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Building Community Health Worker Capacity in Egypt

October 2019

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Background

The United States Agency for International Development’s flagship Maternal and Child Survival Program, or the Improving Maternal, Child Health and Nutrition (IMCHN) project, as it is known in Egypt, has worked in close collaboration with Egypt’s Ministry of Health and Population (MOHP) since April 2015 to strengthen the national community health worker (CHW) program.

The MOHP established Egypt’s CHW—also known as the *Raedat Refiat* program—in 1994. CHWs are intended to implement the preventive and referral arm of the national integrated family health strategy at the community level, with particular focuses on maternal and child health and on birth spacing.

By 2012, Egypt had invested in growing the CHW workforce to 14,280 CHWs, but without a national community health strategy linked to national health policies, clearly defined roles and responsibilities, and insufficient training resources, the program’s potential to achieve desired results was limited. Nonetheless, the CHWs’ standing and familiarity within their communities uniquely place them to empower households to make healthy choices by providing health education, performing health promotion activities at the household and community levels, and making referrals as needed. This was particularly apparent during the 2014 outbreak of avian influenza, or “bird flu,” among Egypt’s poultry-raising communities, when the CHWs alone were trusted to provide health education and referrals because of their longstanding presence and service within the community.

Since 2015, the IMCHN project has supported the MOHP to assess the CHW program’s strengths and weaknesses, and to design a national strategy that builds upon the CHWs’ potential and effectively enhances their role in strengthening preventive health and primary care services.

Goals

IMCHN’s goals to support the MOHP’s Family Health Package and contribute to the MOHP’s efforts to achieve relevant Sustainable Development Goal (SDG) targets were refined to specifically support the MOHP’s designing, equipping, and resourcing of the CHW program by pursuing the following objectives:

1. Provide technical assistance to the MOHP to develop a national strategy for Egypt’s CHWs that reflects the Family Health Package and supports the MOHP to reach SDGs targets.
2. Provide technical assistance to the MOHP to develop a national training system for the CHW program and implement at scale in 23 governorates.

Approach

Program Activities

IMCHN's initial activities took place at the central level in Cairo, working in close collaboration with the MOHP and stakeholders.

In 2015, at the invitation of and in collaboration with the MOHP, IMCHN led a team of international and local researchers, including experts in the Egyptian health system, to conduct a 4-month assessment of the national CHW program.

The assessment generated 11 recommendations to establish the actions and approaches necessary to build the capacity of the CHWs and to inform the design of a new national strategy (see Box 1). Two of the 11 recommendations stemming from the assessment that are pertinent to IMCHN's subsequent training activities were to:

1. Establish, resource, and implement a state-of-the-art training strategy adapted to the ambitions of the CHW program.
2. Confirm or establish the strategic direction of the CHW program toward a full family health strategy.

In preparation of the launch of the new national CHW strategy, IMCHN and the MOHP collaborated on the design of an updated training curriculum, targeting improved CHW technical knowledge and skills to better meet the health needs of women of reproductive age and their families in Egypt. IMCHN invited CHWs and CHW supervisors to participate in a workshop to identify learning gaps, explore preferred learning methodologies, and seek feedback on the revised capacity-building system and individual sessions. This participatory approach meant that IMCHN was able to ensure that the revised, modular approach to the technical content areas, focused on competency-based skills acquisition, was appropriately tailored to the workers' needs.

IMCHN's training strategy draws from the training methodology known as low-dose, high-frequency (LDHF), which breaks from traditional, didactic, classroom-based practices. The new curriculum has a modular approach to technical content areas, with a focus on competency-based skills acquisition. The new modules present the content of the MOHP's Family Health Package (newborn and child health, reproductive health, communicable and noncommunicable diseases, and nutrition). The fifth module presents the MOHP's revised operational guidelines (CHW qualifications; reporting structure; CHW training and capacity-building; household registration; and a revised CHW job description encompassing home visits, community mobilization, communication skills, community data collection and analysis, and support to referral systems).

Box 1. IMCHN assessment recommendations

1. Confirm or establish the strategic direction of the CHW program toward a full family health strategy.
2. Establish explicit strategic goals, objectives, and performance management indicators.*
3. Establish clear and recognized operational management and control of the CHW program through a management unit at governorate level.
4. Provide practical and operational guidance to CHWs at governorate level to more strategically balance their health promotion and social change activities between home visits and community outreach, and mobilization and support of community groups.*
5. Establish, resource, and implement a state-of-the-art training strategy adapted to the ambitions of the CHW program.*
6. Use mobile technology.*
7. Improve the CHW and community health promotion information system.*
8. Involve communities in setting and achieving health objectives with the CHW program through systematic engagement of local leaders and organizations as partners.
9. Start planning for a future with CHW career advancement opportunities.
10. Improve the CHW motivation and incentive system.
11. Cost these recommendations and options to move the CHW program forward in the next 5–10 years.

*IMCHN-led or supported implementation

The revised learning materials were formally approved by the MOHP in October 2017. Shortly after, in November 2017, the MOHP formally endorsed the national CHW strategy, which includes the recommendations from the IMCHN-led CHW system assessment. To increase awareness and understanding of the new national CHW strategy, IMCHN designed summary booklets that were distributed to participants, including governorate MOHP representatives and CHW supervisors, at various high-profile events organized by IMCHN between December 2017 and April 2018. During the national launch, the minister of health and population publicly recognized CHWs for the important role they play in health awareness and promotion, and initiated the first phase of a commitment to distribute digital tablets to all 14,500 CHWs currently at work in Egypt. Remarking that the tablets will allow for more efficient and effective communication between CHWs and the MOHP, he distributed one tablet to each of the 36 CHW supervisors present at the event.

With the updated CHW curriculum and the new national CHW strategy in place, IMCHN embarked upon a rigorous training program benefiting CHWs from 23 governorates, including 216 districts and 4,839 primary health care units (PHCUs). IMCHN trained 63 master trainers and 132 lead trainers on the five new modules. The trainers then cascaded the training to 1,280 CHW supervisors, with IMCHN's coaching and mentoring support. The 9-day CHW supervisor trainings focused on the skills required to effectively support and coach CHWs during supervised home visits and monthly meetings. IMCHN thereby supported the MOHP to strengthen the capacity of CHWs by ensuring that the CHW supervisors were effective in providing on-the-job guidance and performance feedback to CHWs. At the trainings, the CHW supervisors also received printed copies of the training modules, job aids, and the updated MOHP family demographic register and daily home visit register for future reference.



Figure 1. Role-play between two community health workers during an interactive learning session in Beheira. Photo by Sarah El Sweify, IMCHN.

The CHW supervisors then built the capacity of 10,183 CHWs using the hands-on, interactive, LDHF approach, with a focus on workplace-based learning and practice. IMCHN simultaneously built the MOHP's capacity to offer supportive supervision and coaching to the CHWs through regular supervision and coaching visits, and provided tools for their ongoing use, including manuals, modules, videos, and job aids.

LDHF Training Approach

Traditional training approaches have largely focused on extended, offsite, group-based workshops that are classroom based and require time away from participants' places of work. Such approaches have demonstrated limited effectiveness in improving and maintaining participants' performance after training.¹ The LDHF approach, however, optimizes and sustains health worker performance by methods that include interactive techniques to engage the learner, including hands-on simulation, constructive feedback, and group-based learning opportunities planned and delivered at an appropriate dose and frequency. The LDHF approach also promotes facility-based trainings,

"Training using the LDHF approach increased the [CHWs'] knowledge. Maybe before, they would be able to speak to people because we had trained them, but the knowledge was not ingrained. When this new approach was implemented, it displayed better results."

—Dr. Hossam Abbas, head of Central Department of the Family Planning Services and Commodities, MOHP

¹ De Lorenzo RA, Abbott CA. 20014. Effectiveness of an adult-learning, self-directed model compared with traditional lecture-based teaching methods in out-of-hospital training. *Acad Emerg Med.* 11(1):33-7.

which limit absenteeism, improve teamwork, address onsite barriers, and encourage changes to provider performance.

The LDHF methodology has proved highly effective in health settings for clinician trainings,² and it was hypothesized that its application to non-facility-based CHW trainings, focused on communication skills and behavior changes rather than clinical skills, would be similarly successful.

IMCHN's CHW program began in April 2015 with the intention of improving knowledge and skills retention through more than just "training as usual." Rather than didactic training in a classroom environment, IMCHN's LDHF learning activities consisted of an initial introduction to learning content 1 day per week at the PHCU, where CHWs routinely go on a daily basis to meet with their CHWs. This was followed by daily practical application, during which CHWs conducted home visits with real-time coaching from their supervisors. CHW supervisors, overseen by lead trainers, could then include feedback on performance (e.g., during a home visit) and discuss challenges faced in the course of the CHWs' work during preexisting monthly meetings.

Self-Reliance and Sustainability

The national strategy promotes CHWs as key actors in Egypt's journey to self-reliance through the increased reach of community-based service delivery. It is anticipated that the CHWs will support the MOHP in reaching Egypt's SDG targets by providing invaluable contributions through preventive health and primary care services.

According to the 2017 census, Egypt has a population of approximately 95 million people and an average household size of 4.2.³ The eventual goal is to have one trained CHW per 500 households, which requires an increase in the number of trained CHWs from 14,000 at present to approximately 45,000, meaning an additional 31,000 CHWs are needed. The meaningful engagement of the MOHP from the outset and throughout the program cycle ensures the MOHP's ongoing ownership and successful continuation of activities post-IMCHN.

Monitoring and Evaluation

IMCHN performed an active role within the High Committee for the National CHW Strategy (for which IMCHN served as secretariat), whose purview was expanded by the MOHP to include, in addition to strategy and implementation, the monitoring and evaluation of the CHW activities, including the follow-up of operational plans and indicators included in the strategy. IMCHN contributed to the development of milestones that will ensure ongoing, rigorous monitoring and evaluation of the national CHW training strategy beyond the close of IMCHN.

IMCHN assessed the success of the LDHF training program in the 23 governorates by testing the knowledge of CHWs immediately before (N = 9,436) and after (N = 2,453) training. The post-test sample was matched with an identical sample of 2,453 from 23 governorates from the pre-test cohort. The retention of knowledge test took place 6 months after completion of training, but not all



Figure 2. Community health worker completing a health management information system (HMIS) assignment during HMIS training in Luxor. Photo by Sarah El Sweify, IMCHN.

² Bluestone J, Johnson P, Fullerton J, Carr C, Alderman J, BomTempo J. 2013. Effective in-service training design and delivery: evidence from an integrative literature review. *Hum Resour Health*. 11:51. doi: 10.1186/1478-4491-11-51.

³ United Nations Department of Economic and Social Affairs, Population Division. 2017. *Household Size and Composition Around the World 2017*. New York City: United Nations.

governorates were able to collect the retention tests, so the final representative sample was smaller (N = 1,633) from 15 governorates only. IMCHN also tested the skills of the CHWs immediately before (N = 9,345) and after (N = 2,024) training, comparing pre-/post-skills test results using a matched sample of 2,024 from 23 governorates.

IMCHN conducted additional qualitative data collection and analysis to further examine how capacity-building efforts resulted in changed CHW behaviors and to learn about the LDHF approach's effectiveness and scalability.

Separately, in collaboration with the MOHP, IMCHN designed and launched a digital health management information system to capture program and workforce data from CHWs in five pilot governorates (Luxor, Ismailia, Assiut, Damietta, and Port Said). IMCHN and the MOHP developed the system to reduce the CHWs' administrative burden by eliminating the need for the current paper-based reporting system, meaning that the CHWs can devote additional time to their primary purpose of providing services to families in their communities. IMCHN distributed digital tablets and durable user manuals to a pool of 15 trainers and 29 facilitators, selected from technical staff in the five governorates and MOHP personnel. IMCHN provided training on the system to the 44 trainers and facilitators, who then cascaded the training, benefiting 1,228 CHWs from the five governorates.

Results

As described in Table 1, the revised curriculum designed by IMCHN according to the LDHF methodology to support the new national CHW strategy strengthened the knowledge and skills of 10,183 CHWs from 23 governorates, including 4,686 CHWs from the nine governorates of Upper Egypt, 5,194 CHWs from the nine governorates of Lower Egypt, and 303 CHWs from the five border governorates.

Table 1. Number of individuals trained by participant type and area

Participant Type	Participants Trained by Geographic Area				
	Upper Egypt Region	Lower Egypt Region	Border Governorates	Central Level	Total
Master trainers*	0	0	0	63*	63
Lead trainers	60	53	19	0	132
Community health worker supervisors	570	659	51	0	1,280
Community health workers	4,686	5,194	303	0	10,183
TOTAL	5,316	5,906	373	63	11,658

*Master trainers were trained at the central level and then provided training of trainers throughout the other geographic areas.

CHWs who participated in the LDHF sessions consistently demonstrated improvements in thematic knowledge (see Figure 3) with an average increase of 30% and in skills (see Figure 4) with an average increase of 16% from pre- to post-test immediately after training.

Figure 3. Average community health worker knowledge pre- and post-test scores by topic as matched sample in 23 governorates (N = 2,453)

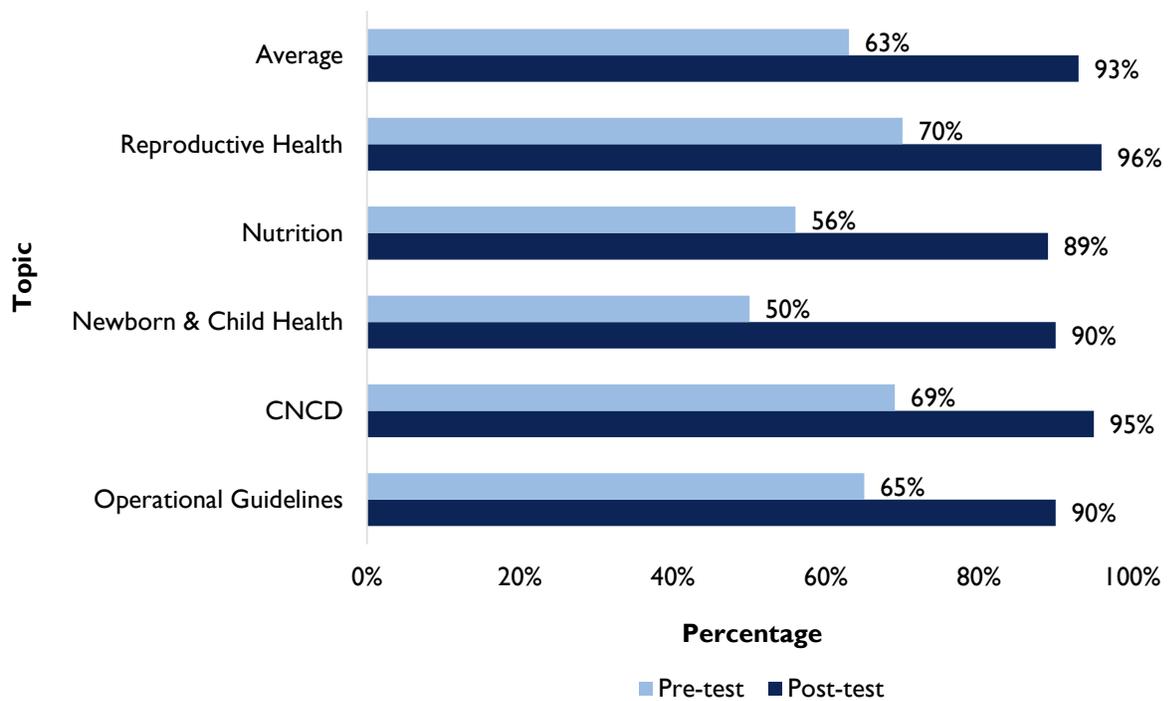
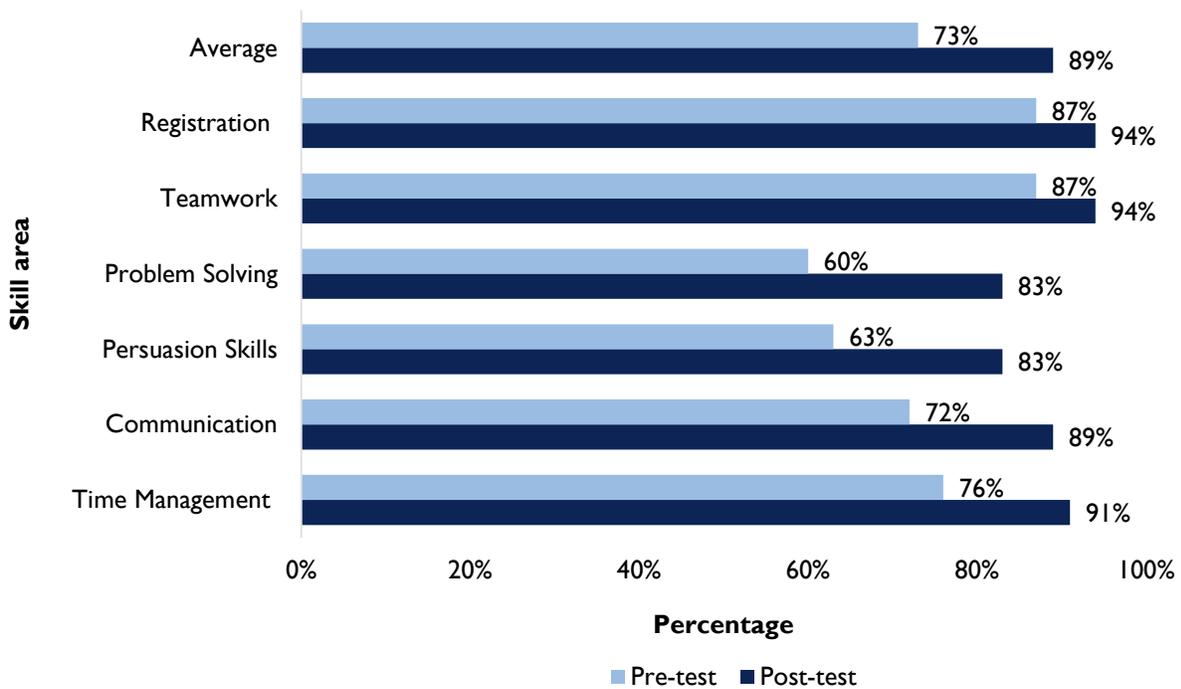
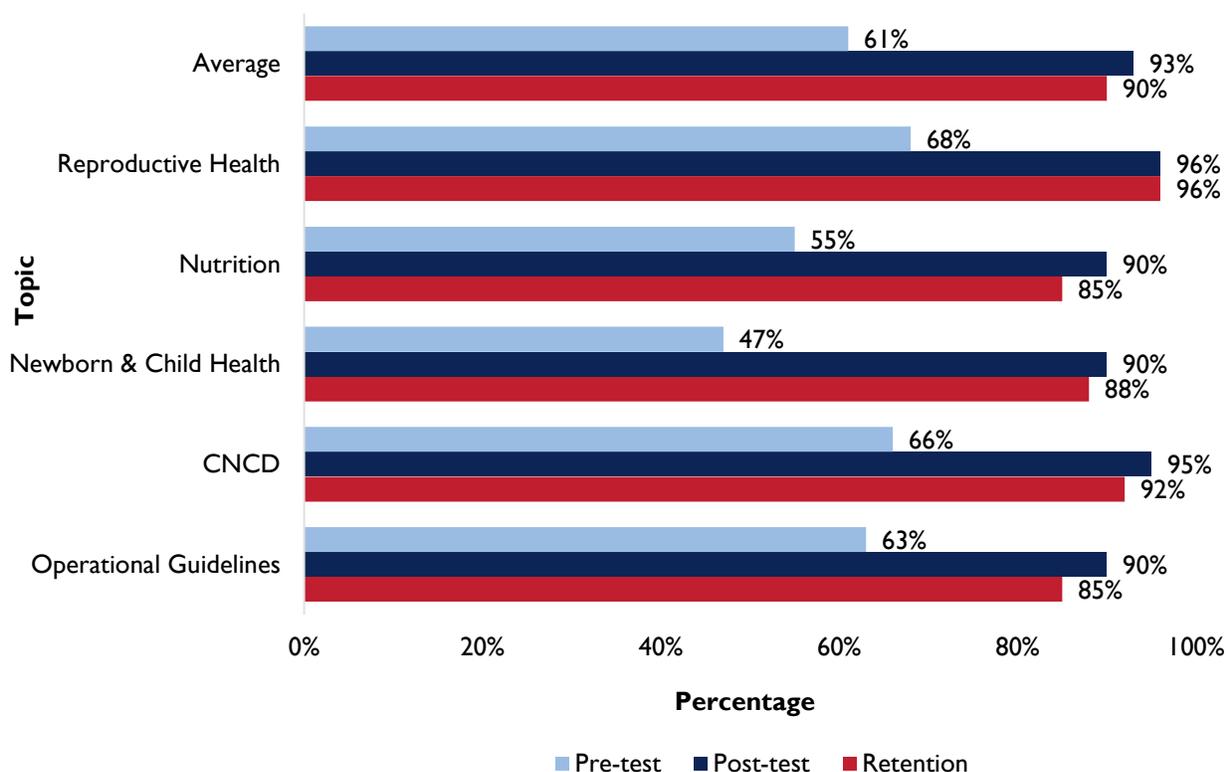


Figure 4. Average community health worker pre- and post-training skills scores by skill area from 23 governorates (N = 2,024)



As shown in Figure 5, among a smaller matched sample of CHWs (N = 1,633) from 15 governorates, test scores from 6 months after the end of training showed an average knowledge retention of 90%.

Figure 5. Average community health worker pre-, post- and retention (6 months later) test knowledge scores by topic from 15 governorates (N = 1,633)



The pre-, post-, and retention test scores assessing CHWs’ technical knowledge showed that before the trainings, the lowest average knowledge score was on the subject of newborn and child health (47%), and the highest average pre-test score was for reproductive health (68%), which was the original focus area of the CHWs’ scope of work. Retention of knowledge scores generally showed decreases compared with the immediate post-test results but demonstrated an average retention of 90% across the thematic areas.

The positive results of the CHW trainings were considered to effectively equip CHWs to provide high-quality services within their communities. The demonstrated increases in CHW knowledge of reproductive health; nutrition, newborn, and child health; communicable and noncommunicable diseases; and operational guidelines enable CHWs to better serve as key actors in Egypt’s efforts to better meet the health needs of women of reproductive age and their families. As one CHW reported: “After the training, ladies were asking me in all topics, not only birth spacing. While the ladies followed my advice, their lives became better. For me, I became more precisely able to answer and keep trust with the women.”

“We have been waiting for these valuable trainings for a long time. We were in great need of them.”
 –CHW from border governorate

The pre- and post-training test scores assessing the CHWs’ skills levels in six key areas (registration, teamwork, problem-solving skills, persuasion [behavioral coaching], communication, and time management) are shown in Figure 4.

The average CHW's pre-training skills score was 73%, with teamwork (87%) and registration skills (87%) proving particularly strong. The skills assessment showed improvement in each area. The average post-test score was 89%. The highest post-test scores were for teamwork (94%), registration (94%), and time management (91%).

IMCHN conducted in-depth interviews, focus group discussions, and group interviews using questionnaires designed to invite stakeholders' experience and opinions of CHW trainings and recommendations for future capacity-building efforts. The key findings from this qualitative research were:

- The expanded training topics and extension of healthy behavior promotion beyond birth spacing made the CHWs more effective to members of households.
- CHWs felt more confident in their embellished roles, which made them more responsive during household visits and more effective during health education activities.
- The increased monitoring and evaluation components of the activities were considered by one respondent to increase motivation among CHWs.
- The LDHF training approach increased collaboration and encouraged stronger relationships between CHWs and CHW supervisors.
- The CHWs suggested increased salary, transportation allowance, and printing registers to support them in their work.

Recommendations

The LDHF methodology proved to be acceptable, feasible, and resulted in sustained performance improvement in its application to nonclinical health workers. It demonstrated effectiveness in improving CHW knowledge and skills, ranking highly in terms of satisfaction among those CHWs surveyed.

IMCHN concludes that the combination of LDHF learning activities, practical application, and CHW supervisor coaching contributed to the success of the training program and represents a promising capacity-building strategy for other CHW cadres. IMCHN therefore proposes replicating the application of the LDHF approach for CHWs across the remaining three governorates of Alexandria, New Valley, and Suez, and for any future new CHWs in other governorates as part of their initial, pre-service capacity-building.

IMCHN also recommends the MOHP incorporate activities targeting maintained CHW knowledge retention and performance within its future work plans and budgets to allow for ongoing and continuous capacity-building, including:

- Interactive, hands-on refresher trainings at the PHCUs for CHWs twice a year through a 1-day session on each of the technical content areas spaced over time
- Continued, regular supportive supervision and coaching visits to CHWs by CHW supervisors, including monthly meetings to share feedback on the CHWs' performance (e.g., during a home visit) and discuss challenges faced in the course of the CHWs' work

This brief is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of the Maternal and Child Survival Program and do not necessarily reflect the views of USAID or the United States Government.