5). Their aim was to listen to people's stories and develop understanding and empathy with the environmental, economic, social, and cultural pressures on the community and their impact on prioritizing and engaging with MNCH health care. The team used role playing, discovery interviews, mini-focus groups with community members, and health center observations to examine the lives of women in the community, taking a holistic view. In the focus groups, they sought to identify specific pain points or barriers to accessing health care. They examined women's priorities, the number of family members that women cared for, the type and form of support women received from family and community members, the frequency and depth of routine community interactions, and women's daily routines. Follow-up questions focused on the effect of seasonal environmental and economic patterns on daily routines to identify how women's priorities might change over the course of a year to identify barriers to health-seeking associated with seasonal change. Finally, each woman was asked to report on what she experienced during her last pregnancy.

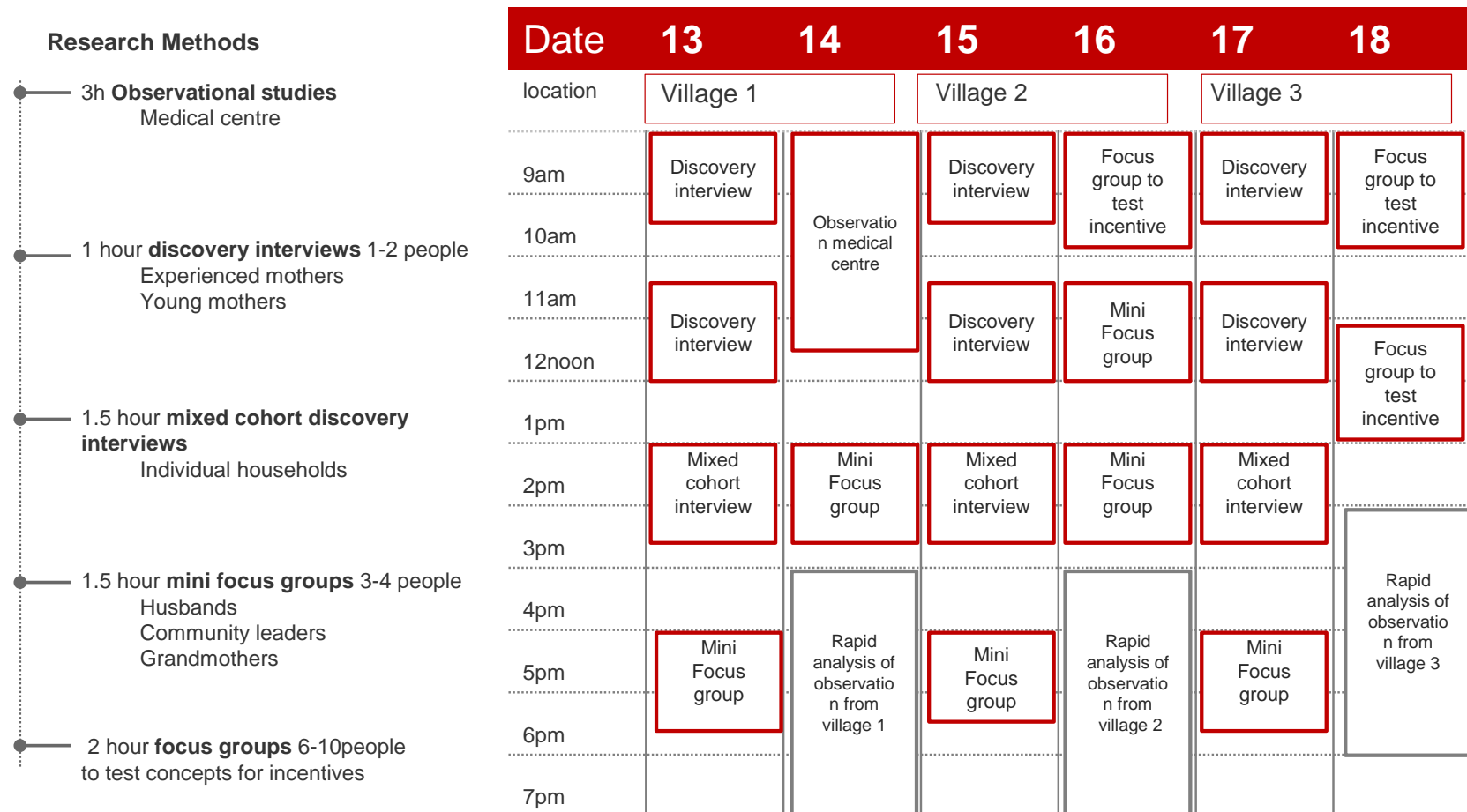
Figure 5: Field research in three villages, Jan 13-18



Field research in three villages Jan 13- 18



The purpose of this week of ethnographic research in the villages will be to deepen our understanding of the data collected in the surveys, explore the survey results, test hypothesis for how an incentive scheme might work and elicit ideas. The research will commence on day one with the intent of getting a broad understanding of the experiences of all the different players through series of discovery interviews, the interviews will increase in their specific focus throughout the week and conclude at the end of the week with some larger focus groups to test initial propositions for the incentive scheme. We aim to fit as many interviews into the week as possible while allowing time to rapidly document each interview



The data collection team observed that men and women experienced different barriers related to facilitating use of health services during pregnancy or for newborns. While both men and women worked in the fields as farmers, the men kept all their earnings while the women did not have access to any of the money they earned. This was a significant finding because it indicated the lack of autonomy afforded to women. The field research also revealed that current beliefs around pregnancy encouraged women to keep their pregnancy secret in the early months, which explained their reluctance to seek ANC in the first trimester. In addition, they heard that during the wet season, women were responsible for farming and their ability to access health care decreased significantly because of competing priorities and bad roads. The design research also revealed that community influencers, like community leaders, mothers-in-law, husbands, and mothers, exerted significant influence in the community and on women's choices related to health-seeking behavior. Findings from the design research emphasized that the effectiveness of the CBH messaging strategy would be contingent on the dissemination of information through the community hierarchy, acknowledging the role of community leaders.

The team synthesized data from the field research to identify themes and common patterns, and they used these insights to develop ideas for nonmonetary community incentives. They also consulted the results of the household survey that was conducted to establish baseline measurements for knowledge, attitudes, and practices related to MNCH care in CBH communities. During this part of the design phase, the team used **clustering and harvesting**, which are synthesis processes that ask participants to capture ideas and quotes from the field research on post-it notes, group these ideas by community groups, reflect on differences between genders, for example, and facilitate the emergence of common themes and patterns. During synthesis, the facilitator flagged recurring ideas and contradictions and explored them with participants. Drawing on this synthesis, the team then employed **journey mapping** to portray the life of men and women in the CBH communities by synthesizing data from harvesting and clustering to map the journey of a woman in the community during her daily routine and created **user personas**, or profiles, that represented the goals and behavior of various community groups. The construction of **community profiles** also allowed the team to understand the different needs within and between communities. Overall, from this research and discovery step, the core team gained a deeper understanding of the challenges of implementing a community-level nonmonetary incentive based on the many factors that influenced a woman's ability and inclination to access and utilize health services.

5.3 Co-creation and Validation

In the next phase of the design process, the core team focused on generating ideas or prototypes for incentives that would encourage the realization of the intended changes in health-seeking behavior. The baseline study, exploratory interviews and observations in each village, the pilot intent and nine guiding design principles informed the understanding of opportunities and constraints for different incentive prototypes. The team developed the prototypes for incentives in a one-day ideation workshop. Each prototype described how the incentive was intended to work, the level of investment required by the pilot and by the village, the behavioral shifts that would be linked to each incentive, an exploration of likely barriers, ways to engage the whole community around the incentive, and indicators for success. In

the first iteration of incentives, small sub-teams developed nine ideas that were then evaluated by the broader team against the criteria of desirability, possibility (feasibility), and sustainability. For example, they discarded the idea of securing a motor scooter for the community because of the challenge of maintenance. They then selected five viable concepts and took them back to the same three communities in Saawie, Chebogu, and Dabo for feedback and validation. The five final incentive ideas included grinding mills, boreholes, community transport system, watching the World Cup, and a dry-season garden.

Based on the community profiles, the team presented the five incentive ideas to each of the three communities. The team met men, women, and community leaders, and each community member voted for their preferred incentive. People used sticks and rocks to vote, and one or two incentives emerged as potential winners. The team observed that the community chief influenced voting in some communities. In one community, the chief met with all the men prior to voting so they would all vote for the same incentive. In addition, men and women tended to vote for different incentives. For example, in the community where the chief influenced the men before the vote, the men voted for a dry-season garden, and the women voted for the mill. In cases where men and women voted differently, the team held a community meeting and asked everyone to vote again as one group.

The validation process with three villages demonstrated that the villages were enthusiastic about these incentives and began to understand and support the CBH intent of increasing community support for women's health-related decisions. Different villages prioritized different incentives depending on their specific needs and available resources. The team incorporated feedback from the villages on the incentive ideas in the final incentive prototypes. Following the design phase, the pilot team conducted mini-focus groups with the remaining CBH communities and asked them to choose from two final incentives: the borehole or the emergency transport. Nine communities selected a borehole while two communities selected an emergency transport system.

5.4 Defining the Implementation Approach

Following the design phase, the team held a final workshop to create the framework for the entire CBH pilot and a road map for various work streams, including introduction of the incentives. Based on this workshop and reflecting John Kotter's eight steps for managing change,⁸ the ThinkPlace consultant developed an eight-step blueprint for implementing CBH and creating the pilot work plan. The blueprint was designed to facilitate the selection of incentives in the remaining CBH communities and to help the pilot create a strategy to engage the community in behavior change around MNCH by leveraging existing community structures and social norms to foster ownership and create a new culture that supported maternal and newborn health. The eight steps for implementing CBH included informing the community about pilot goals and objectives; building trusted relationships with community members, including community leaders and influencers; co-designing the incentives with community members; establishing the CGC; designing a strategy for change; engaging the whole community in the change process;

⁸ <https://www.kotterinternational.com/8-steps-process-for-leading-change/>; accessed 5/7/2017

evaluating the change; and handing over the incentives to the communities. During this stage, the implementation team also devised the messaging strategy for use in both types of intervention communities (messaging only and messaging-plus-incentive). However, according to respondents there was no deliberate effort to link the learning from the design thinking to the content of the health messages.

6 The Experience of Using Design Thinking

The CBH team that worked on the pilot during the design thinking phase comprised a multidisciplinary group of individuals, including public health practitioners, design professionals, local implementation partners, and, at times, the CBH communities. In order to comprehensively understand the role of design thinking in CBH, we conducted interviews with seven respondents who either participated in the design thinking phase of the pilot (January 2014) or were integrated into the team following the design phase but were familiar with the role that design thinking played in the life of CBH. Respondents ranged from community members who participated in the co-design workshops to program managers who implemented the CBH pilot. Some respondents were interviewed twice, once following the design phase and next at the end of the pilot to reflect on the influence of design thinking. The respondents' experience with the design thinking process in CBH fell into four broad categories: essential framing and practical insights, empathy for end users, comparison with other forms of planning, and observations of the overall value and drawbacks of design thinking.

6.1 Essential Framing and Practical Insights

Respondents reported that they emerged from the design phase of CBH with a deeper understanding of the challenges faced by communities and women in accessing and utilizing health care, even though the design phase was short and intense. In particular, they gained a strong sense of the role of contextual factors like cultural beliefs and changes in seasons that had a major influence on access to and use of health services. As a monitoring and evaluation advisor stated, "It [the design phase] expanded your understanding of the problems and I think helped to give you more ideas about ways you could address [community needs] because you were looking at them from so many different viewpoints."

A significant insight that emerged during the exploratory research was that communities had public celebrations to mark significant community events and this practice could be leveraged to drive the behavioral change to improve the MNCH outcomes that were of interest to CBH. For example, the design team came across a community that was celebrating a "first sip of water day." Mother-to-mother groups had created this day to celebrate a child's first sip of water. The mother-to-mother groups explained that they had over time included mothers-in-law in these groups because the mothers-in-law had misconceptions around breastfeeding and around giving water for the newborns. The mother-to-mother groups used these community events to dispel myths around breastfeeding and newborns drinking water.

Similarly, an interview with a community health nurse around community beliefs revealed a finding that in her community, cultural taboos discouraged women from eating eggs, one of the only sources of protein available. The community health nurse reported that she worked with the community chief to change this practice. Once she began to promote the consumption of eggs as an important source of protein, community resistance to eating eggs faded. This example, among others, reinforced the importance of engaging the community leaders and influencers in disseminating key health messages in the community and in ensuring that the communities worked to achieve the goals established for CBH. Through the exploratory research, the team identified three critical drivers of behavior change within communities: community leader engagement in promoting and monitoring behavior change, developing a comprehensive messaging approach, and engaging the entire village in the change process.

6.2 The Role of Empathy

One of the research propositions explored in this case study is the use of design thinking to build empathy with the end user as part of the problem mapping and solution identification process. In addition to gaining a detailed understanding of the community's experience with the MNCH services, particularly among women, participants in the CBH design phase reported that they began to identify closely with women's experiences. These insights in turn influenced the design of the incentive and the messaging strategies. As a program staff member stated:

When you are engaging with communities, you need to let them tell their story and then you show that you are interested in their story. You do not change their story; you just listen to them. I learned once, and when I now go to engage communities, I just have to try to learn from them, let them tell me and see how I can show that empathy. And that I shouldn't judge them (those telling me their story) and I should try to respect what they are saying, so they can tell me what they actually need and for me to help address it.

Another program manager noted, "I realized that communities don't have just one particular need. When you ask them about their needs, you realize that they will give you a whole list of things they need, so you have to understand the impact of the needs and how it is linked to MNCH."

6.3 Comparing Design Thinking With Traditional Planning

Many of the individuals involved in designing and implementing CBH were public health practitioners with multiple years of experience. Thus, we sought to explore their experience of design thinking compared with traditional public health program planning. Those respondents reported that, in contrast to a design thinking approach, traditional public health programs are mostly designed during the proposal stage by donors and that implementers were expected to respond to a predefined scope. As one program manager stated:

You know, [in our] previous work, we were given money, and an already structured way, the way they [the donor] wanted the process to go. A particular donor has things they want ... it's like you have different structures, but you don't start from the communities. There is already a target and already an intent that a particular program wants to achieve. This [CBH] was different. Everything was from scratch, asking [the

communities] how you want this to go, what they want to be, how they want their own health problems to be addressed. That was the first time for me, and then doing the true observational studies, doing discovery interviews, empathizing with people, and the focus group discussions. It was a very good process and at the end, every day, we ran up and down and it was very tiring, but I really enjoyed it because it was the first time for me that I went through such a process. If we can always have such opportunities in health programs and other programs that we can have, I think it will address the actual problems that we see ourselves.

Respondents also noted the role that communities played in describing their challenges, as well as co-designing solutions during design thinking. According to a program manager:

Something that is also different [about design thinking] is getting to the extent to which we understand the community perceptions. The community is part of the decision-making process, and I think in standard public health programming we miss out on that because we are the experts and we are packaging and deliver messages. With this one, it is not our message; it is the community's message.

6.4 Value and Drawbacks of Design Thinking

Respondents reported both positive and negative aspects of design thinking based on the CBH experience. Most program staff reported initial confusion about the goals of design thinking and their frustration about the limited time they had to absorb and learn the processes, possibly because of the short duration of time spent with the designer. Consequently, the implementers reported that they did not use the results from design thinking to the greatest extent possible, such as for crafting the messaging content. The short turnaround time for design thinking also resulted in long days and reported irritation related to the data synthesis process because of the large volume of data that was collected during the exploratory research phase. As a program manager mentioned, “When the whole process started with the [design thinking], we were confused as to how we were going to start [it]. It became clearer over time.” Another program manager noted, “I didn’t know what they [the design professionals] were talking about, I was just following the process, I didn’t understand. That was difficult for me. After going to the field that is when I understood it better.”

Despite these challenges, respondents clearly articulated the value of design thinking because of its role in deepening their understanding of the lives of the women who they expected to engage with the CBH pilot, and team members noted that they believed it strengthened the CBH intervention. As the design expert stated, “This approach encouraged ProNet North to listen before coming up with solutions.” A program manager added, “If we can always have such opportunities in health programs and other programs, I think it will address the actual problems that we see ourselves.” A third respondent noted, “We came up with a good design that we feel is owned by everyone, particularly by the communities.”

7 Influence of Design Thinking in CBH

7.1 Grounded Theory

A fundamental premise of the use of design thinking is that it provides important insights into user experience, needs, and desires and helps to translate these insights into tailored interventions or products, increasing the likelihood of user adoption and reducing the risk of intervention failure. For CBH, design thinking was used for two purposes: 1) to explore why women were not utilizing MNCH services in Wa West District, Ghana and 2) to increase understanding of community governance structures and decision-making around women's health-seeking behavior, in order to introduce a nonmonetary incentive scheme. Based on documentation of the program's experience in applying design thinking, and working from the original research propositions noted in Section 3.1, we describe below our findings related to the influence of design thinking in CBH using the constructs of fit, uptake, buy-in, and ownership. Specifically, we explore the potential contribution of design thinking to acceptance of the community incentive scheme and the community-driven influencing strategy for improving maternal and newborn health-seeking behavior using a theoretical pathway or grounded theory constructed in the course of our analysis of the role of design thinking in CBH (Figure 6). Finally, we discuss the relationship between the use of design thinking and the effectiveness of CBH in terms of its overall goal: changing women's health-seeking behavior.

Box 2: Definitions of design thinking pathway elements in the context of CBH

Empathy: Empathy of the pilot designers for the community's needs and desires, which is generated during the design phase of the pilot

Fit: Influencers and mothers reported experience with and perceptions of the:

- 1) Incentive scheme (linking access to incentive to change in women's health behavior)
- 2) Choice of incentive
- 3) Messaging strategy and messages (linked to the expressed and latent needs/desires uncovered through design thinking methods and tools)

Uptake: Acceptance of the incentive scheme by community members, influencers, and mothers (linking incentive to behavior change); mothers' and influencers' acceptance of key messages; mothers' behavior change (Illustrative examples include pace of uptake over time; sustained change over time).

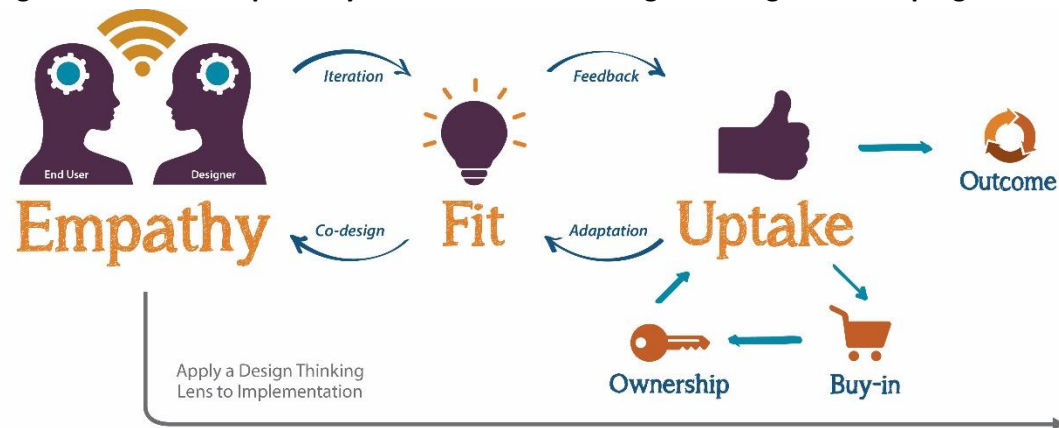
Buy-In: Influencers', community members', and mothers' perceptions of the value of the incentive scheme, content of the messages, the proposed health behavior changes.

Ownership: Influencers', community members', and mothers' perceived/expressed stake in the success of the program/earning the incentive, the value of the health behaviors being promoted, and continuity of the influence

In Figure 6, we hypothesize that through the application of design thinking, CBH achieved fit, meaning the pilot created an essential alignment between program strategies and community practices used to influence health-seeking behavior among women of childbearing age as well as helped focus incentives on community-based needs and desires (e.g., access to water and emergency transport). According to this pathway, fit then contributed to the effectiveness of the health messaging strategies and the uptake or adoption of the CBH incentive scheme that linked community involvement in maternal and newborn health messaging and practices to acquisition of a borehole or emergency transport in the messaging-

plus-incentive communities. Over time, the theory proposes that the use of design-led interventions, along with other program strategies, translated into increased community support for and involvement in women’s health-seeking decisions and ultimately helped to improve health-seeking behavior among women. We discuss and illustrate the hypothesized pathway below and provide a critical analysis of the added value and limitations of design thinking in the context of CBH. Specific definitions for each construct in the pathway are found in Box 2 above.

Figure 6: Theoretical pathway of the influence of design thinking on MNCH programs



7.2 CBH Outcomes

As described above, design thinking in CBH began with a stated intent or desired outcome. In this case, the intent of CBH was improved health seeking behavior among women of childbearing age to improve women’s health and the health of their newborns through a health messaging and behavior change strategy and a nonmonetary community incentive scheme. The design phase involved field level data collection, an ideation workshop, and synthesis of learning into a blueprint, as well as prototyping of community level incentives. Design thinking approaches helped program managers gain insight into women’s barriers to health care, health seeking behavior and influencers of decision-making and community level governance structures. It also helped map out an engagement approach for working with leaders and community members to work collectively to improve MNCH practices. The pilot team then adapted the original pilot design to tailor CBH interventions primarily with respect to the incentive scheme. Decisions focused on finding ways to build trust with the communities, integrating governance practices that would advance the adoption of the incentive scheme among community members (e.g., the establishment of the CGC), and the likelihood that CGCs would agree to manage the incentive scheme and encourage community involvement in women’s health. During the design phase, the pilot team also engaged communities in selecting a specific nonmonetary incentive that the pilot would award if the community completed a variety of health messaging and promotion activities (e.g., men’s attendance at health education sessions, support from men and mothers-in-law).

To understand the role of design thinking in CBH, we start by examining the overall effectiveness of CBH

using the endline evaluation (Dougherty, L. and Stammer, E. 2016). The evaluation aimed to determine whether strategies, such as the CBH community incentive scheme and health messaging approaches led to improved health-seeking behavior among women. Although the endline evaluation did not focus specifically on the influence of design thinking as a program strategy, its findings are helpful in this case study for reflecting on the pathway from the introduction of design thinking to intended program outcomes.

The CBH evaluation employed a mixed-method, quasi-experimental design that sought to compare baseline and endline measures of key outcomes within each of the three study arms: messaging, messaging-plus-incentive, and control. The study included approximately 2,800 households and included a household, a men's, and a women's questionnaire. The outcomes of interest included early initiation of ANC, ANC 4 (fourth visit), skilled birth attendance, PNC (postpartum care), early initiation of breastfeeding, and exclusive breastfeeding. When analyzing endline results, the evaluation found considerable evidence of diffusion of intervention messages to control areas. To adjust for this effect, the evaluation team constructed an exposure variable based on the dose of messaging activities received by each female respondent and then measured program effects.⁹

In terms of intermediate outcomes, the evaluation found that levels of knowledge, positive attitudes, and self-efficacy regarding maternal and child health behaviors remained high throughout the pilot and there were no significant improvements between the messaging and messaging-plus-incentive communities. With respect to behavior change, the study determined that exposure to the CBH program overall significantly improved uptake of three of the six study outcome behaviors: early initiation of ANC, ANC4 and skilled birth attendance across both intervention groups.¹⁰ The evaluation showed no significant influence on behavior related to breastfeeding or PNC.¹¹

With respect to the influence of CBH on community involvement in women's health seeking behavior—one of the hypothesized driver of women's behavior change – the evaluation revealed a shift in the type of people in whom women confided and the people from whom women sought advice about pregnancy and breastfeeding compared to baseline. For example, prior to the intervention, women spoke primarily with health providers about pregnancy and breastfeeding. Following the CBH intervention, women reported that they increasingly spoke with family members and friends who lived in the same household

⁹ Variables controlled for included education, religion, age and parity, women's group membership, and weekly radio listenership, intervention group and time period.

¹⁰ Those who received a greater dose of messaging activities had significantly increased odds of early timing/initiation of first ANC visit (AOR=1.34, p=0.02), attending at least four ANC visits (AOR=1.81, p<0.001), and using a skilled birth attendant at delivery (AOR=1.32, p<0.01).

¹¹ The evaluation report concludes that limited program effects may have resulted from the following: 1. program spillover of health messaging to control areas due to the proximity of the study sites; 2. high baseline values of certain behaviors of interest; 3. program implementation challenges, such as interruptions due to funding gaps; and 4. seasonal influences such as migration and farming schedules which may have limited the involvement of some communities in CBH.

and community about pregnancy and breastfeeding. The majority of respondents noted that the community overall discussed issues related to pregnancy and breastfeeding more frequently than before, including men who reported increased communication with their wives about pregnancy and breastfeeding, and described ways in which they supported their wives during pregnancy. These endline findings suggest that community involvement in the CBH incentive scheme and exposure to the CBH health messaging strategy are likely to have influenced the evolution of community behavior around supporting women's health seeking decisions. We consider below the role that design thinking played in the process and outcomes of this pilot.

7.3 Fit and Uptake of the Incentive Scheme

Working from the beginning of the design thinking pathway, we found that program managers translated the insights they gained in the design phase of CBH mainly into the community-level incentive scheme. Program managers learned during the design phase about the use of traditional community celebrations to mark important community events and the importance of establishing trust with the communities. Based on this learning, program managers were able to tailor the CBH incentive scheme in ways that helped it gain traction among community members. They designed the intervention in a way that built on existing community governance practices, a design decision that encouraged community acceptance of the role of the CGCs and the incentive scheme milestones.

During the design phase, program managers also ideated and prototyped possible community incentives and then engaged community members in selecting an incentive for their community. In interviews conducted following the introduction of the incentive scheme, community level respondents expressed their appreciation of the two types of incentives that CBH was offering. A representative from a community that chose the emergency transport incentive explained, "We said we wanted an ambulance because if a pregnant woman has complications she can be [transported] safely and in good condition and can be saved." Another respondent from a community that chose the borehole incentive reported that, "Most women and children are negatively affected during dry season; owing to this, women massively opted for a borehole when the opportunity availed itself. The borehole is good. We currently have water problems. There are only two boreholes in this community and they are not enough, so if this borehole is completed, it would help us a lot. We will have good access to water." Community involvement in defining and selecting the incentives encouraged initial uptake of the incentive scheme.

7.4 Fit and Effectiveness of the Health Messaging Strategy

The second area where design thinking influenced program effectiveness was in the health messaging strategy that the CBH team applied in both intervention arms. Surprisingly, the CBH team did not use insights gained in the design phase to shape the content of health messaging. However, design phase insights reinforced the idea of engaging many types of potential community influencers in supporting women to use health services more frequently for MNCH care and to initiate breastfeeding early and breastfeed exclusively for six months. The resulting program strategy focused on expanding women's

networks of influencers around health seeking decisions and on raising awareness among community members around the importance of maternal and newborn health.

7.5 Lasting Change: Buy-In and Ownership

Community buy-in and ownership of the incentive scheme and increased community involvement in supporting positive maternal and newborn health practices – the next step in the pathway – began to emerge in earnest toward the middle to the end of the CBH pilot. Respondents increasingly spoke of the importance of maternal health services for pregnant women and new mothers and the need to support women during this period in their health-seeking decisions and practices. A community member stated, “Some mothers-in-law within my family and among my friends now support pregnant and nursing mothers to cook, wash dishes, bathe the newborn, and also help to lull them to sleep.” Data from several rounds of interviews during implementation and in the CBH endline evaluation also suggest a growing awareness of the importance of maternal health and the emergence of supportive behaviors for improving maternal and child health practices, particularly related to the role of men. As a woman in one community noted, “The men nowadays are very supportive, they accompany us to the clinic for PNC and ANC services and the nurse teaches all of us. For my husband, any time I inform him about PNC he readily takes the lead to take me to the clinic. He also provided food, meat, soap, and money for me during my delivery.”

Overall, community respondents reported greater openness to discussing maternal and child health issues. A community respondent reported, “We used to be afraid of talking to someone’s wife because you could be accused of negative things. But because of CBH, we freely talk to women without fear. Old and young men and women are talking about MNCH in the community. We now know the need for discussion.” In addition, women reported increased understanding of the risks associated with pregnancy and delivery and learned the importance of disclosing pregnancies earlier so they could utilize health services for ANC and delivery.

An additional element of buy-in and ownership was found in the CGCs who took command of the incentive scheme and continued to encourage community members to support women in the community and to ensure that communities met the conditions that qualified them to receive the incentives. The CGCs communicated the steps needed to proceed to the next “win.” They established rules and introduced fines to ensure community participation in health messaging events. They also encouraged community members to promote the use of health services among women. One CGC member stated, “We said that [people] must attend meetings. There is also [a step] for the women to follow. When a woman is pregnant, you must bring her with her ‘visits book’ (health card). And I should add that children must be properly [cared for].” Another community member said, “In any case, before the arrival of ProNet North [women gave birth at home]. But now we have a regulation that says that if a woman gives birth at home, there will be a fine so her husband must take steps to bring her to the hospital so she can deliver the baby.”

By the end of CBH, all communities in the messaging-plus-incentive arm had met the conditions set in the incentive scheme and received the promised nonmonetary incentive (e.g., borehole or emergency transport).

8 Reflection on Design Thinking in CBH

From our review of the application of design thinking in CBH, we observed that design thinking played a positive but limited role in influencing aspects of the shape, implementation, and outcome of the pilot. As such, the findings only partially support the design thinking pathway presented above.

Acceptability of New Ideas

Based on the CBH experience, we found that design thinking facilitated community acceptance of specific aspects of the program. For example, it played a direct role in the adoption of the nonmonetary community incentive scheme. The insights gained through the design phase in the incentive-plus-messaging communities led to early-stage community profiles that ensured that the incentive options fit community needs. Design thinking insights also influenced the use of community structures, such as governance committees and traditional celebrations, to rally the community toward earning the incentive. Communities accepted both their participation in the incentive scheme and the management of the scheme through the CGC that resulted in acquisition of a borehole or emergency transport in all cases. Both design-influenced decisions (on incentive choice and use of traditional structures) were effective in creating a fit between program interventions and end users, and facilitated the adoption of new practices or ideas. It is possible that the promise of the incentive also enticed communities to take a more active role in influencing positive health practices among women. However, without reliable evaluation data to compare changes in service utilization between the two intervention communities, it is not possible to determine the extent of this effect.

In terms of the limitations of the influence of design thinking, design insights were helpful in identifying important community influencers and networks that women could rely on for health advice. However, the idea of engaging a wide range of community influencers like leaders, husbands, and mothers-in-law to extend the reach of traditional health messages is a behavior change strategy that is often used in public health programming. It did not emerge exclusively from the design phase.

Role of Program Managers

Although the influence of design thinking in CBH was primarily limited to defining and tailoring the incentive scheme, the experience of engaging with a design thinking process during the pilot did influence the perceptions and practices of the CBH team. Interviews with program managers from Concern Worldwide and ProNet North indicated that design thinking inspired them to incorporate approaches to implementation that differed from what they defined as traditional program implementation practices. For example, program managers described how they consulted community members and women who received health messaging through CBH more frequently than they would

normally do, working intentionally to solicit their views on the program and adapt program activities. Program managers introduced regular feedback to align community messaging approaches with community experience, responding to the evolving needs of the user based on the feedback they received.

In addition, all program respondents stated emphatically that design thinking enabled them to go further and deeper in their approach to community engagement than what they had done in the past. An experienced public health practitioner stated that design thinking “is participatory but really much deeper.” Program managers reported that design thinking expanded their understanding of the context within which community members accessed health services and the socioeconomic and cultural barriers that women had to overcome in order to utilize health services. As such, the influence of design thinking’s in CBH may be found in a pathway that is not explicitly depicted in the framework above: in the sensitivity developed among program staff to the value of introducing frequent feedback with the community for refining program strategies.

Barriers to Design Thinking Influence

It is important to consider other factors that can affect the potential for design-led interventions to take hold. For example, the extent to which design thinking was able to influence early community adoption of the incentive scheme was tempered by the manner in which program managers integrated the intervention into CBH communities. Based on three rounds of key informant interviews conducted over the course of the pilot, we found that community members only came to understand the purpose of the incentive scheme gradually. In round one, respondents did not associate their future acquisition of a borehole or emergency transport with the need to demonstrate that women in the community had increased their use of health services or had begun early initiation of breastfeeding. Thus, in spite of the introduction of community-tailored interventions that emerged from the design phase, community adoption of the incentive scheme emerged slowly because program managers and CGCs failed to communicate effectively the rationale for introducing the incentive scheme or making the link between the incentive and community support for increasing women’s use of primary health care and early breastfeeding. Once the program implementation team strengthened communication activities about the purpose of incentive scheme and the community’s role in it, community understanding of CBH improved and adoption and completion of the incentive scheme was achieved.

It is also regrettable that insights from design thinking were not used to create specific health messages. Interviews with program staff indicated that they relied on existing messaging content to ensure consistency with government and other health-based organization. Nevertheless, we see the weak link between design-phase learning and the health messaging content as a missed opportunity for the CBH pilot.

It is possible that design thinking could have had a greater influence on CBH if the timeframe allotted to the introduction and application of design thinking techniques had been longer. A complicated project such as CBH required more time and resources for engagement of the professional designer and time

for the program managers to understand the results of the design phase. In CBH, the designer was not able to engage with the CBH team after she developed the initial blueprint. Consequently, the CBH team interpreted the design thinking findings and applied them without the designer's guidance, and did not execute the next stage of design thinking, including prototyping and co-creating many of the proposed implementation strategies (e.g., CGCs and comprehensive messaging). Time and resource constraints may therefore have limited the pilot's opportunity to tap the full potential of design thinking. Respondents from the implementing partner, ProNet North, also expressed frustration and confusion with the design thinking process because they perceived the design intent statement as very broad and intangible and they did not have the opportunity to build their own capacity and understanding of design thinking techniques, which would have allowed them to advance the work on their own. The majority of program staff interviewed noted that a longer-term engagement with the designer would have strengthened the use and application of design thinking.

To conclude, our analysis of the influence of design thinking in CBH suggests that design thinking aligned effectively with the evidence-based theory and principles of public health behavior change programming that the CBH team had already planned to use throughout the pilot. It reinforced broad-based implementation strategies to improve health-seeking and health-promoting behaviors, building on traditional community structures and practices, and it deepened and refined understanding of community needs and behaviors among the CBH team. The most beneficial aspect of design thinking in CBH was the introduction of novel ways of co-designing aspects of the program strategy with communities and prototyping incentives with program staff and communities to increase the chances that communities would accept their role in CBH. Design thinking also helped hone the interventions used in the messaging-plus-incentive communities and gave structure, order, and refinement to the incentive scheme. Design thinking reinforced the importance of focusing on the end user not only at the start of the project, but throughout implementation to ensure that user perspectives shaped decisions around program strategy and strategy adaptation. Program staff consistently reported heightened sensitivity to the value of iterative feedback loops between end users and program decision-makers, which enabled responsive and adaptive programming. Finally, the analysis suggests that the influence of design thinking might have been stronger if the project had allotted more time for introducing design thinking to the team, allowed coaching from the designer, and enabled a more focused use of design thinking tools and methods by the CBH team. An intentional emphasis on strengthening the ability of the implementing team to execute design thinking approaches is critical to ensuring optimal use of design thinking in program development.

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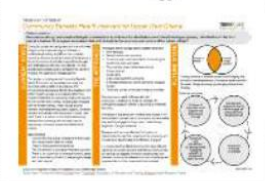
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The critical steps in the design journey are depicted in Figure 8 below.

DESIGN THINKING JOURNEY




**ESTABLISHED
THE
PROJECT
INTENT**



**DESIGNED THE
RESEARCH
APPROACH**


**CONDUCTED
DISCOVERY
INTERVIEWS**




**MADE SENSE OF
THE RESEARCH**

**GENERATED IDEAS
FOR THE INCENTIVE
APPROACH**

**TOOK THE IDEAS
BACK TO VILLAGES
FOR VALIDATION
AND DEVELOPMENT**



**DESIGNED A
SYSTEMIC
FRAMEWORK FOR
IMPLEMENTATION**







During the synthesis, co-creation and validation phase, the core team focused on generating ideas or prototypes for incentives that would encourage the realization of the intended changes in health-seeking behavior. In the first iteration of incentives, small sub-teams developed nine ideas, which were then evaluated by the broader team against the criteria of desirability, possibility (feasibility), and sustainability. Based on this assessment, they selected five viable concepts that were taken back to the same three communities in Saawie, Chebogu, and Dabo for their feedback and validation. The five final incentive ideas included grinding mills, boreholes, community transport system, watching the World Cup, and a dry-season garden (Figure 9).

Figure 8: Five incentive concepts

5 DEVELOPED INCENTIVE CONCEPTS

The challenge in designing the incentive approach is to insure that there is a clear link between the incentive
Driving behaviour change to support women to engage with ANC/ PNC



Adjusting culture to support
ANC + PNC



Community lead transport
system



Entertainment to engage men
with understanding and
responsibility for ANC + PNC



Mills make time for ANC



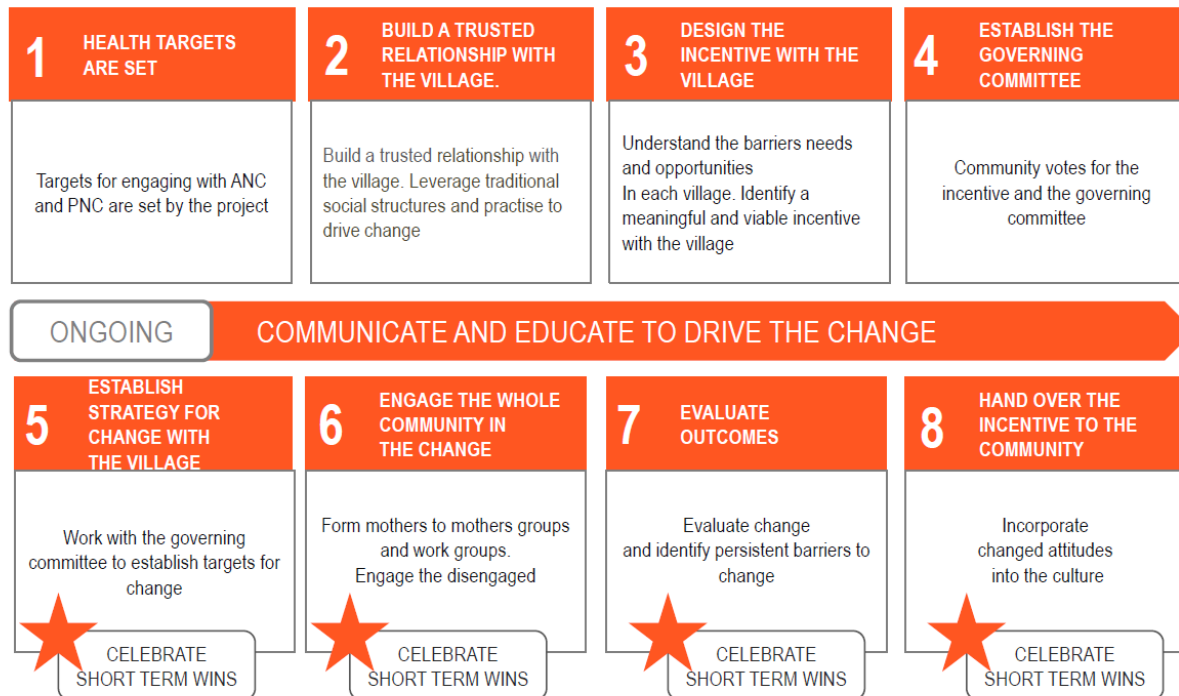
Stay and make a dry season
garden to support women's and
babies health

Once the communities voted and chose the final two incentives of boreholes and emergency transport, the project implemented an eight-step process for change, which was developed using John Kotter's model as depicted in Figure 10 below.

Figure 9: The 8-step approach to change

THE APPROACH TO CHANGE

Steps to implementing the change



Source: ThinkPlace Foundation, CBH Blueprint, version 3; 2014.

