

Issue 12 | March 2015

Concern's  
Knowledge  
Quarterly  
Review

# KNOWLEDGE MATTERS

Innovations for Maternal, Newborn and  
Child Health



**CONCERN**  
worldwide

**Any contributions, ideas or topics for future issues of knowledge matters. Contact the editorial team on email: [knowledgematters@concern.net](mailto:knowledgematters@concern.net)**

**The views expressed are the author's and do not necessarily coincide with those of Concern Worldwide or its partners.**

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## **Knowledge Matters basics**

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**Knowledge Matters** offers practice-relevant analysis relating to the development and humanitarian work of Concern Worldwide. It provides a forum for staff and partners to exchange ideas and experiences. The publication is committed to encouraging high quality analysis in the understanding of Concern's work. Concern staff and partners document their ideas and experiences through articles. Articles are very short – 500 – 1,000 words. Usually you only have space to make two or three interesting points. Here are some tips on writing a short feature article:

- Start by imagining your audience – a Concern colleague. Why are they interested – why do they want to read what you have to say? When you identify what your most important point is, say it straight away, in the title or first sentence.
- What can others learn from your story? Focus on this. Remember to back up your story with evidence. This can be got from evaluations.
- It's easier to get people reading if you start with the human perspective – mentioning real people and real-life events. (You don't have to give names).
- Use short sentences. Use Concern's style guide to help you.
- Keep paragraphs to a maximum of six lines long.
- Use clear language. Many of the readers of Knowledge Matters are non-native English speakers, so think carefully about using idioms or colloquial language that might not be easily understood by others.
- Always avoid assuming too high a level of knowledge of the topic you are writing about, on the part of the reader.
- Use active sentences ('we held a workshop' not 'a workshop was held by us')
- Use short and clear expressions.
- Keep your title short - no more than eight words.
- Where necessary use photos to accompany the narrative but ensure that you follow the Dochas Code of Conduct on Images and Messages.

**Cover image:** The photo shows Shadrack Wamwayi (left),with Steve Belle (right), both biomedical engineers at the Kenyatta National Hospital, working on equipment at the Kenyatta National Hospital, Nairobi, Kenya. July 2014. Photo by Crystal Wells, 2014.

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## From the Issue Editor

Welcome to this special edition of Knowledge Matters dedicated to Concern’s *Innovations for Maternal, Newborn and Child Health*. As a newcomer to Concern Worldwide, I am thrilled to be able to share the work and results to date of our *Innovations* pilots. With our Gates Foundation funding comes a clear mandate to find out which innovations work most successfully and to share that information broadly wherever it can be useful. We have had the privilege of being “forced and funded” to evaluate rigorously. We’re proud of our approaches—user-centred design, customer focus, solid evaluation, formal results dissemination. We are also happy about the content of the projects—the needs being met, the aims, the activity designs and the results so far.

Now that we are starting to have some solid results to show in these Phase II projects, we are determined to do all we can to become an asset for Concern Worldwide. Starting this year, we will make a big push to be more visible—both within the broader Concern enterprise and externally among the global health and development community

I have learned that our projects have sometimes gone against the grain. Some feel the people we’re helping—like women who give birth in a city hospital—are not poor enough and the interventions we are testing—like mobile phone apps—are too deluxe. But the *Innovations* contexts, some though not all of which are less desperately poor than the Concern norm—offer a proving ground. We’re trying new things, taking risks. We believe the best *Innovations* will be adaptable and adoptable. We hope our excitement is contagious.

**Pam Bolton**

# The “Innovations” Initiative: Evolution and Implications for Concern



By **Connell Foley**

Concern is well-known for its pioneering role in Community Management of Acute Malnutrition (CMAM), the breakthrough innovation that is causing a paradigm shift in treatment of severely malnourished children. Some suggest that this is a “once-in-a-generation” innovation. But staff in Concern are constantly innovating to some extent and a range of examples are outlined in the paper “Concern’s Innovations in the 21<sup>st</sup> Century”.

This issue of “Knowledge Matters” outlines an unusual initiative managed by Concern, specifically seeking ‘breakthrough’ innovation in maternal, newborn and child health.

In November 2008, Concern received a large grant from the Bill and Melinda Gates Foundation to identify and test innovations in maternal, newborn and child health in three countries. ‘Innovations for Maternal, Newborn and Child Health’ (*Innovations* for short) was based on two core premises. The first was that there existed proven, effective interventions but what was missing was evidence of successful scale-up or delivery of these interventions. The second was that innovations can come from anywhere, and that there were many people whose ideas had too rarely been sought, such as service-users, students or front-line health workers.

In Malawi, Sierra Leone and Odisha state in India, Concern collaborated with Ministries of Health and the United Nations Children’s Fund to research major implementation barriers and then set up various mechanisms to solicit ideas on how to break these barriers. Through national competitions, outreach to specific target groups, and repeated engagement with marginalised communities, over 13,000 ideas on how to solve the key problems came in to *Innovations* through diverse channels, such as suggestion boxes, email, post, and event-based submissions. Unfortunately, the hope that we might unearth ground-breaking ideas was not realised, although it was clear that many of the ideas were new and novel to the particular country or health community from which they originated.

On the basis of Concern’s internal reflections, engagement with the Foundation and an external mid-term review in the autumn of 2010, Concern completely rethought its approach. Phase II of the initiative, managed by Concern US, has since developed and is using a number of processes to generate and pursue innovative ideas, based on learning about principles of social innovation. These include integrating diverse perspectives in new ways (e.g., nurses with

techies) in the search for answers; favouring iterative rather than linear approaches to implementation so that programmes can improve even once underway; working intensively with end-users via so-called human-centred design (discussed in other articles in this edition); and rigorously evaluating the results achieved.



**This has been and continues to be a provocative and interesting initiative which has stirred debate within Concern.**

### **Lessons Learned:**

Concern has learned a number of lessons from the initiative.

The first set relates to the nature of this kind of grant and how it is managed by the organisation. This has been and continues to be a provocative and interesting initiative which has stirred debate within Concern. The standard critiques of initiatives like this are that: they are 'top-down' and may fail to promote government ownership of interventions; they are high-profile and compete with the ongoing arduous, bread-and-butter work to deliver services. These debates were resolved internally and Concern understood the additional value of this initiative. However, we decided to manage this programme in a non-traditional way and this caused disruption within the organisation. We did not clearly plan or think through many of the implications of changing our management processes, which caused a lot of unnecessary tension. So the management workload in managing innovation-generating processes seems often to be underestimated during the design phase.

The second set of lessons is programme focused. Innovations rarely come about in a linear fashion and what was expected initially often ends up morphing into something very different along the way. A good example would be that of developing a mobile phone 'app' for Community Health Nurses (CHNs) in Ghana. The way the *Innovations* team ended up designing the 'app' to look and feel, and the types of functions designed into it, were hugely different from what the team had expected to create when they started out, and that was because of the intensive consultation with the CHNs themselves (the end-users), who were encouraged, through the human-centred design process, to articulate the very clear ideas they had about their needs, wants and preferences.

The *Innovations* team in the US has come up with a whole new model of programme design which is an interesting mix of private sector product design and a purer programme design process. At the heart of this 'design process' lie the following components: 1) hearing unconventional or unheard voices; 2) iteration; 3) human-centred design; and 4) (designing for) rigorous testing and evaluation. The *Innovations* team has been applying these principles in the management of their innovation projects. The question is to what extent these can be applied across other Concern programmes, be they health, education or livelihoods. The consensus seems to be that one can apply this new design thinking in a number of ways: as a general

programme design process; as a process to be selectively applied in flagship programmes where an inception phase for formative research is involved; or as a means of enriching understanding of critical *parts* of routine programme design, the latter seeming the most practical option. The *Innovations* team also uses three key questions in its design work which are simple and echo good practice: 1) Is it feasible? 2) Is it viable? 3) Is it sustainable? These questions attest to a solution focus.

### **Implications for Concern:**

Matt Andrews, Michael Woolcock, Lant Pritchett and others have written recently on the problem of developing country governments' inability to implement or deliver services effectively<sup>1</sup>. Their contention is that Southern governments have mimicked the structures of Northern states but have never come close to being able to copy the functionality. Without going into the details and reasons here, if we accept the likely long-term weakness of the state in the countries where we work, then we have to ask how the rights of the poorest can be best served. They suggest that the way forward is what they call: Problem Driven Iterative Adaptation (PDIA), essentially experimentation and iterative processes at *community* and *district* levels to find new and less state-dependent ways of service delivery. This thinking has now given rise to a new movement called *Doing Development Differently*<sup>2</sup> whose manifesto seems worthy to embrace.

For Concern, working in low-resource settings, we should be looking at social enterprises and some private enterprises as an alternative to government. There is a local social enterprise called Sidai Africa, aimed at delivering high quality and affordable veterinary services through a network of 150 branded franchises, so social franchising is another innovative organisational form we should be thinking about. The *Innovations* team has worked successfully with the Maker movement<sup>3</sup>.

Interestingly, the new World Development Report (January 2015)<sup>4</sup>, a funky take on the world that unusually brings social psychology into the picture, comes to similar conclusions or suggestions. It also highlights the need for properly constructed experimentation and iterative approaches to new initiatives—much like what *Innovations* has done.

For Concern's programme strategies, the suggestions from Andrews and the World Development Report echo what our *Innovations* colleagues in the New York office are suggesting. Our challenge is now to integrate such approaches effectively. There's the rub! This is a challenge that remains to be solved: how to make rich, qualitative approaches practical, reducing transaction costs in terms of time, supporting implementation, training staff to use them while also quality assuring them... all in the context of a myriad of competing demands on busy staff working in the most difficult contexts!

As usual with Concern, we pick the easy challenges! But with our passion to address these challenges and the stimulation and ideas from the *Innovations* team, we can really make a difference.

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## References and Content Notes

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<http://www.techshop.ws/images/0071821139%20Maker%20Movement%20Manifesto%20Sample%20Chapter.pdf>
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# The Innovations Approach to Design Thinking



By The Innovations for MNCH Staff

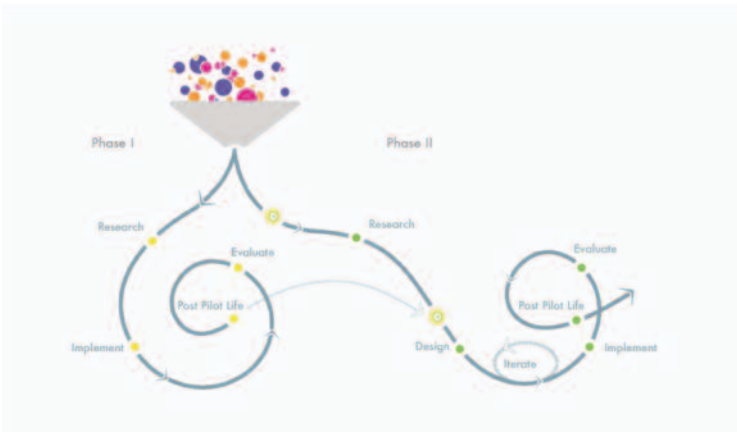
## Background on the Initiative

Concern Worldwide's *Innovations for Maternal, Newborn & Child Health* seeks to develop and test innovative strategies that can address common barriers to improving access to basic maternal, newborn and child health (MNCH) services.

While the improvement of MNCH outcomes is at the core of each of the projects, also important to the initiative's overall strategy is the experimentation and learning derived from applying design thinking for social innovation in developing and/or post-conflict country settings.

The early stages of the *Innovations* initiative focused on design processes of ideation, refinement and incubation of pilot ideas that reflected the needs, interests and desires of involved communities, then shaping and improving these ideas through engagement with cross-disciplinary and multidisciplinary domain experts. These processes yielded an abundant portfolio of pilot ideas for the initiative.

Figure 1: Phases of the Innovations Project





Building on lessons from the ideation and incubation stages of pilots whose implementation ended in 2013 (“Phase I”), *Innovations* established for its pilots launched in 2014 (“Phase II”) a longer design stage for each pilot and an ongoing research agenda to test the hypothesis that applying design thinking for social innovation can enhance overall health program design and implementation.

## **How Innovations Defines Design Thinking for Social Innovation**

Design thinking has been fundamental to the initiative from the beginning. How we understand and define its implications for MNCH and public health has evolved significantly, positioning us to make ground-breaking contributions to evidence in this area. Very few, if any, resources to guide the application of design thinking to public health programs in low resource settings have been available. The *Innovations project* seeks to add to the learning in this field.

The field of social innovation embraces techniques originally developed in consumer-facing industries, including a focus on the end user and reliance on prototyping to quickly learn, and test what has been learned, before launching final products and services.

At the heart of design thinking for social innovation is the end user - the consumer in the commercial world, and the project participants in the *Innovations’* context. Design thinking incorporates the participants’ insights to get “beyond the assumptions that block effective solutions”<sup>1</sup>, even building empathy. Social innovation design techniques are “inherently optimistic, constructive and experiential”<sup>2</sup> and tap into capacities we all have, but that are overlooked by more conventional problem-solving practices.

The process focuses on creating products and services that are human-centered. The process itself is also deeply human: it creates emotional as well as practical links between designers and users and in so doing, increases the odds that ideas will be taken up by users.

*Innovations* applied design thinking process and techniques across the development and execution of the five Phase II pilot interventions. From among the wide range of potential ways to apply design thinking to MNCH, *Innovations* honed its focus on three distinct approaches because of their rich potential to strengthen the interventions’ program design and outcomes: *human-centered design*, *tapping unconventional voices* and *iteration*.



**At the heart of design thinking for social innovation is the end user - the consumer in the commercial world, and the project participants in the Innovations’ context.**

## The Primary Techniques

**Human-centered design** is a design thinking process – eg, for products, services, programs, environments and organizations – to identify problems. The process is called “human-centered” because the designers begin by using a “desirability lens” to examine the needs, desires and behaviors of the people they want to affect with their solutions. During the later phases of the process they bring in the “feasibility lens” and “viability lens” to refine their solutions based on financial, capacity and other considerations. The desirability lens is used throughout the process and is critical for designers to develop and maintain empathy for end users—which increase the likelihood of creating a solution that is responsive to the users’ unmet needs and desires.

Community engagement is integral to human-centered design. In the context of the human-centered design process, community engagement occurs when designers ask a community to participate actively in idea generation, prototyping, implementation, evaluation and scale-up by contributing ideas and feedback. Community engagement aims to make program designs/solutions better tailored to target populations/end users, build community ownership, and increase community capacity to continue activities once initial program investment has ceased.

**tapping unconventional voices** entails engaging individuals from outside the traditional world of public health, such as engineers, business people and artists, who can apply their different experience and expertise to health planning and program design. Having a group of multidisciplinary designers – both by combining people with expertise in different disciplines and by including individuals with expertise in multiple disciplines – enables “divergent thinking.”<sup>3</sup> Divergent thinking in turn increases the likelihood of developing innovative solutions for addressing barriers to MNCH service delivery and counteracts organizations’ tendency to lean toward familiar and incremental solutions.

Additionally, during the stages of problem identification and solution identification, designers communicate with groups and individuals in a target community who are affected by and/or have important roles to play in the success or failure of MNCH programs, *but who have historically not been engaged* in defining MNCH problems or solutions. Designers seek to understand how these “untapped voices” perceive barriers to MNCH services and ideas for solutions, which can help to increase the designers’ understanding of the target population’s needs, desires and barriers, as well as increase the diversity and number of ideas generated. The goal is to increase the likelihood of developing an effective solution and increasing uptake.

**Iterative approaches** 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. Feedback from stakeholders is used to create further iterations of the product or solution—thus making designs more compelling for end users and programs more effective for their target populations<sup>4</sup>.

A key feature of the practical design process is its use of prototyping, as ideas are turned into actual products, services or experiences to be tested, iterated and refined. In general, 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. Prototyping can test a component of a device, the graphics on a screen, or a detail in the interaction between a traditional birth attendant and an expecting mother. A vibrant design thinking culture encourages prototyping—often quick, “cheap and dirty”—as part of the creative process, and not just as a way of validating finished ideas. As a program nears implementation, prototypes solidify into a strong program design.

### **Concluding thoughts**

Overall this process has been an excellent and exciting learning opportunity for the *Innovations* team. Understanding and employing design thinking has provided deeper insights into better overall program design. The process provided a structure and framework that enabled the *Innovations* team to move swiftly and efficiently through a design process while not losing any of the richness and value gained through applying new approaches.

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1. Brown, Tim, “Why Social Innovators Need Design Thinking.” *Stanford Social Innovation Review*. November 15, 2011, ([http://www.ssireview.org/blog/entry/why\\_social\\_innovators\\_need\\_design\\_thinking](http://www.ssireview.org/blog/entry/why_social_innovators_need_design_thinking)).
2. *Ibid.*
3. Brown, Tim, and Jocelyn Wyatt, “Design Thinking for Social Innovation,” *Stanford Social Innovation Review*, pp. 31–35, Winter 2010.
4. IDEO, “Human-Centered Design Toolkit,” 2nd Edition (<http://www.ideo.com/work/human-centered-design-toolkit/>).

# Using Design Techniques for Social Innovation Prior to Implementation of the Community Benefits Health Project



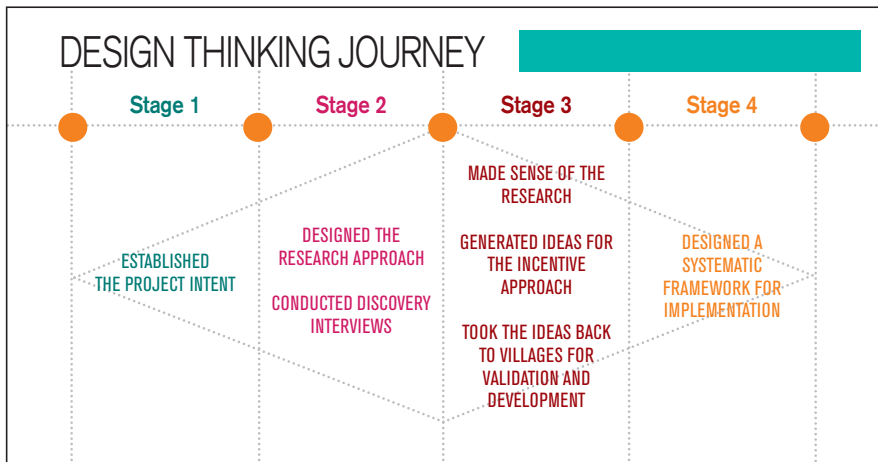
By Jahera Otieno, Delabright Gle, Linda Vesel, and Leanne Dougherty

## Background

Community Benefits Health (CBH), an *Innovations for Maternal, Newborn & Child Health* pilot in northern Ghana, creatively uses non-monetary incentives to cultivate communities' investment and commitment to supporting maternal and child health.

Throughout the inception and development of the CBH project, *Innovations* determined clearly formed, non-negotiable elements of the project through formative research activities, in-country scoping and learning applied from the first phase of *Innovations* projects.

Figure 1: The Design Thinking Process



However as implementation neared, the *Innovations* team needed to decide *how* these elements were to be executed, specifically within the Ghanaian context. To answer this, *Innovations* engaged in a four-stage design process (Figure 1) with the following partners: ProNet North, JSI Research & Training Institute, Inc. and Kintampo Health Research Centre.

## Laying the Foundations & Forming the Design Team

The *Innovations* team employed human-centered design which involved building a deep sense of empathy throughout the research process in order to understand interdependencies between the communities' social, economic and cultural contexts and their capacity to access MNCH care. This enabled the team to devise an innovative cultural change process that was unique to each community and which drew upon and leveraged the existing social and cultural structures. Key to the CBH design process was the intention to work collaboratively, or as co-designers, with all the CBH partners including the targeted communities.

### Stage I: Establish Project Intent

The design team focused on the following central question to discern what success for CBH looked like and what was required to reach a shared design and co-created outcome for the project: How can we design an incentive approach that supports communities to embrace the idea that women's health during pregnancy, child birth and the first year of a baby's life is a good investment that will strengthen the economy, happiness and culture of the whole community?

The design team developed the following guiding principles for the human-centered incentive design:

- The incentive must
  - Be non-monetary
  - Benefit the whole community
  - Conspicuously contribute directly to improving the health of women and babies
  - Be structured to drive behavioral change
  - Be generated with the community
  - Be sustainable
- The incentive and behaviour change must be managed effectively by the community including the women
- There must be an equal representation of men and women on the governing committee



**The team encouraged all community participants to tell their stories in their own words, and started with in one-on-one interviews and then switched to focus groups.**

### STAGE II: Field Research in the Communities

This research focused on understanding the intrinsic interdependence of women's health and the broader community and influence as well as to understand the environmental, economic, social and cultural pressures on the community and their impact on how women and families prioritize and engage with MNCH care.

*Innovations'* in-country implementing partner, ProNet North, highlighted that a sensitive approach would be needed in order to establish the trust necessary for participants (especially women) to be willing to share their real stories, while traditional hierarchies within the village would need to be respected in order to appropriately and effectively engage leadership. The research design activities were held over an intense three-day period in the communities. During this period, the team engaged with those core individuals and groups that had an influence on a woman's ability to access healthcare services. The research team reached over 100 individuals from six cohort groups to gain a rich understanding of the beneficiaries and their experiences of the healthcare system. Additionally, the team interviewed the Community Health Officer in each community in order to develop a greater understanding and deeper empathy with the environmental, economic, social and cultural pressures on the community and their impact on prioritizing and engaging with MNCH care.

The team encouraged all community participants to tell their stories in their own words, and started with in one-on-one interviews and then switched to focus groups. Storytelling enabled participants to emphasize the details and challenges that they considered to be most important. Building understanding and empathy throughout the research phase was an iterative process. As the research notes were collected, the team pulled out the key insights and looked for anomalies and gaps that needed further investigation in the next day's research.

### Stage III: Making Sense and Generating Ideas

The team asked cohorts a series of questions to understand how they influenced a woman's ability to access MNCH care (e.g., how do you support and care for your families or community; what does the community need; how are women supported and cared for during pregnancy; and who is influential in this community and why). Central to this approach was the use of the following three inquiries to guide the storytelling process:

- 1) *What's the typical day for your family?* This allowed the design team to build a picture of the roles and responsibilities people played, the economic activities they undertook during the day and what activities they undertook to manage the household.
- 2) *What's the typical year for your family?* This encompassed economic activity and environmental factors.
- 3) *What was the experience of your last pregnancy or your wife/daughter in law's last pregnancy?*



*Innovations'* partner Thinkplace Foundation's Global Programs Director Ledia Andrawes leads a rapid ideation workshop for CCH with program staff and various stakeholders following intensive ethnographic user research with nurses and supervisors in Ghana. Photo by Robert Mulhall, Accra, Ghana, October 2014.

Applying these three inquiries helped the design team better understand the women's whole life experience including how the environment, economy and community culture affect them. With this data, the design team developed **personas** to show how cohorts influenced and were influenced, as well as gaps and barriers and opportunities. Personas enabled the design team to place themselves in the "life" of that woman, husband or chief.

## **Key Research Findings**

### **Barriers to Change**

Following many conversations with community members and community health officers, it was clear that working with and through all of the members in a community was necessary. Some of the barriers to change focused on the knowledge of women or men, while there were other logistical challenges – bad roads, work and time commitments. The barriers provided the design team with a more realistic picture of why women do not or are not able to prioritize how to utilize and access health services during pregnancy.

### **Opportunities for Overcoming Barriers**

Although there were many barriers that affected each community, there were also opportunities for overcoming them, such as creating new traditional practices around the desired behavior or working with a community to increase their understanding and knowledge on the importance of MNCH care and the need to make time for it.

### **Developing the Incentives**

The design team held a series of highly collaborative and interactive workshops, designed to push boundaries and challenge participants, to synthesize the research findings and evolve them into ideas for possible community incentives. Over a three-day period, the team developed a framework for different possible incentives and a road map for implementation.

The team developed over twenty unique incentive ideas which were then clustered, condensed or eliminated. The core design team then evaluated the viability of the prototypes against three criteria — desirable, possible and sustainable — and then selected five viable concepts.

All five prototype incentive concepts (*see figure 2*) linked directly to driving behavior change to support women to engage in MNCH services. For example, once incentivized by the eventual construction of a bore hole, community leaders would agree to champion healthy behaviors in the pursuit of slowly changing behaviors through regular and consistent messaging that leads to new practices that support the health of pregnant women and babies. The design team then went back to communities to get their input and validation about the incentives. Different villages prioritized different incentives depending on their specific needs and available resources.





The photo shows community members at a community meeting for a focus group discussion. It is a women's group meeting in Dabo to vote for the final incentive ideas for Community Benefits Health. Photo by ProNet North Staff, Dabo, Ghana, January 2014.

**Figure 2: Prototype Incentive Concepts**

## 5 PROTOTYPE 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 MNCH health care



Adjusting culture to support MNCH health care



Community lead transport system



Entertainment to engage men with understanding and responsibility for MNCH health care



Mills make time for ANC



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



Figure 3: The Approach to Change

## THE APPROACH TO CHANGE

Steps to implementing the change



### Stage IV: Designing a Systematic Framework for Implementation

On the final day of the program design, the team developed an implementation plan to consistently engage villages and deliver the community health benefit incentive. Central to the plan was an approach called Adjusting Culture to Support MNCH care which was less about the incentive itself and more about the focus on social networks. In the development of the implementation plan, the eight-step Kotter model (see figure 3) was utilised.

### Key insights from the process

#### Successes:

- Having direct interaction with communities helped the design team build empathy and provided a clearer picture on community life.
- Taking the time to gain ownership and buy-in from all participants was crucial to the overall success of the program.

#### Opportunities for change:

- Being intentional about getting direct feedback from program participants can have a direct positive impact on the overall design for the program.

# Using Human-Centered Design to Develop an mHealth App for Frontline Health Workers



By Jahera Otieno, Linda Vesel, Soumya Alva, Patricia Porekuu, and Akuba Dolphyne

Through the Care Community Hub (CCH), Concern Worldwide's *Innovations for Maternal, Newborn & Child Health* is working to improve motivation among frontline health workers through a mobile technology application ("app"). CCH creatively uses mobile technology to improve learning and career development for frontline health workers in rural Ghana.

The goal is to help the Government of Ghana build a more motivated frontline health workforce, resulting in better quality of maternal and child health care for rural women in Ghana.

*Innovations* is partnering with the Grameen Foundation in country, leading the implementation of this 18-month (July 2014 to Dec 2015) pilot in Ningo Pram Pram and Ada East and West of Greater Accra, and South Tongu and South Dayi of the Volta Region, through community health nurses and their supervisors. Prior to the program's launch and implementation, *Innovations*, Grameen and the ThinkPlace Foundation engaged the potential project participants (community health nurses) and other targeted stakeholders through a four-stage process using human-centered design techniques, which incorporated feedback about the nurses' needs, wants and limitations into the project.

## Stage I: Understand Intent

During the "intent stage," the design team and all CCH stakeholders collaboratively invested in developing a shared understanding of what success for the CCH project would look like and what would be required for all involved throughout the project's lifecycle. The team reiterated the intent throughout the entire design process to ensure that all stakeholders involved in the design process were on the same page. Thus CCH's intent is to help build a more motivated frontline health workforce, resulting in better quality of maternal, newborn and child health care for rural women in Ghana, through a mobile technology innovation.



**The use of a persona tool provided a way to easily and quickly evoke that user's point of view.**

## **Stage II: Research and Insights**

The main purpose of the research was to learn about health worker experiences and perspectives related to providing care to clients and supervisory structures. The program design team used a variety of formative research tools, such as interview guides, focus group discussion guides and process mapping exercise guides. Two teams reached over 100 people to gain a rich understanding of the “users” and their experiences of Ghana’s health care system. Throughout this process the team identified key relationships within the system, gained a greater understanding of how the system functioned and analyzed how the system’s dynamics would inform the project’s design.

The output of the research and insights stage is a summary of research findings, personas and user journey maps. The use of a “persona” tool provided a way to easily and quickly evoke that user’s point of view or personal experience, which creates more space for the application of empathy throughout the design process. Being able to get out of the traditional confines of each participant’s role allowed the team to understand better what the nurses would need, the pathway for change, the practical constraints and what is viable for Ghana Health Service to deliver when planning for sustainability. By developing the CCH design based on personas and a deep understanding of the system in which they are working, the team avoided the trap of building what they think users want, freeing them to design based on what users will use and value, as well as what is possible and viable.

Following many conversations with community health nurses and their supervisors, the team realized that their role was not just to design a mHealth app that would remove demotivating factors, but also to explore ways of building on existing motivating factors. They looked at the health worker profiles, the nurses’ storyboards and the personas to help inform the findings. The design team used this information as a constant reference point through the design process.

## **Stage III: Ideas and Prototypes**

Once the key data and information had been discussed, synthesized and understood more fully in the context of Ghana, it was time to move to the “Ideas and Prototypes” stage. The CCH design team conducted a series of workshops with targeted CHNs to synthesize the findings and evolve them into ideas for possible mobile innovations. The team designed the workshops to push boundaries and challenge participants in their thinking through careful facilitation – creating an environment where participants were encouraged to step into the unknown, into the possibility of something new, to let go of the old and co-create a new design. This process produced “Six Big Ideas” (see Figure 1) which have evolved to be the key modules of interest on the mobile platform.

Figure 1: Six Big Ideas, the key modules of interest for the mobile platform

## THE SIX BIG IDEAS AT A GLANCE



### Stage IV: Formulate and evaluate

With a clear intent, robust design research findings and desirable, possible and viable ideas, the team was ready to move onto the final stage of the program design process: “formulate and evaluate.” During this stage, the design team further prioritized the idea characteristics and determined the detail around the product and service design needed to deliver on the intent in order to provide more focus and clarity for the technology design team.

Having many of the various subject matter experts input into a high level plan for delivery was critical for keeping people accountable to the tight deadlines and how the design team was to manage the parallel streams of work and multiple dependencies.

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### Key insights from the human centred-design process

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Understanding and employing design thinking has provided deeper insight into better overall program design. Some specific takeaways from the process are:

- 1) Direct interaction with users rather than relying purely on secondary information helped build empathy among the team and solidify understanding for whom the CCH mHealth tool is being created.
- 2) Working in a cross-functional way at the district and regional level as opposed to at the facility level engendered a sense of ownership of the problem across district and regional directorates and avoided silo-based decision making.

- 3) Having senior subject matter experts in the core design team meant that big issue questions around technology and health policy could be addressed in an efficient and well-informed manner.
- 4) Allocate either more design resources or extend the project timelines to allow for adequate timeframes for required activities (especially the user research piece).
- 5) Conduct more observation and ethnographic-type user research activities in the formative research piece to gather richer, less planned insights into how our users experience their work and opportunities for improvement.

# Using Human-Centered Design to Build a Social Enterprise in Health: the Case of the Essential Newborn Care Corps



By Katie Waller and Kristen Cahill

*Innovations for Maternal, Newborn & Child Health's* Essential Newborn Care Corps (ENCC) retrains and rebrands traditional birth attendants (TBAs) as Maternal Newborn Health Promoters. As a social enterprise, ENCC capitalizes on existing TBA networks.

The rebranded Maternal Newborn Health Promoters link the community to government health facilities by referring mothers for antenatal care, delivery, post-natal care, maternal and newborn complications, and family planning, while selling health-related products that complement their services and generate a revenue stream for their work

## The Design Process

In order to engage and partner with TBAs, *Innovations* used a human-centered design process (see *The Innovations Approach to Design Thinking Article*) with both the TBAs and targeted stakeholders. At its inception, the pilot comprised a set of components defined by the *Innovations* team through formative research activities and learning from the Phase I Sierra Leone pilots (*Helping Health Workers Cope* and *Quality Circles*). However, how these project components were to be executed specifically within the Sierra Leonean context was yet to be decided.

To mitigate potential road blocks over the course of the project's implementation, *Innovations* engaged program participants—mothers and TBAs—through a process known as “prototyping”: using human-centered design techniques and incorporating feedback on their needs, wants and limitations for the project. To simplify the ENCC project prototype and further the design, the *Innovations* team decided to break the project down into its components.

Drawing from social innovation terminology, *Innovations* adapted the design technique known as “rapid prototyping,” as a stage of iterative project design to quickly test components or rough versions of project components in real or partially real environments, while gathering insights and data from a small number of participants to inform optimal project design. Through a series of seven interactive workshops with TBAs and mothers in Bo district, prototypes for the following components were conceived and tested:

- The **consumer product mix** to be sold by TBAs
- The proposed structure of the maternal health promotion plus micro-business model (“**the model**”)
- The **referral system**
- The **brand identity**
- The **supply chain**

### **Prototyping Example: “The Model”: Acceptability of the ENCC concept**

The following is an example of how prototypes and design methods were used to gain insight into the proposed structure of the maternal health promotion plus micro-business model. With each prototype, the overall goal was to create something physical to which participants could react.

As this was the first time *Innovations* would present the TBAs with the ENCC model of health promotion plus micro-business, the team structured design activities around explaining the model, experiencing the model and gathering feedback. The team was looking to understand several issues:

- Were the TBAs interested in being maternal health promoters and having a small health-related business selling products door-to-door?
- How could the Promoter concept fit within TBAs’ existing routines and community roles, including their other income generating activities and current work with peripheral health units?
- How committed were the TBAs to the new activities and how much time would they have available?
- Which types of TBAs were best suited/ideal to participate in the pilot?
- What would be an appropriate way to structure the network of TBAs for the project?
- What would be a desirable way to structure the loans and loan repayment?



**TBAs responded positively to the project model and expressed the desire to obtain training in health promotion and business skills.**

Informed by insights gained from reviewing the structures of other similar programs, the team decided to propose an “experience prototype,” a representation of a concept in order to learn from a simulation. This experience prototype would inform how the Promoter concept would be implemented by focusing on how the training, health promotion, sales activities and reporting would be operationalized. To create the experience prototype and solicit reactions from TBAs, the team used the following design techniques:

- **Scenario testing** - The visual depiction of a character-rich storyline using a series of images depicting possible future scenarios, was used to explain the model. The team presented contextually appropriate photographs with a corresponding narrative to describe the program step-by-step. Facilitators walked the participants through the model description, allowing TBAs to react to each image and develop their own narrative, adding in details and specific program points. Time for discussion and reaction to the overall experience and re-review of images was incorporated.
- **Informance**- This refers to the acting out of an informative performance scenario in order to build shared understanding, to clarify the vision for ENCC sales interactions. This activity was used to continue to build a shared understanding of the model concept and its implications. Facilitators role-played a door-to-door health promotion plus sales visits between a TBA and a pregnant woman. Selected TBAs also role-played this scenario. Additionally, facilitators role-played a loan repayment transaction between a TBA and a field officer at a monthly meeting. The group recorded and discussed insights from the role-plays.
- **Collective Questioning** - After building this explanation and experience of the model, letting the TBAs engage with the concept, the team collected feedback using a collective questioning methodology. A Likert scale was used to assess attitudes toward the model. Questions were asked to the TBAs in a group interview. Drawing from previously tested evaluation methods, a contextually appropriate version of the Likert scale was developed using piles of stones and colored sticks. Stone piles ranged from large to small, with larger piles indicating a more positive response and smaller piles indicating a more negative response. Each TBA was given a colored stick to place on the pile of stones to indicate her individual response within the group response. Individuals were given the opportunity to discuss the reasons for their responses following each question.



A quarterly review meeting for ENCC that brings together (counter-clockwise from top center) District Health Management Teams, Local Chiefs, MCH aides and nurses, MNHPs, various other community members, and Health Poverty Action and Innovations staff for a presentation - here given by Baindu Saidu, a Field Officer with HPA - to discuss the ENCC project & identify challenges while celebrating successes. Photo by Katie Waller, Bo District, Sierra Leone, June 2014.



## Outcomes

TBAs responded positively to the project model and expressed the desire to obtain training in health promotion and business skills. Unlike the mothers, who were open and receptive to the idea of TBAs selling products door-to-door, TBAs themselves expressed some hesitation about selling products door-to-door in the community. They thought that community members might think the products for sale were sent by the government and should be given for free. The TBAs shared some concern that door-to-door selling might be disrespected in the communities. TBAs suggested that before the project started, the field officers' conduct community sensitization. *Innovations* has already planned community sensitization activities, but in light of this insight, responded by adding greater focus on the benefits of the new Promoter roles. *Innovations* also added information on free health care to the training materials to ensure consistent messaging. The misconception on free health care had not previously been explored at community level and this learning continued to help the team shape the project.

A few TBAs expressed concern about committing three days per week to working for this program. Older TBAs expressed how they thought they would be unable or unwilling to participate due to physical ailments or family commitments. This information helped shape the selection process and criteria in order to screen TBAs according to their desire to participate and ability to commit three days per week. TBAs could also self-select out of project participation.

There was one major change made to the model based on the design activities: to shift the business model from one of solo entrepreneurs to a group model. TBAs unanimously stated that they would like to work in collective business groups and not individually. Throughout these workshops the collective nature of TBAs continued to surface. The team proposed this change to the TBAs and the pros and cons of group responsibility for the loan versus individual responsibility were debated extensively. The team decided to restructure the model so that TBAs would work in sales groups by Peripheral Health Unit (PHU). This new model was incorporated into training materials, monthly meeting and reporting structures.

The *Innovations* team believes that through human-centered design, it was able to make adjustments and create pieces of the project design that will result in a more successful project. The contextual knowledge gained by the team increased considerably throughout this phase. Additionally, the team perceived that the extensive design phase significantly increased community buy-in. The team believes that this phase of targeted engagement with project participants, beyond simply finalizing the project design, bound and united project stakeholders around the common goal of working together.

# Creating Ongoing Learning Opportunities for Community Health Nurses through a Mobile Application in Rural Ghana



By Jahera Otieno, Linda Vesel, Soumya Alva, and Amanda Makulec

Community Health Nurses (CHNs) are frontline health workers for the Ghana Health Service and play a vital role in providing community-based care. Unfortunately, being the lowest credentialed nurses, their opportunities for continuous learning and career advancement are extremely limited.

Concern Worldwide's *Innovations for Maternal, Newborn & Child Health* and the Grameen Foundation are employing mobile technology to motivate frontline health workers by enabling continuous learning and improved decision making at point of care, by strengthening nurse-supervisor interactions and by increasing the nurses' capacity to provide services.

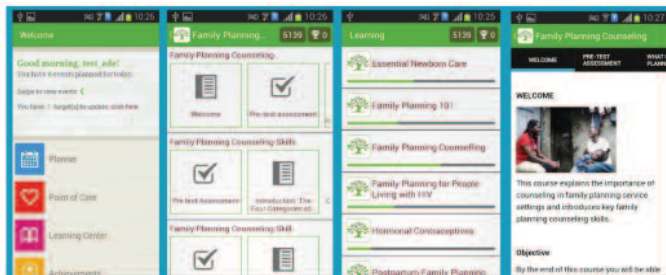
*Innovations* and Grameen have developed a mobile "app" called *CHN on the Go* which equips CHNs to overcome challenges they face in their work through six interconnected, phone-based modules. A period of intensive program design preceded the app's development. This design phase allowed *Innovations*, Grameen and targeted stakeholders to meticulously gather information about the nurses and their supervisors and use this data to develop an app suited to the CHNs' needs, all the while aspiring to improve motivation and satisfaction in their roles. The insight gained during the design phase informed the development of the Learning Center module. Specifically related to the CHNs' desires to learn and grow professionally, the Learning Center is a highly usable, highly engaging mobile learning space with a range of distance learning courses and reference materials accessible anytime, anywhere.

The Learning Center will ideally lead to a well-informed and knowledgeable frontline health workforce with easy access to relevant information and clinical support.



**Access to training opportunities is strongly correlated with motivation because it enables health workers to take on more challenging duties.**

**Figure 1:**  
Screenshot of the  
Learning Centre  
Platform



Evidence shows that professional development that leads to advancement opportunities – such as skills training workshops, seminars, and conferences as well as access to career advancement – is a key motivator for health workers. Access to training opportunities is strongly correlated with motivation because it enables health workers to take on more challenging duties.

Although *CHN on the Go* is in its early stage of program implementation, the overall impact has been quite positive. To date, both the nurses and their supervisors are pleased with the health content and are eager for more, particularly in the Learning Center module. Some districts have taken the initiative to give formal recognition for the courses that the nurses complete. This counts towards continuous professional development credit and factors into the renewal of their professional nursing licenses.

Going forward, *Innovations* plans to develop the Learning Center module into the preferred mLearning platform for frontline health workers, and for Ghana Health Service on the whole.

There are currently two opportunities *Innovations* and the Grameen Foundation are exploring:

1. The use of the module to deploy workshop materials to all frontline health workers with access to *CHN on the Go*. Often only a few selected health workers are able to attend workshops due to lack of resources, or an inability to leave their posts.
2. Use of *CHN on the Go* as a recognized mLearning platform for accredited, distance learning courses from local training institutions. Ghana has recently accredited a “top up” course for this cadre of health workers to upgrade from certificate to a diploma through a short course currently offered only as a residential program. There is a need to make this course a distance learning one since the majority of community health workers in Ghana currently have a certificate and would need to upgrade to a Diploma in order to be able to enroll in any further academic courses. Through a relationship with the University of Health and Allied Sciences (UHAS), *Innovations* and Grameen hope to develop a program that allows nurses to transition from certificate to diploma nurses while allowing them to do their learning through the phone application.

*CHN on the Go* has the potential to greatly impact the motivation and job satisfaction of CHNs in Ghana by putting opportunities for learning right into their hands. With formal recognition of the courses provided for professional development, CHN on the Go could significantly impact the career advancement of this cadre of nurses, who due to their isolated posts, may not otherwise have such opportunities.

# Understanding Traditional Birth Attendants as Central to Maternal and Newborn Care in Sierra Leone



By Katie Waller and Kristen Cahill

Sierra Leone has 16,000 traditional birth attendants (TBAs) according to the most currently available national estimate<sup>1</sup>. These women are often the first point of contact for pregnant women or lactating mothers and typically have the trust and confidence of their community.

Historically, TBAs have worked in Sierra Leone in roles ranging from providing support to formal health facilities,<sup>2</sup> with many having received training from the government, to conduct home deliveries. However, with the introduction of the Free Health Care Initiative in 2010, and more recently, the Community Health Worker Policy, the roles of TBAs have changed.

With the elimination of healthcare charges for pregnant women, lactating mothers and children under five,<sup>3</sup> the government signaled a redoubled emphasis on promoting facility-based delivery. Concurrently, a number of chiefdoms passed bylaws aimed at increasing facility births, some of which involve fining noncompliant women, husbands or TBAs. Even prior to the new policies, some TBAs referred and accompanied pregnant women to facilities for safe deliveries and received small cash or in-kind payments from the facility. With the elimination of all fees associated with health care for women, infants and children under five, and with TBA-assisted deliveries discouraged, in some instances TBAs stopped supporting facility-based care and returned to operating independently, conducting home deliveries .

Recognizing TBAs as critical providers of maternal, newborn and child health (MNCH) services, Concern's *Innovations for Maternal, Newborn & Child Health* initiative launched the Essential Newborn Care Corps (ENCC) in collaboration with Health Poverty Action and JSI Research & Training Institute, Inc. This pilot retrains and "rebrands" TBAs as MNCH care promoters in resource-poor settings like Bo District. Working as "maternal newborn health promoters," TBAs provide a link between the community and government health facilities through making referrals for antenatal care, delivery, postnatal care, maternal and newborn complications, and family planning, while selling health related products, such as soap, sanitary pads and baby care products to complement and incentivize their work.

Prior to the Essential Newborn Care Corps's launch in early 2014, *Innovations* conducted a census of TBAs in June 2013 to help inform efforts to recruit these women to participate in the project.

This first-time census of TBAs in the region sought to provide *Innovations* with a registry of target TBAs with details on their demographic background and socio-economic status, geographic location, links with health facilities, links to each other or social networks, health training received and TBA-activities related to MNCH. The team worked with local enumerators to administer a paper-based survey with 100 questions to collect the above information from 587 TBAs.



## This pilot retrains and rebrands TBAs as MNCH care promoters in resource-poor settings like Bo District.

### Results

#### Profile of TBAs

The majority of TBAs surveyed were over 40 years old (86 percent), Muslim (71 percent), ethnically Mende (95 percent), married or widowed ( 57.6 percent and 35 percent respectively), had no education (83 percent) and could not read at all (87 percent) (see Table 1).

**Table 1: Traditional Birth Attendants Demographics**

<b>MARITAL STATUS</b>	Single/never married	0.2%	<b>HIGHEST LEVEL OF EDUCATION RECEIVED</b>
	Co-habiting	0.3%	
	Married	57.6%	
	Separated/Divorced	6.6%	
	Widowed	35.1%	
<b>RELIGION</b>	Christian	28.9%	<b>LITERACY</b>
	Muslim	71.1%	
<b>ETHNICITY</b>	Mende	95.1%	87.0% Cannot read at all
	Other	4.9%	4.2% Able to read only parts of sentence
			8.9% Able to read whole sentence

#### Formal Training

About a quarter of TBAs surveyed (27 percent) had received formal health-related training from the Ministry of Health or an international non-governmental organization, although about half (51 percent) reported having learned their skills from their mothers or relatives.

#### Engagement in community-based MNCH activities

Results showed that out of 587 TBAs surveyed, over half reported seeing between one and five patients every month. The majority of TBAs reported that they had carried out deliveries (89.8 percent), conducted household visits (86.2 percent), provided postnatal (79.8 percent) and antenatal care (81.5 percent) and advised in emergency situations (76.0 percent) in the 12 months prior to the survey.

### **Role in formal health system**

The vast majority of TBAs (96 percent) reported having a working relationship with a health facility and most had referred women to a health facility in the last 12 months (91 percent). The most common tasks performed by TBAs include assisting in deliveries at the health facility (88 percent), cleaning the facilities (67 percent) and conducting outreach visits as instructed by the facility (49 percent).

### **Income from TBA-related work**

The median price reportedly received by TBAs for delivery-related services amounted to US \$2.30. Most TBAs surveyed (60 percent) indicated that money earned from TBA-related work made only a small contribution to their household income. This finding may be a consequence of the government policy prohibiting TBA deliveries, or of a reluctance to divulge personal financial details.

### **Significance of findings**

Through the TBA census, *Innovations* developed a detailed profile of TBAs and their social network links across communities, both of which helped guide the selection of TBAs for the pilot project and the overall design of the project. Selection of TBAs into the program capitalized on their already existing relationships with formal health facilities to continue to foster and grow these relationships. The social network analysis showed that TBAs do not work alone, but have their own group organizational structure. The project again utilized these existing structures when setting up project activities. Given the low levels of literacy among the TBAs, all of the ENCC training tools, manuals and reporting documents were designed using images rather than words. The relatively high proportion of TBAs who reported the low importance of TBA-related income indicated TBAs willingness to find alternative sources of income and engage in the ENCC projects proposed new business venture.

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# From Evidence to Scale: Experience from a Mobile Health Pilot Project in Malawi



By Linda Vesel, Emily Bancroft, and Jean Christophe Fotso

## Background

Though fairly novel, the use of mobile technologies for health (mHealth) is becoming increasingly popular as a result of an exponential growth in global access to mobile phones.

mHealth has great potential to address major barriers to health service access and delivery of quality care through diagnostic support for community health workers and patient treatment compliance among others, particularly among underserved populations in low resources settings<sup>1</sup>. Although numerous mHealth programs exist, few have been rigorously evaluated for their impact on health outcomes and even fewer implemented at scale in partnership with governments<sup>2</sup>. In order to develop sustainable, scalable and high-impact mHealth programs, it is vital to build ones that are designed and tested with scale in mind from inception.

## The mHealth Intervention

Chipatala cha pa Foni (CCPF) – or “Health Center by Phone” – is a maternal, newborn and child health (MNCH) mHealth project. It was designed and managed by Concern Worldwide US’s *Innovations for Maternal, Newborn & Child Health* initiative and VillageReach to help bridge the divide between communities and the health system through the provision of MNCH information and services. *Innovations* and VillageReach implemented CCPF between July 2011 and June 2013 in the Balaka District of Malawi, an area with some of the country’s worst MNCH indicators. The intervention consisted of: (1) a toll-free hotline staffed by health providers offering protocol-based health information, advice and referrals; and (2) an automated, personalised mobile messaging service to women of childbearing age, pregnant women and caretakers of children. The implementing team recruited community volunteers and equipped them with phones to conduct community mobilisation and facilitate access to the services for individuals without phones.

## Key Evaluation Findings

From the beginning, *Innovations* and VillageReach knew that generating a strong evidence base would be critical to scaling up the intervention once successful. Invest in Knowledge Initiative evaluated CCPF using a quasi-experimental pre- and post-test design. This evaluation found

that CCPF was instrumental in disseminating essential information and services to underserved populations, providing a connection between the community and the health system, and addressing human resources constraints and burdens by reducing unnecessary referrals and supporting the management of community-based care. The intervention was found to increase home-based MNCH care and facility-based maternal care. Additionally, reductions in facility-based treatment of children with fever were observed. This effect, made apparent by both quantitative and qualitative findings, was found to be the result of guidance offered by the hotline for community management of fever, enabling mothers to avoid unnecessary trips to health facilities for a condition that could be managed at home.

Various women have testified to the usefulness of the CCPF services, particularly how the hotline workers reassured and helped them to overcome challenges during emergencies (e.g., labour while in transit to a health facility), clarified drug regimens (e.g., how many doses to take) and caretaking behaviours (e.g., complementary feeding and hygiene practices), and encouraged them to respond to danger signs by seeking life-saving care at health facilities. Such positive experiences fostered trust and continued use of the services<sup>3</sup>.

In addition to the impact evaluation, VillageReach also conducted a thorough cost analysis. Demonstrating cost-effectiveness of the service would be an important prerequisite for any government decision to scale up the service.



**Innovations and VillageReach knew that generating a strong evidence base would be critical to scaling up the intervention once successful.**

### **Designing for Scale**

CCPF was conceived after extensive research on health service delivery challenges in Malawi. A large idea generation campaign and a rigorous selection process were performed by multi-disciplinary stakeholders. The context-specific intervention was designed with large-scale implementation in mind; thus, research started to transform into action as soon as the evaluation was complete. After reviewing the evaluation results, the Reproductive Health Unit (RHU) of the Malawi Ministry of Health (MoH) endorsed CCPF in early 2014 and is encouraging a national scaling up of the intervention. The RHU serves as a coordinating body to ensure that partner support for mHealth services in the area of reproductive, maternal and child health prioritizes the expansion of CCPF services instead of investing in new services. This direction from the MoH has attracted direct financial support for CCPF from the Clinton Health Access Initiative and other partners. VillageReach is also working closely with the mHealth Technical Working Group and the Safe Motherhood Technical Working Group at the MoH to ensure that there is no duplication of services between CCPF and other current or future mHealth initiatives in Malawi.



Currently, CCPF operates from Balaka District Hospital and serves four districts in Southern and Central Malawi. The MoH financially supports the physical space and some of the staffing of the CCPF services. However, full integration into governmental budgets requires incorporation into the Sector Wide Approach plan (SWAp) and into MoH annual budgets and plans. VillageReach is actively working with the RHU and the Department of Planning to ensure that this integration happens by 2016. In the meantime, VillageReach is working with MoH partners to strategically introduce CCPF to specific districts through ongoing health initiatives.

Concern Worldwide Malawi, encouraged by the findings and positive response in Balaka District, worked with Nkhotakota District to expand CCPF services. The Presidential Initiative on Safe Motherhood integrated CCPF into its innovative maternal and child health program in Ntcheu District. The United States Agency for International Development Support for Service Delivery Integration Program expanded CCPF into Mulanje District.

In addition, through publications and advocacy, CCPF is contributing to a growing body of evidence that mHealth interventions are effective at increasing knowledge and driving behaviour change. Initial results from CCPF have already been published in the *Journal of Global Health: Science and Practice* and other academic articles are in progress.

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# Placing Emergency Obstetric and Newborn Care Resources Optimally in Kenya



By Katie Waller and Edwin Mbugua

## Introduction

Timely access to emergency care for pregnancy-related complications can mean the difference between life and death for mothers and newborns. What if there were a way to ensure that every new health facility was optimally positioned to serve the greatest number of women and newborns at the highest level of cost-effectiveness?

Since 2013, Concern Worldwide's *Innovations for Maternal, Newborn & Child Health* has been pursuing the Mobile Urgent Maternity Service (MUM) project to do exactly that. MUM studies and seeks to reduce the physical distance barrier that women face when trying to access emergency obstetric and neonatal care (EmONC).

MUM has been an investment to enable data-driven decision making to make the best possible use of scarce resources. The focus is on the analysis and use of large data sets to:

- Understand geographic access to EmONC services
- Optimise the location of health services, including static (normal bricks-and-mortar) clinics, ambulances and mobile clinics
- Increase physical geographic access to EmONC services in the most efficient way possible

To develop the tool, *Innovations* has drawn on census data, satellite imagery, geo-referenced lists of health facilities, topographic datasets and surveillance data on pregnancies and birth outcomes all from Kenya.

## Developing the MUM Model

To understand the geographic access to EmONC services, the team looked at data to determine the percentage of women of childbearing age who live within two hours' walking distance of an EmONC service, for all the counties in Kenya. To do this, *Innovations* took four steps:

- Developed population distribution maps based on land coverage maps and census data. The distribution of women of childbearing age (15-49 years) was then mapped.
- Overlaid on the population distribution maps GIS datasets showing national road networks and data on elevation and topography.

- Overlaid GIS locations of EmONC services on this map.
- Finally, created travel routes, distances and time models, based on the developed maps, for each woman of childbearing age and matched each woman of childbearing age with the determined health facility providing EmONC services.

These steps were critical because they defined the population of women of childbearing age who did not have access to EmONC services and allowed the team to disaggregate the need for EmONC services per county. It is important to note that these results did not take into account confounding factors outside of geographic distance that influenced the access of health facilities by pregnant women. The MUM team narrowed down to Kilifi county, one of the counties with poor maternal/newborn health indicators, and determined that **only 18 percent** of women of child bearing age were within 2 hours walking distance of a hospital with EmONC services.

Next, the MUM team investigated how the baseline geographic access (18 percent) could be improved through the addition of optimally located health services, and developed the following models:

1. A model for adding optimally located hospitals with the capacity to handle comprehensive emergency obstetric care assuming pedestrian access only (i.e., where women of childbearing age can only access by walking).
2. A model adding ambulance services to existing clinics and the newly modelled hospitals (i.e., where women of childbearing age can access the hospitals by walking and through an ambulance).



## **A predictive tool like MUM could ensure the best placement of hospitals, ambulances and mobile clinics to save lives.**

For each of these model scenarios, the MUM team calculated the additional number of women of childbearing age with access to EmONC services. From a baseline access of 18 percent, it was determined that more than 75 new hospitals would be needed to increase the access to approximately 80 percent. Adding ambulance services to existing facilities would achieve a similar increase in coverage, as an ambulance would extend the reach of an existing hospital to a woman with an obstetric complication by approximately 60 kilometres (i.e. a one-hour drive at 60 kilometres per hour).

The MUM team went on to model the optimal location and impact on access to EmONC services of introducing mobile clinics: fully equipped, fully staffed vehicles that can initiate treatment for clients experiencing an obstetric or newborn complication for approximately 4 hours before transferring them to a static health facility. The preliminary results indicated that a significant amount of the demand would be met by the addition of mobile clinics in each of the counties in Kenya.

Using data on the number of location of women in Kilifi County with emergency obstetric complications, the MUM team validated the modelling results by randomly choosing and physically measuring the distance that 40 pregnant women would cover, and the time required, to get to the nearest hospital should they develop a complication during birth.

## **Implications**

Models and data from the MUM pilot provide useful insights to identify geographic areas in Kenya with higher levels of needs and gaps in EmONC service delivery and determine ideal locations for new services. However, the models and their findings are not easily usable in their current form. A further step will be the development of a user-friendly, computer-based tool that enables users to manipulate different variables to generate and evaluate the resulting scenarios. Currently, the MUM team is working with a partner organization to develop this tool in consultation with key decision makers in Kenya.

Once the computer model has a full user interface, it will become a powerful asset for resource planning and budgeting. Policy and decision makers in Kenya or elsewhere will be able to use it to visualise current access to care and understand the impact of adding certain new resources, both financially and in terms of individuals reached. A predictive tool like MUM could ensure the best placement of hospitals, ambulances and mobile clinics to save lives.

The Innovations team is encouraged that MUM is now being explored by UNICEF for replication in Zambia.

# Creative Local Solutions to Fill Medical Equipment Gaps in Kenya



By Edwin Mbugua and Katie Waller

## Introduction

In June 2013, the Kenyan government made maternity services free<sup>1</sup>. This led to a huge increase in the number of women delivering in hospitals, placing increased strain on an already insufficient health infrastructure<sup>2</sup>.

Kenya, like other resource-limited countries, faces challenges with procuring, repairing and maintaining basic medical equipment and devices critical to the provision of quality maternal and neonatal health care<sup>3</sup>. Yet missing or broken equipment can jeopardize the lives of women and their newborn babies.

Within the same resource-limited context, there is a vibrant culture of designers, engineers and entrepreneurs creating products intended to improve people's lives. A strong foundation for widespread innovation exists, but is constrained by a lack of skills and training and poor access to quality tools, materials and financing. As a result, many products in the Kenyan market are not designed locally and thus may fail to meet local needs.

## Description

Concern Worldwide's *Innovations for Maternal, Newborn & Child Health* launched the Maker Movement for MNCH (Maker) pilot project in Kenya in 2013. The aim was to harness the creativity of the global maker movement in order to equip MNCH practitioners with essential low-cost, high-quality, locally designed and manufactured MNCH devices.

To do so, *Innovations* forged an innovative partnership between makers from the University of Nairobi's FABLAB (Fabrication Lab) and clinicians and biomedical engineers from Kenyatta National Hospital (KNH). Pairing these communities from uniquely different backgrounds in the "Maker Hub," Maker inspires team thinking to design and fabricate medical devices, while leveraging the relationship to engage stakeholders in Kenya and thereby increasing support for the local manufacture of medical devices.

### Box 1: What is the Global Maker Movement?

The **Global Maker Movement** is a contemporary culture representing a technology-based extension of DIY culture. Typical interests enjoyed by the maker culture include engineering-oriented pursuits such as electronics, robotics, 3-D printing, and the use of computer numerically controlled tools, as well as more traditional activities such as metal working and woodworking.

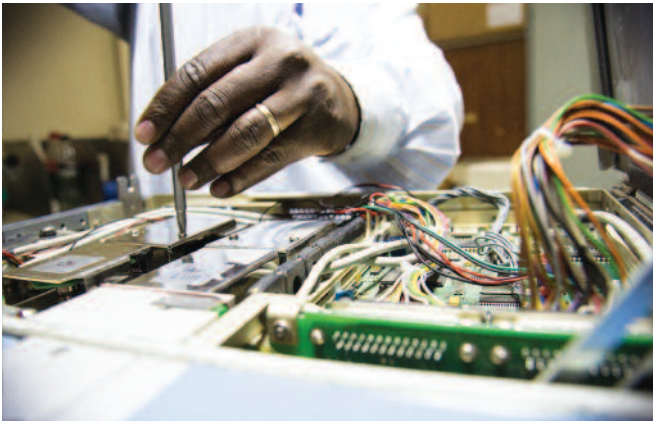
To date, Maker has conducted assessments in Kenyatta Hospital and referring hospitals to identify clinical needs in the labour and delivery and newborn units.

Together the partners have identified nine essential medical devices crucial to maternal and newborn care to design and build on-site. These devices include a phototherapy machine to treat newborn jaundice, a delivery bed, examination lights, a vacuum extractor for assisted vaginal delivery, a neonatal suction machine to help babies breathe, an infant incubator and other essential equipment.

If successful, the work of the Maker Hub could mean the difference between life and death for mothers and babies in critical health emergencies. The project will prototype these devices, applying human-centred design - an approach process in which the needs, wants, and limitations of end users of a product are given extensive attention at each stage of the design process. The devices will then undergo rigorous testing for safety and effectiveness.



**Working with government-based institutions with credible histories in policy work will have advantages when encouraging the adoption of policies informed by the project.**



Mr. Steve Belle, a biomedical engineer at KNH, works on broken equipment in the ICU at Kenyatta National Hospital. Photo by Crystal Wells, Nairobi, Kenya, 2014.

### **Lessons Learned**

Makers from different backgrounds and experiences require extensive support to form worthwhile partnerships that can lead to the outcomes as visualised by the project. *Innovations* has facilitated regular meetings, exchange visits and trainings between the clinicians and biomedical engineers at Kenyatta Hospital and the engineering students and staff at the University of Nairobi FABLAB in order to build the partnerships.

The Maker Hub has also faced a number of challenges. The Hub participants come from diverse backgrounds, professions and expertise; having to work so closely together has been challenging yet very stimulating.

Recognising and working with local talent by providing an enabling environment has been very fruitful as it has allowed the hub participants to come up with exciting designs for the medical equipment challenges that they have encountered. Working with government-based institutions with credible histories in policy work will have advantages when encouraging the adoption of policies informed by the project.

### Concluding thoughts

Through Maker<sup>4</sup>, Concern can proactively influence the policy and manufacturing environment in Kenya, leading to greater availability of life-saving MNCH medical devices and improved quality of care.

In addition, the pilot will impart critical skills in medical devices development that can enable the participating local partners to be self-sufficient in the long run.

Successful implementation of the project and demonstration of the local capacity to prototype and test health promoting medical devices can lead to increased investment and grow the local medical devices industry within Kenya.

“Presently we are talking to the nurses and saying well this is what is does, what do you wish it did. It is very much a team effort; it is not just the engineers. If there is something wrong with the prototype you can go back to square one, it is an iterative process, you keeping going back and forth. The nurse is there to tell you this looks good from engineering, but does not work from my perspective.”

#### **Kamau Gachigi**

Former Director, UON- FabLab

“What the Maker project has done is brilliant. We have brought the engineers into the labour ward, into the newborn [ward]. They have seen what we do, so they are thinking for those solutions. One thing that I can say now that we have achieved is to see engineers talking medical language....Now when I see them thinking about solving my problems, I think Maker has done a good job.”

#### **Dr John Odero Ong’ech**

Asst. Director, Reproductive Health Services Kenyatta National Hospital

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# Incorporating Human Rights Principles in Health Programming



By Allison Smith-Estelle, Laura Ferguson, and Sofia Gruskin

Despite impressive work to integrate human rights norms at the international and national policy levels, very little rigorous and documented research exists focusing on the field-level application of a Human Rights-Based Approach (HRBA) to maternal, newborn and child health program design, implementation and evaluation, including measuring its impact on project outcomes<sup>1</sup>.

Applying a HRBA can uncover design and implementation issues that can impact individual and population access to a health intervention being introduced, affect their willingness to accept a project and actively participate in its execution, or demonstrate neglect or potential violations of rights. Using a HRBA also expands the universe of outcomes by which to measure success, by considering not only traditional, quantitative public health outcomes, but also those focused on human rights norms that show disparities and gaps in service provision, as well as opportunities for greater inclusion.

Concern Worldwide's *Innovations for Maternal, Newborn & Child Health* is applying a HRBA to its project and research designs. Drawing from major UN frameworks and with inputs from the United Nations Children's Fund and external experts, *Innovations* developed its HRBA framework around four human rights norms: the right to health, participation, accountability and non-discrimination.

**The right to health** is defined as the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. Because many social and economic factors affect the potential for people to be as healthy as possible, the realization of the right to health is dependent on and related to many other human rights<sup>2</sup>.

There are four key elements of the right to health: *availability* (functioning public health and health care facilities, goods, services and programs have to be available in sufficient quantities); *accessibility* (health facilities, goods, and services have to be physically and economically accessible to everyone without discrimination); *acceptability* (health facilities, goods and services must be respectful of medical ethics and culturally appropriate, sensitive to gender and life-cycle requirements, and designed to respect confidentiality and improve health); and *quality* (health facilities, goods and services must be scientifically and medically appropriate and of good quality).



Questions guiding *Innovations'* work to integrate the right to health in project activities include the following:

- Are laws, policies and interventions relevant to the project consistent with international human rights norms and standards?
- Can the national policy environment help frame/support project activities? Is it problematic in any way?
- What mechanisms are in place to determine the degree to which existing relevant goods, services and information are provided in a manner that is available, accessible, and acceptable and of high quality?
- How does the project capture client perspectives on the availability, accessibility, acceptability and quality of its interventions?

**Participation** is defined as ensuring free, meaningful and effective participation of beneficiaries of health development policies or programs in decision-making processes which affect them<sup>3</sup>.

The following questions guide *Innovations'* work around participation:

- Who are the relevant duty-bearers and rights-holders?
- What is their capacity to participate and how might this need to be built?
- How are relevant actors participating in project design, implementation, monitoring and evaluation?
- How is the participation of women and marginalized groups being ensured?
- How is meaningful participation of different stakeholders monitored and evaluated?



### Efforts to engage rural and illiterate community members demonstrate commitment to non-discrimination.

**Accountability** mechanisms should exist at local, national, regional and international levels to monitor compliance and support governments in fulfilling their human rights obligations. Any person who considers him/herself to be victim of a violation of the right to health should have access to effective judicial or other appropriate remedies<sup>4</sup>.

For *Innovations*, accountability is being addressed by assessing the following:

- For all services and interventions, including those provided by the government, are there monitoring, claims and redress mechanisms in place and accessible?
- How will impediments to accountability be identified and addressed in the situation analysis and review processes?
- What mechanisms is the project putting in place to ensure transparency in decision-making and accountability of all stakeholders?
- How are clients' comments and complaints documented, including the outcomes arising from any such comments/complaints?

**Non-discrimination** means that all rights holders should be treated equally, with no discrimination in access to health care and underlying determinants of health<sup>5</sup>. This may also mean that extra attention needs to be given to ensure that particularly marginalized populations can benefit from activities.

Project learning around non-discrimination focuses on the following questions:

- Do policies refer to specific excluded populations? In what ways? What impact might this have on project efforts to ensure non-discrimination?
- How will considerations of non-discrimination and equality of rights-holders be integrated into programs and services, and taken into account throughout the project cycle?
- Do assessments of marginalization and vulnerability take into account the analysis of data disaggregated by, as relevant, race, color, ethnicity, gender, religion, language, political, disability, nationality, birth, or other status, and other bases of discrimination?

Systematic attention to these questions from the initial stages of project conceptualization through implementation, monitoring and evaluation can help ensure a HRBA to programming. An explicit focus on the accessibility aspect of the right to health during project planning would highlight the need to design interventions to ensure that geographically isolated beneficiaries will be able to access it. Ensuring that an evaluation plan includes the collection of data on different population groups allows for assessment of whether different groups participate in the same way or not. Creating appropriate mechanisms for project participants to provide feedback (including complaints) improves accountability, while efforts to engage rural and illiterate community members demonstrate commitment to non-discrimination.

Given the wide range of organizations that have stated commitments to a HRBA to health, good analytical work is essential to providing insight into how such approaches might be applied to health programming, and the difference they can make. This work is a necessary step towards determining the ways in which a HRBA can be most useful to improving maternal, newborn and child health, and the ways in which rights can be used to increase awareness, improve service delivery, and ultimately contribute simultaneously to improvements in health and the realization of human rights.

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# Evaluating Innovation in Maternal, Newborn and Child Health: A Research, Monitoring and Evaluation Strategy



By Anne LaFond, Soumya Alva, Natasha Kanagat, Nicole Davis, and Jean Christophe Fotso

The unique nature of the *Innovations for Maternal, Newborn & Child Health* initiative called for a multi-faceted approach to program evaluation and learning.

The *Innovations team* designed a research, monitoring and evaluation (RME) strategy that would rigorously evaluate the impact of *Innovations*, empower program managers to reflect iteratively on implementation strategies, inform new approaches to program design, and promote learning about the potential of human-centered design in maternal, newborn and child health (MNCH) programs. Components of the RME strategy include routine monitoring, process documentation, program or impact evaluation, and a case study documenting the application and use of human-centered design in MNCH. The human-centered design case studies will be synthesized to define initiative-wide lessons related to the use of human-centered design.

**Table 1: Summary of Research, Monitoring and Evaluation Strategy**

Questions	Purpose/Actions	Used When
Are the MNCH pilot interventions being implemented as planned?	<b>Routine performance monitoring</b> to identify and address gaps in performance and reinforce/expand effective program management practices.	During implementation
Are the program implementation strategies effective? Are the assumptions guiding the theory of change pathways valid?	<b>Process documentation</b> to assess implementation strategies and revise them (or pivot) if required.	During implementation and then feeding into the program/impact evaluation.
Did the MNCH pilot interventions effectively address specific barriers to MNCH? Why or why not?	<b>Program/impact evaluation</b> to assess the link between the program and desired outcomes and to understand how and why interventions were effective or failed to achieve their goals.	Baseline to guide program design in the beginning. Endline and process documentation at the end.
How were design-thinking methods and tools applied to MNCH program design and implementation? How did design thinking methods and tool influence program implementation and outcomes?	<b>Case studies</b> using process documentation and focused qualitative data collection to document and explore the effect of design thinking methods and tools.	During design and implementation focusing on problem definition, solution identification, and implementation.

*Innovations'* RME strategy addresses key questions in each phase of the Initiative as well as informs actions to be taken with the data collected (Table 1). Details for each pilot are provided below<sup>1</sup>.

Each pilot utilizes a robust, mixed methods approach<sup>2</sup> to ensure the production of reliable and replicable M&E data and results over the course of the initiative. All pilots employ a prospective evaluation design and incorporate quantitative and qualitative data collection to provide a complete and synergistic understanding of the innovation as it unfolds, and at the end of the pilot cycle. With a strong emphasis on learning, data is intended to be actionable and catalyze programmatic decision making as well as inform future practice in MNCH. Each pilot has its own evaluation design guided by a theory of change to capture the effectiveness of the innovation at the outcome or impact level. The theories of change describe the pathway to change through the use of innovative strategies and program design.

### **Impact and Program Evaluation**

Impact evaluation (i.e., attribution of the influence of the innovation on program outcomes) will be feasible in two of the four pilots: Community Benefits Health (CBH) and Essential Newborn Care Corps (ENCC). Each is designed as a three-arm, quasi-experimental impact study, and will use a difference in differences analysis in order to quantify the relationship between interventions and changes in uptake of services. Through household surveys at baseline, the research team measured indicators related to MNCH coverage, knowledge and attitudes of women and caregivers. Endline data collection will measure the change in the value of the indicators measured at baseline and their relationship to the interventions under study. For the Community Care Hub (CCH), the baseline included a survey of health workers' knowledge, attitudes, and performance. The Maker Movement for MNCH (Maker) conducted a needs assessment of the availability and functionality of medical equipment in the labor and delivery units of Kenyatta National hospital. The endline for CCH will employ a mixed methods approach to assess health worker exposure to and adoption of the CCH mobile phone application and changes in health worker motivation and knowledge. The final program evaluation of the Maker Program will describe the formation and the results of the Maker hub and the extent to which the project designed, built and tested selected pieces of MNCH equipment.



**Monitoring enables pilots to manage activities and, in real time, identify barriers to successful implementation and adjust strategies.**

### **Routine Monitoring and Process Documentation**

*Innovations'* pilots collect routine monitoring data to measure the extent to which activities are implemented as planned, using key milestones and indicators. Monitoring enables pilots to manage activities and, in real time, identify barriers to successful implementation and adjust strategies. The pilots also collect data through process documentation—a qualitative, descriptive method to track the dynamic process of project implementation and explore emerging outcomes. Process documentation entails the systematic recording and analysis of decisions, strategies and practices that were utilized to

guide project execution. The intent of process documentation is to check back frequently with end users to understand if the design of pilot interventions is appropriate, being adopted by intended users, and heading toward effectiveness. Process documentation seeks to explain *how and why* interventions are implemented as well as the factors that contributed to project outcomes. It describes the non-linear pathway from project design to implementation to outcomes by capturing context-specific factors, and identifying drivers and barriers that influenced the process of change.

### **Comparative Case Studies in MNCH**

*Innovations* is using a comparative case study strategy to explore the application of human-centered design in the pilots and understand its influence on MNCH programs in different settings. The team will construct a small but focused case study for each pilot to document the application of HCD in refining the pilot design and shaping the implementation strategy. Each case provides an opportunity to examine the experience in depth, within a real-world context. Reflections of key informants involved in the design phases have allowed the team to map out each design activity. Cases will be compared over time and used to identify common themes or explain differences in experiences related to the use of human-centered design in MNCH programming.

### **Integration of Multiple Data Sources**

*Innovations* will use all the RME approaches identified above to construct a comprehensive picture of the pilot experience and understand the various pathways to project outcomes situated within their unique local contexts. Data generation on this magnitude will strengthen implementation through use of evidence for real time decision making, facilitate regular reflections about project decisions, work plans and activities, and generate evidence and insights about the process of innovation in MNCH.

### **Expected RME Products**

By the project's end, the team will have results from a mixed method program/impact evaluation for each pilot, describing the MNCH innovation, the effectiveness of implementation strategies and impact on outcomes of interest (MNCH coverage, health worker motivation, and local design and prototyping of MNCH equipment, for example). *Innovations* will also generate four short case studies for each of the pilots that will include a timeline of human-centered design activities, a summary of the human-centered design methods and tools that were used and how the human-centered design activities translated into programming designs and implementation strategies. These evaluation and learning products will provide an insight into the potential role of innovation in MNCH programming to inform public health managers, as well as lessons learned on the use of evidence to focus and guide the design and process of innovation.

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### **References and Content Notes**

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1. Phase II pilots covered in this article include Community Care Hub, Community Benefits Health, Essential Newborn Care Corps and Maker and are described in this issue of Knowledge Matters.
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# French-language abstracts

## L'initiative « Innovations »: Évolutions et implications pour Concern

 Connell Foley

Concern est une ONG bien connue pour son rôle pionnier dans la gestion communautaire de la malnutrition aigüe (Community Management of Acute Malnutrition - CMAM -), la percée novatrice qui a engendré un changement de paradigme dans le traitement des enfants souffrant de malnutrition sévère. Pour certains, il s'agirait d'une innovation qu'on ne trouve « qu'une fois par génération ». Mais les équipes de Concern innovent constamment à des degrés divers, et tout un éventail d'exemples est détaillé dans l'article « Concern's Innovations in the 21<sup>st</sup> Century » (Les innovations de Concern au 21<sup>e</sup> siècle). Ce numéro de Knowledge Matters présente les détails d'une initiative étonnante gérée par Concern, spécifiquement pour la recherche de « percées » novatrices dans le domaine de la santé maternelle, néonatale et infantile.

## L'approche d'Innovations vis-à-vis du « Design Thinking »

 The Innovations for MNCH Staff

*Innovations for Maternal, Newborn & Child Health* (Innovations pour la santé maternelle, néonatale et infantile) de Concern Worldwide cherche à développer et à éprouver des stratégies novatrices permettant de lever les obstacles à l'accès aux services essentiels de santé maternelle, néonatale et infantile (MNCH). Si l'amélioration des résultats liés à la MNCH est la pierre angulaire de chacun des projets, les expériences et enseignements tirés de l'application du « design thinking » à l'innovation sociale dans des pays en développement (et/ou dans ceux sortant d'un conflit) le sont tout autant dans la stratégie globale de l'initiative.

## Utilisation des techniques de « Design » pour l'innovation sociale, avant la mise en œuvre du projet « Community Benefits Health » (prestations de soins communautaires)

 Jahera Otieno, Delabright Gle, Linda Vesel, and Leanne Dougherty

Community Benefits Health (CBH), un projet-pilote d'*Innovations* pour la santé maternelle, néonatale et infantile dans le Nord du Ghana, fait un usage créatif d'incitations non monétaires pour entretenir l'implication et l'engagement communautaire en faveur de la santé maternelle et

infantile. Dès la création et tout au long du développement du projet CBH, *Innovations* a défini ses éléments clairement conçus, non négociables, par d'enrichissantes activités de recherches, de démarches de cadrage et d'apprentissage menées dans le pays, qui ont été mises en application dès la phase initiale des projets *Innovations*. Cependant, tandis que la mise en œuvre du projet était imminente, les équipes d'*Innovations* devaient décider *comment* ces éléments devaient être réalisés, tout spécialement dans le contexte ghanéen. Pour répondre à cette question, *Innovations*, s'est engagé dans un processus de conception en quatre étapes avec quatre partenaires : ProNet North, JSI Research & Training Institute, Inc. and Kintampo Health Research Centre.

### **Utilisation du « Human-Centered Design » (conception centrée sur la personne humaine) pour le développement d'une App de santé mobile pour les agents soignants en première ligne**

 Jahera Otieno, Linda Vesel, Soumya Alva, Patricia Porekuu, and Akuba Dolphyne

Via le Care Community Hub (CCH - Centre de soins communautaires - ), *Innovations for Maternal, Newborn & Child Health* de Concern Worldwide travaille pour que la motivation des agents soignants en première ligne s'améliore, par le biais d'une nouvelle application de technologie mobile (« app ») Le CCH utilise la technologie mobile pour l'optimisation de l'apprentissage et de l'évolution de carrière pour les agents soignants en première ligne dans les campagnes du Ghana, avec l'objectif d'aider le Gouvernement ghanéen à mettre sur pied un personnel de santé de première ligne plus motivé, avec pour effet des soins maternels et infantiles de meilleure qualité au Ghana.

### **Utilisation du « Human-Centered Design » pour la mise en œuvre d'une entreprise sociale : le cas des « Essential Newborn Care Corps » (Corps sanitaire de soins essentiels aux nouveau-nés)**

 Katie Waller and Kristen Cahill


Les Essential Newborn Care Corps (ENCC) d'*Innovations for Maternal, Newborn & Child Care* recrutent les accoucheuses traditionnelles (TBAs - traditional birth attendants - ) et leur donne le titre de Maternal Newborn Health Promoters (éducatrices en santé maternelle et du nouveau-né) En tant qu'entreprise sociale, les ENCC s'appuient sur les réseaux existants de TBA. Ayant reçu ce nouveau titre, les Maternal Newborn Health Promoters font le lien entre la communauté et les structures de soins gouvernementales, en orientant les mères vers : des soins prénatals, d'accouchement, postnatals, maternels et liés à des complications obstétriques, ainsi que vers la planification familiale. Elles proposent également à la vente des produits de santé, en complément des services qu'elles offrent, et qui génèrent des revenus pour leur travail.

## **Création d'opportunités d'apprentissage continu pour les infirmières et infirmiers communautaires dans les campagnes du Ghana, via une application mobile**

 Jahera Otieno, Linda Vesel, Sourmya Alva, and Amanda Makulec

Les infirmières et infirmiers communautaires (Community Health Nurses - CHN -) sont des agents soignants de première ligne pour les Services de santé du Ghana, et jouent un rôle vital pour assurer les soins communautaires. Malheureusement, comme leurs qualifications sont les moins avancées, leurs opportunités d'apprentissage continu et d'évolution de carrière sont extrêmement limitées. Innovations for Maternal, Newborn & Child Health de Concern Worldwide et la Fondation Grameen utilisent la technologie mobile pour motiver les agents soignants de première ligne, en leur permettant d'avoir accès à l'apprentissage continu ainsi que d'améliorer la prise de décision concernant les prestations de soin et les échanges entre infirmier(e) et superviseur, ainsi qu'à améliorer leur capacité à fournir des services

## **Comprendre le rôle central des « Traditional Birth Attendants » dans les soins maternels et aux nouveau-nés en Sierra Leone**

 Katie Waller and Kristen Cahill

La Sierra Leone compte 16 000 accoucheuses traditionnelles (traditional birth attendants - TBAs -), selon l'estimation nationale la plus récente et la plus facilement consultable. Ces femmes sont souvent le premier contact pour des femmes enceintes ou des mères allaitantes et, typiquement, ont acquis la confiance de leur communauté. Historiquement, les TBA ont travaillé en Sierra Leone dans des fonctions allant d'un soutien aux structures de santé officielles (comme beaucoup d'entre elles ont reçu une formation dispensée par le gouvernement), en passant par la conduite des accouchements ayant lieu dans les foyers. Cependant, avec la mise en place de l'initiative de gratuité des soins et, plus récemment, de la Politique relative aux agents de soins communautaires, le rôle des TBA a changé.

## **De la preuve au déploiement à une échelle suffisante : expérience tirée d'un projet pilote de santé mobile au Malawi**

 Linda Vesel, Emily Bancroft, and Jean Christophe Fotso

Bien que relativement récent, le recours aux technologies mobiles en faveur de la santé (mHealth - mobile health -) est d'une popularité grandissante, du fait de l'accroissement exponentiel de l'accès mondial aux téléphones mobiles. La santé mobile a un grand potentiel pour lever les principaux obstacles à l'accès aux services de soins et à des prestations médicales de qualité, par le biais d'un appui diagnostique pour les agents de santé communautaires, ainsi que pour l'observance du traitement du patient. C'est tout particulièrement le cas en ce qui concerne les populations mal desservies, dans des contextes où les ressources sont limitées. Même s'il existe de nombreux programmes de santé mobile, peu d'entre eux ont fait l'objet d'une évaluation rigoureuse vis-à-vis de leur impact sur l'action sanitaire, et les programmes de santé mobile mis en œuvre à une échelle suffisante, en partenariat avec des gouvernements, sont encore moins nombreux. Pour



le développement de programmes de santé mobile durables et à fortes retombées, il est vital de concevoir des programmes qui soient mis au point et testés avec dès le départ une prise en compte de l'échelle.

### **Assurer un placement optimal des ressources de soins obstétriques et néonataux d'urgence au Kenya**

 Katie Waller and Edwin Mbugua

Avoir accès au bon moment aux soins d'urgence pour des complications liées à la grossesse peut faire la différence entre vie et mort pour les mères et les nouveau-nés. Et s'il existait un moyen de s'assurer que chacune des structures de soin ait un positionnement optimal pour aider le plus grand nombre de femmes et de nouveau-nés, avec le meilleur rapport coût-efficacité ? Depuis 2013, c'est exactement dans ce but qu'*Innovations for Maternal, Newborn & Child Health* de Concern Worldwide s'est engagé dans le projet Mobile Urgent Maternity Service (MUM - Service d'urgence obstétrique mobile). MUM se consacre à l'étude et à la recherche de moyens visant à réduire l'obstacle physique représenté par la distance à laquelle les femmes doivent faire face lorsqu'elles tentent d'avoir accès à des soins obstétriques et néonataux d'urgence (emergency obstetric and neonatal care - EmONC -).

### **Des solutions créatives locales pour pallier le manque d'équipement médical au Kenya**

 Edwin Mbugua and Katie Waller

En juin 2013, le gouvernement kenyan a rendu les soins obstétriques gratuits. Cela a conduit à une augmentation très importante du nombre de femmes qui accouchent à l'hôpital, ce qui a mis à rude épreuve des structures de soin déjà insuffisantes. Le Kenya, comme d'autres pays aux ressources limitées, doit faire face à plusieurs défis pour se procurer, réparer et entretenir de l'équipement et des dispositifs médicaux de base, qui sont cruciaux pour fournir des prestations de soins obstétriques et néonataux de qualité au quotidien. Pourtant, de l'équipement manquant ou endommagé peut mettre en danger la vie de femmes et de leurs enfants nouveau-nés.

### **Incorporation des principes des droits de l'homme aux programmes de santé**

 Allison Smith-Estelle, Laura Ferguson, and Sofia Gruskin

Malgré un travail impressionnant d'intégration des normes des droits de l'homme à des politiques à échelle internationale et nationale, il existe très peu de recherches documentées et rigoureuses se concentrant sur l'application de terrain du fait de concevoir, mettre en œuvre et évaluer des programmes de santé à destination des mères, des nouveau-nés et des enfants, sur la base d'une approche se fondant sur les droits de l'homme (Human rRights-Based Approach - HRBA -). Cela inclut l'estimation de l'impact d'un tel programme sur les résultats du projet. Appliquer une approche HRBA peut permettre : de révéler des problèmes de conception et de mise en œuvre pouvant avoir une incidence sur l'accès d'un individu et d'une population à une intervention de santé en cours d'introduction, d'influer sur la bonne volonté de ladite population à accepter un

projet et à participer activement à son exécution, ou de démontrer des négligences ou des atteintes potentielles aux droits. L'utilisation d'une approche HRBA élargit également l'éventail de résultats permettant d'évaluer les réussites, en prenant en considération non seulement les aboutissements traditionnels, quantitatifs, en termes de résultats en santé publique, mais aussi les résultats axés sur les normes relatives aux droits de l'homme, qui démontrent des décalages et manques en fourniture de services, ainsi que de plus grandes opportunités d'inclusion.

### **Évaluation de l'innovation dans le domaine de la santé maternelle, néonatale et infantile : Une stratégie de recherche, de suivi et d'évaluation**

 Anne LaFond, Soumya Alva, Natasha Kanagat, Nicole Davis, and Jean Christophe Fotso

La nature unique de l'initiative *Innovations for Maternal, Newborn & Child Health* nécessitait une approche multidimensionnelle en termes d'évaluation du programme et d'apprentissage. L'équipe d'*Innovations* a conçu une stratégie de recherche, de suivi et d'évaluation (research, monitoring and evaluation – RME - ) qui évaluerait de manière rigoureuse l'impact d'*Innovations*, en donnant aux gestionnaires de programme la possibilité d'avoir une réflexion itérative vis-à-vis des stratégies de mise en œuvre, d'inspirer de nouvelles approches pour la conception de programmes et de promouvoir l'apprentissage du « human-centered design » dans les programmes de santé maternelle, néonatale et infantile (MNCH). Parmi les composantes de la stratégie RME, on trouve le suivi de routine, la documentation relative aux processus, l'évaluation du programme ou de l'impact, ainsi qu'une étude de cas documentant la manière d'appliquer et d'utiliser le « human-centered design » dans le domaine de la MNCH. Les études de cas relatives au « human-centered design » feront l'objet d'une synthèse visant à établir des leçons, à suivre à tous les niveaux de l'initiative, portant sur l'utilisation du « human-centered design ».

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All staff involved in designing, implementing, managing, monitoring, evaluating and communicating Concern's work. This publication should also be shared with partners.

## What this publication includes

- Promising practice
- Organisational learning
- Promotion of multi-sectoral and integrated approaches to programming
- Links to full reports

## What it doesn't include

- Targeted recommendations
- Additional evidence not included in the papers cited
- Detailed descriptions of interventions or their implementation

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### Key words

Innovations, Maternal, Newborn and Child Health, Human-Centred Design, Traditional Birth Attendants, Maker Movement, Social Enterprise, Social Innovation

**The views expressed in Knowledge Matters are those of the authors and do not necessarily coincide with those of Concern Worldwide or its partners.**

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**Design and Layout:** Pixelpress **Print:** Genprint

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# KNOWLEDGE MATTERS

Concern's Knowledge Quarterly Review Issue 12 | March 2015

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