Community and Formal Health System Support for Enhanced Community Health Worker Performance

A U.S. Government Evidence Summit

FINAL REPORT

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Content

Executive Summary

Background. The global shortage of skilled, motivated, and supported health workers is universally acknowledged as a key development challenge because it is a critical barrier to strengthening health systems, achieving the Millennium Development Goals (MDGs), improving the prospects for universal health coverage, and addressing inequity and poverty. The World Health Report 2006, *Working Together for Health*, estimated a worldwide shortage of 4.3 million health workers. Several health workforce campaigns launched in recent years have called for more and better-supported health workers.

An important dimension of this response to the workforce challenge has been a resurgence of interest in and attention to Community Health Workers (CHWs). Many low- and middle-income countries (LMICs) are increasing their investment in and implementing large-scale CHW programs to extend the reach of inadequate health systems to hard-to-reach and underserved populations, and to expand coverage of key interventions. Training alone will not ensure the effectiveness and sustainability of CHWs; yet, not enough is known about how best to support CHWs to ensure sustained, optimal performance at scale.

Descriptive information about the tasks that CHWs commonly undertake and can perform well is reasonably robust. Also available is normative guidance about the kind of support CHWs should receive—informed by many years of program experience, observational studies of what are deemed to be more or less successful programs, and expert opinion. There continues to be a lack of clarity, however, about the strength of the research evidence behind this guidance, particularly as viewed through the prism of the dual and overlapping community and formal health systems within which a CHW functions. CHWs provide preventive, promotional, and, in some cases, curative services to households and communities. CHWs also provide services to clients who use health facilities, either during a consultation or through follow-up visits in the home.

To carry out these tasks, CHWs often receive technical and social support as well as recognition from the community and the formal health system. The types and mix of support vary by context and source. Yet, evidence on the independent and combined contributions of these two systems to enhancing the effectiveness of CHWs has not been a primary focus of the global health community and therefore is not well understood. Moreover, the most feasible,

affordable, and contextually appropriate ways to provide such support remains an outstanding question.

Methods. Recognizing that greater clarity on the evidence for improving CHW performance could enhance LMIC government and partner policy making and programming, as well as identify important gaps in the global knowledge base, the U.S. Government (USG), under the leadership of USAID, organized a year-long evidence review process (April 2011-May 2012). This process culminated in a two-day "Evidence Summit" event (May 31-June 1, 2012). The pre-Summit event phase comprised six steps, beginning with an intensive conceptual stage and ending with experts' review of the literature, their synthesis of findings, and their formulation of a set of recommendations.

Subsequently, approximately 150 participants from LMIC governments and non-governmental organizations, USG and non-governmental agencies, bilateral and multilateral agencies, and domestic and international academic institutions assembled at the Kaiser Family Foundation in Washington, D.C., to review and comment on the findings and recommendations of the experts. Both the pre-Summit event phase and the two-day meeting are described in detail in the report.

Findings. Despite many years of empirical inquiry on CHWs, the Summit found that the relationship between support—from both community and formal health systems—and CHW performance is still not well understood. Experts participating in the Summit identified different kinds of technical and social support as well as different forms of recognition that moderate to strong opinion suggests are likely to improve CHW performance at scale in a sustainable manner. The research evidence in support of this expert opinion, however, is weak.

This is not because rigorous studies of the support-performance relationship have demonstrated a lack of effect; rather, questions about which interventions from which systems (independently and combined) are most likely to improve CHW performance are not commonly raised or adequately investigated. Experts agreed that the existing empirical database provides insufficient evidence to satisfactorily address either the central Summit question of the independent and combined effect of community and formal health system interventions on enhancing CHW performance, or the complementary question of the most feasible, affordable, and contextually acceptable ways of providing such support.

During both the year-long lead-up to the Summit and during the Summit event, it became apparent that stewardship of CHWs at both the country and global levels is fragmented. Many public health programs and actors at national and sub-national levels enlist the services of CHWs, with, it appears, limited coordination. This fragmentation raises the question, among many others, of who is responsible for the overall welfare of CHWs and quality assurance of the services they provide. There seems to be considerable variation in the degree of fragmentation from one country to another, explained, in part, by the differing origins and evolution of CHW programs over time.

This same fragmented, multi-actor response is also observable at the global level. For example, within two months of the Summit event, three other international conferences on CHWs were organized. Although the purpose and objectives of each of these events was slightly different, there was considerable thematic overlap and insufficient coordination among these meetings.

Recommendations. Summit findings suggest the need for a strategic research agenda, as well as a series of policy and practice initiatives to improve and sustain CHW performance at scale. Five core recommendations, a set of specific policy/practice and research recommendations, and recommendations targeted specifically to the USG emerged from the Summit. The core recommendations are as follows.

- First, developing a strategic research agenda could provide greater clarity about how to enhance CHW performance. This research agenda should intentionally examine the combined inputs from both community and formal health systems, as this perspective has been absent to date.
- Second, this agenda will require innovative research designs and methodologies to answer complex questions about the performance of this cadre at scale, as well as increased capacity building to ensure research is driven by LMIC investigators.
- Third, greater investment is needed in prospective documentation of the dynamic, variable evolution, and intended and unintended effects of large-scale CHW programs.
- Fourth, the Summit has contributed to greater conceptual clarity about how to think about improving CHW performance. A robust logic model that captures this thinking could guide country policy makers and donors in their efforts to improve program design as well as monitoring and evaluation efforts. Such a model also could help identify potentially promising areas for operational research.
- Fifth, how to pursue a more coordinated approach to sound stewardship of CHWs at country and global levels merits further reflection.

A collective commitment to improved conceptual clarity, LMIC-driven research, documentation, and stewardship is a potentially fruitful evidence-to-action agenda that could help address the common constraints to improved and sustained CHW performance at scale.

Conclusion. Countries that are making limited-to-no progress on the MDGs need to act in the near term to counteract the health workforce shortages that are impeding their progress. As the Summit has demonstrated, these countries will have to make decisions about CHWs with less-than-perfect information. Current research evidence is insufficient to determine the best combination of support activities to produce the best results. Moreover, fragmentation in CHW stewardship—at both global and country levels—further impedes effective decision making.

Although the Summit has not produced conclusive findings or provided definitive, evidence-based guidance, experts recommend that countries that continue to deploy CHWs at scale do so in a way that 1) reflects the accumulated body of colloquial and research knowledge; 2) fosters continuous learning and experimentation, resulting in appropriate local adaptations of programs over time; and 3) sheds further light on the proposition that supporting strong CHW program development can help strengthen health and community systems, and that supporting strong health and community systems can strengthen programs and ultimately enhance CHW performance.

Better documentation and more rigorous systematic inquiry can help address this knowledge gap and improve our understanding of what works best. Improved stewardship of CHW programs at global and country levels also can go a long way toward ensuring this important work moves forward in a way that allows the global community to advance incrementally the state of the art. As a follow-up to the Summit, USAID intends to review its internal stewardship of CHW programming to ensure optimal efficiency and effectiveness of its considerable investment in improving care at the community level. It is intended that the findings and recommendations from the Summit, as well as a more in-depth exploration of many of the themes that emerged during the Summit, will be further disseminated through the publication of a series of papers in the peer-reviewed literature.

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USAID CHW Evidence Summit Steering Committee: Bob Balster, Jill Boezwinkle, Samantha Corey, Lisa Fleisher, Diana Frymus, Jesse Germanow, Victoria Graham, George Greer, Kristina Gryboski, Jose Gutierrez, Jim Heiby, Elizabeth Higgs, Troy Jacobs, Nazo Kureshy, Marissa Leffler, Joseph Naimoli, Estelle Quain, Emily Roseman, Rebecca Roth, Lois Schaefer, Madeleine Short Fabic, Kate Wilson

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Evidence Review Team 3: Seble Frehywot (chair), Tana Wuliji (vice-chair), Mary Carnell, Pamela Collins, Kristin Cooney, Hannah Sarah Faich Dini, Diana Frymus, Jesse Germanow, George Greer, Jim Herrington, Steve Hodgins, Luis Huicho, Troy Jacobs, Jim McCaffery, Estelle Quain, John Stanback, Eric Starbuck

The participants in the USG CHW Evidence Summit Event (Annex I)

Background

President Obama's Global Health Initiative (GHI) emphasizes the importance of evidence-based best practices to inform country-owned, sustainable improvements in health outcomes. To that end, the United States Agency for International Development (USAID) is hosting a series of U.S. Government (USG) "Evidence Summits," which bring together academics and development practitioners to review the evidence on some of the world's most difficult development challenges. The ultimate aim of these Summits is to improve health policies, programs, and research in low- and middle-income countries (LMICs).

The global shortage of skilled, motivated, and supported health workers is universally acknowledged as one such challenge because it is a critical barrier to strengthening health systems, achieving the Millennium Development Goals (MDGs), improving the prospects for universal health coverage, and addressing inequity and poverty. The World Health Report 2006, *Working Together for Health*, estimated a worldwide shortage of 4.3 million health workers. Several health workforce campaigns launched in recent years have called for more and better-supported health workers[1]. The USG has a notable history of increasing the supply and improving the quality of human resources for health in LMICs. Addressing the challenges of the health workforce is a USG priority under GHI.

An important dimension of this response to the workforce challenge has been a resurgence of interest in and attention to Community Health Workers (CHWs). Many countries are increasing their investment in and implementing large-scale CHW programs to extend the reach of inadequate health systems to hard-to-reach and underserved populations, and to expand coverage of key interventions. Training alone will not ensure the effectiveness and sustainability of CHWs; yet, not enough is known about how best to support CHWs to ensure sustained, optimal performance at scale.

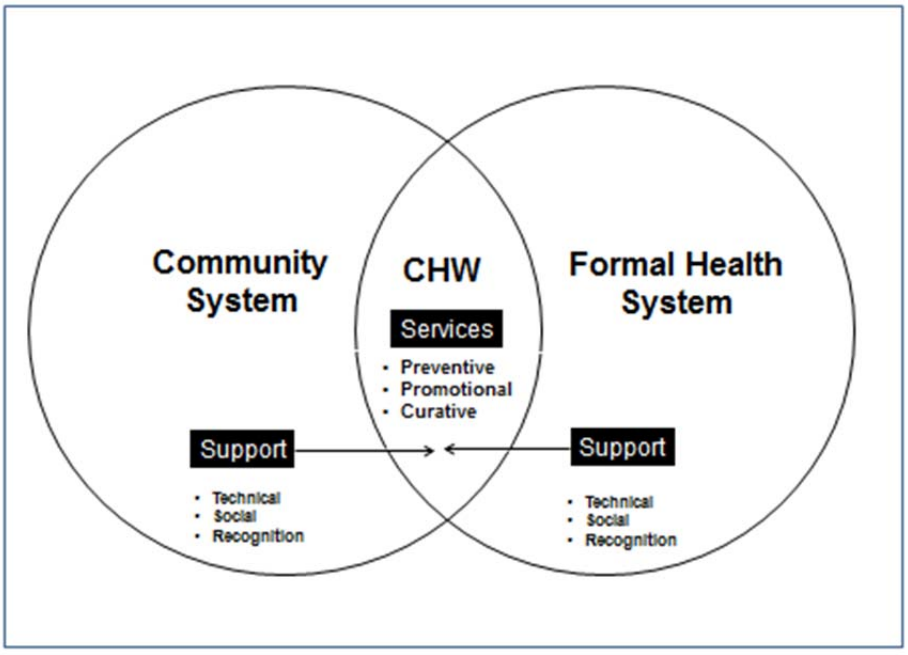
Descriptive information about the tasks that CHWs commonly undertake and can perform well is reasonably robust. Also available is normative guidance about the kind of support CHWs should receive, which is informed by many years of program experience, observational studies

[1] WHO (2006). *The World Health Report 2006: Working Together for Health*. Geneva: World Health Organization; The Earth Institute (2011). *One Million Community Health Workers: technical Task Force Report*. New York: Columbia University; Frontline Health Worker Coalition (2012). Online at http://frontlinehealthworkers.org, accessed June 27, 2012.

of what is deemed to be more or less successful programs, and expert opinion. There continues to be a lack of clarity, however, about the strength of the research evidence behind this guidance, particularly as viewed through the prism of the dual and overlapping community and formal health systems within which CHWs function (Figure 1). CHWs provide preventive, promotional, and, in some cases, curative services to households and communities. CHWs also provide services to clients who use health facilities, either during a consultation or through follow-up visits in the home.

To carry out these tasks, CHWs often receive technical and social support as well as recognition from both systems. The types and mix of support vary by context and source. Yet, evidence on the independent and combined contributions of these two systems to enhancing the effectiveness of CHWs has not been a primary focus of the global health community and therefore is not well understood. Moreover, the most feasible, affordable, and contextually appropriate ways to provide such support remains an outstanding question.

Figure 1: CHW at the intersection of two dynamic and overlapping systems



Methods

Recognizing that greater clarity on the evidence for improving CHW performance could enhance LMIC government and bi-lateral and multi-lateral partner policy making and programming, as well as identify important gaps in the global knowledge base, the USG, under the leadership of USAID, organized a year-long evidence review process (April 2011-May 2012). This process culminated in a two-day "Evidence Summit" event (May 31-June 1, 2012). The pre-Summit event phase comprised six steps, beginning with an intensive conceptual stage and ending with experts' review of the literature, their synthesis of findings, and their formulation of a set of recommendations.

Subsequently, approximately 150 participants from LMIC governments and non-governmental organizations, USG and non-governmental agencies, bilateral and multilateral agencies, and domestic and international academic institutions assembled at the Kaiser Family Foundation in Washington, D.C., to review and comment on the findings and recommendations of the experts. This section describes in detail the pre-Summit phase and the two-day Summit event.

I. Pre-Summit (April 2011-May 2012)

The pre-Summit phase comprised six steps:

1. Preliminary conceptual thinking
2. Focal question/hypothesis development
3. Initial acquisition and screening of the literature
4. Convening of evidence review teams (ERTs), assignment of literature, call for additional evidence
5. ERT modifications to the initial focal questions, preliminary conceptual thinking, and the initial database of literature
6. Literature review, synthesis, and recommendations

Step ❶: Preliminary conceptual thinking

There are many definitions of a CHW, all of which comprise a wide range of titles and responsibilities. For the purpose of this Summit, the USAID CHW Evidence Summit Steering Committee adopted the following formulation:

> *A health worker who receives standardized training outside the formal nursing or medical curricula to deliver a range of basic health, promotional, educational, and mobilization services and has a defined role within the community system and larger health system.*

This definition encompassed a range of community-based workers with various titles, including village health workers, health promoters, community health agents, community health extension workers, traditional birth attendants, etc. Adopting a standard definition was critical in helping to define the literature search strategy.

To facilitate the development of operational definitions for the independent and dependent variables of the evidence review, and to assist in the development of focal questions and a hypothesis to guide the review, the Committee conducted two formative activities: an internal scoping exercise of USAID investment in CHW programming and an inductive analysis of selected CHW documentation. The Committee also organized a consultation with USAID implementing partners to solicit their feedback on this initial work. Each activity is described briefly below.

<u>Internal scoping exercise</u>

The three objectives of the scoping exercise were as follows: 1) to describe the breadth of USAID investment in CHW programming within Washington-managed, core-funded projects[2]; 2) to describe common themes emerging from selected CHW papers in the literature; and 3) to determine areas of commonality and complementarity.

A sub-group of the Steering Committee completed a review of core-funded projects with CHW components through both record review and interviews with selected USAID Contract and Agreement Officer Representatives and implementing partners. The sub-group also carried out

[2] Limited time and resources precluded a review of USAID-funded bilateral projects that support CHWs.

a cursory review of selected research papers (key reviews and peer-reviewed papers) published between 1988 and 2010. The choice of papers was determined through the sub-group's knowledge of frequently cited literature, discussions with key informants, and a bibliography-guided literature search. Twenty-one documents were selected. Each of four reviewers drafted a summary of key findings and highlighted the research gaps identified by each paper. Despite several limitations, the group succeeded in generating several important illustrative, formative findings drawn from both the review of operational projects (Box 2) and the purposive sample of research (Box 3). These findings contributed to subsequent conceptual thinking for the Summit.

Box 2. Formative findings (illustrative) from review of selected USAID core-funded projects with a CHW component

- Many projects tend to focus on CHWs as a mechanism for delivering or increasing demand for a particular service. This often involves training CHWs and/or developing tools to aid CHWs in service delivery or demand creation. Multiple examples of tools targeting specific services and technologies for use in different countries (primarily in Africa) were identified in pilot and other projects.
- The expected outputs of projects are frequently defined as the number of CHWs trained and their ability to deliver certain services. When projects measure outcomes, the tendency is to measure health outcomes, but not the more intermediate operational outcomes (such as retention of CHWs).
- In projects that may incorporate a research component, "what" questions (Can a CHW deliver a specific service?) and "why" questions (What are the health-related outcomes of CHW service delivery?) are investigated more frequently than "how" questions (Operationally what works best?). Research investigating the "how" is in the nascent stages (for example, there is one USAID-supported investigation that is examining the productivity and time required for delivery of services in an optimal household catchment area).
- Some of the more significant CHW implementation challenges include health system constraints (weak institutions, weak health management information systems, human resource shortages), individual-level capacity problems (low motivation, low literacy levels), sustainability issues (different compensation packages within the same district), supply chain/procurement deficiencies (stock-outs), retention and turnover realities (frequent retraining), and data collection/project design constraints (impossibility of disaggregating to the CHW level; countries want country-specific data).

Box 3. Formative findings (illustrative) from review of selected research articles, 1988-2010

- The majority of the reviews focused on "what" and "why" questions with little attention to "how" questions, which was identified as a key gap in the literature. This finding could have been driven by the reviewers' inclusion criteria. For example, one review only included studies if they "detailed the role of CHWS" and "the outcomes considered are those related to reaching the health and nutrition MDGs." Moreover, key knowledge gaps that were identified in 1988 continue to be knowledge gaps in 2011. Disaggregating these gaps, however, is difficult because of their interconnectedness, which also complicates priority setting in programming.
- Documents often make reference to the importance of using participatory methods and engaging the communities in which CHWs work; yet, there is little descriptive information on what this entails.
- Documents tend to focus on how CHWs fit within the formal health system, with far less attention to their place in the community system. Many knowledge gaps—such as how best to conduct supervision, recruit/select/retain CHWs, and administer incentives—are relevant to both systems.
- The bias in the literature toward "what" and "why" questions at the expense of "how"—the answers to which are most urgently sought by those working in the field—is consistent with the bias found in the review of on-going projects with CHW components. As a result of this exercise, the sub-group recommends that the Summit focus on examining the evidence behind operationalizing and sustaining CHW programs.

Inductive analysis

Building upon the scoping exercise—in particular the recommendation to explore questions about which support activities originating in both the community and formal health systems work best to improve CHW effectiveness—the inductive analysis was an effort to map the relationship between CHW performance and a constellation of factors affecting their performance. The analysis drew on a small, purposive sample of key documents about CHWs, which included some reviews of the literature[3]. This rapid exercise, completed in one week's

[3] LeBan et al. (2011). *Understanding Community Components of a Health System*, Unpublished document. Washington, D.C.: Core Group; HCI Project (2011). *Strengthening Community Health Systems to Improve Health Care at the Community Level*, Washington, D.C.: USAID Health Care Improvement Project, Unpublished document, Bethesda, MD: University Research Corporation. Shakir FK (2010). *Community Health Worker Programs: A Review of Recent Literature*, Washington, D.C.: USAID Health Care Improvement Project, unpublished document, Bethesda, MD: University Research Corporation; Kane et al. (2010). A realist synthesis of randomized control trials involving use of community health workers for delivering child health interventions in low- and middle-income countries, *BMC Health Services Research*, 10:286, doi: 10.1186/1472-6963-10-286;

time by a single investigator from the Steering Committee, was essentially a qualitative content analysis in which data and categories were derived directly and inductively from the documentation. As a result of this exercise and subsequent discussion among members of the Steering Committee and other USAID staff, three complementary measures of CHW performance (dependent variable) were endorsed (Box 1).

Box 1. Complementary measures of CHW performance

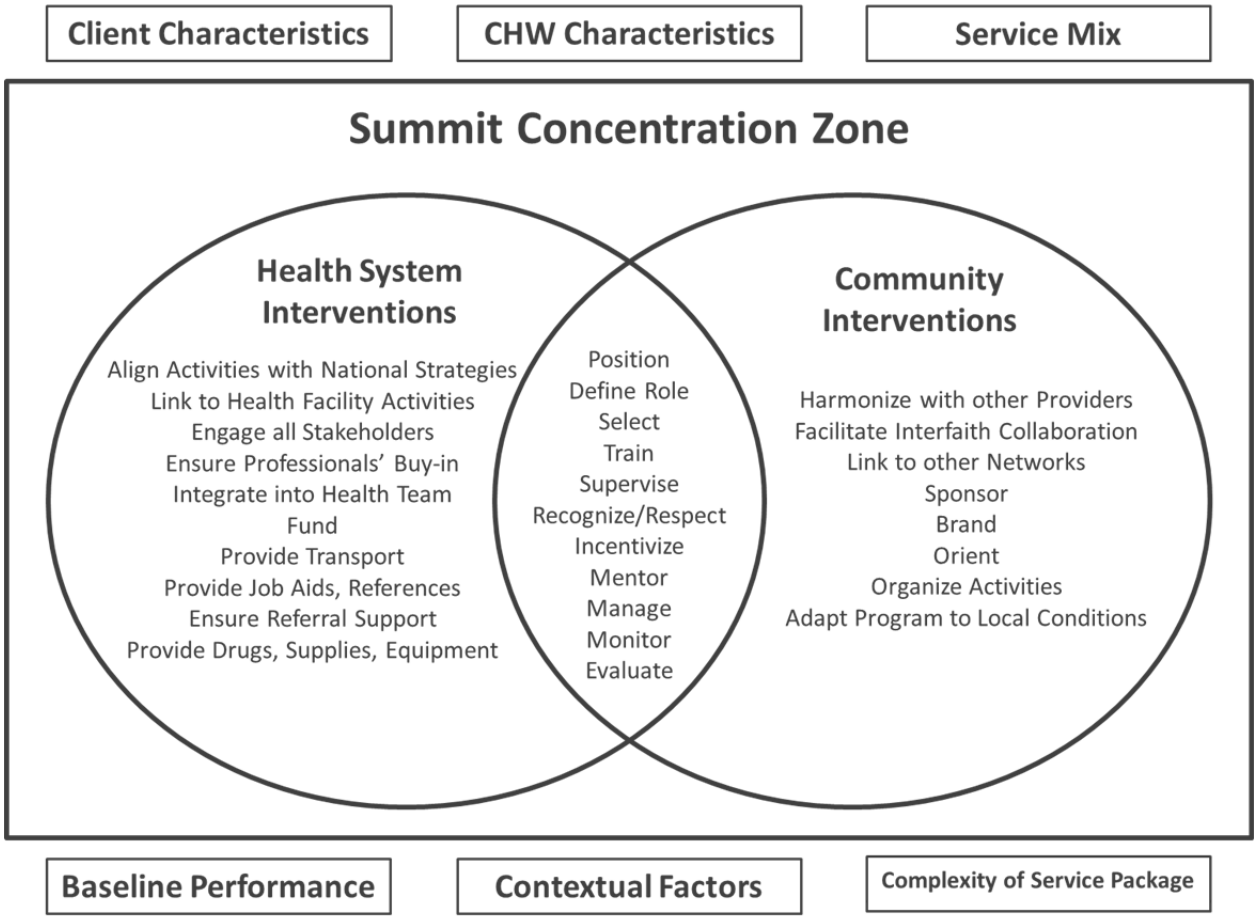
- *Distal*: CHW-attributable changes in population health (e.g., morbidity, mortality, and fertility rate reduction, improved equity, increased cost-effectiveness)
- *Intermediate*: CHW-attributable changes in clients' health (e.g., improved coverage of populations with essential health services, changes in care-seeking behavior, adoption of health-promoting practices in the home)
- *Proximate*: CHW-level cognitive, affective, behavioral, and social and professional status changes (including improved competency, self-efficacy, self-esteem, legitimacy, prestige, advancement, quality of service delivery, retention, and mobility)

The analysis also generated a preliminary list of independent variables, including illustrative technical support activities (e.g., criteria-based selection of CHWs, training, supervision) and social support activities (e.g. assistance from informal and formal structures and actors), and different forms of recognition (e.g., financial, non-financial, and in-kind incentives) commonly provided by communities alone, by the formal health system alone, and by both (Figure 2).

The inductive analysis also revealed that there are many factors other than interventions/activities that can influence CHW performance, including client, CHW, and community characteristics; service mix; the complexity of the service package; existing baseline performance; and socio-economic, political, and cultural contextual factors (Figure 2). It was decided that these factors should be acknowledged but held constant, and that the focus of the Summit would be an examination of the intervention literature alone.

Bhutta et al. (2010), *Global Experience of Community Health Workers for Delivery of Health-Related Millennium Development Goals: A systematic review, country case studies, and recommendations for integration into national health systems.* Geneva: Global Health Workforce Alliance.

Figure 2: Formal Health System and Community System Interventions to Improve CHW Performance



Consultation with implementing partners

In October 2011, USAID convened a group of its implementing partners that have a rich history of supporting CHW programming to review the relevance of this initial conceptual thinking, the preliminary focal questions, and the draft hypothesis. The partners had three general reactions. First, they thought that the question addressing the combined community and formal health system support activities to improve CHW performance was the most compelling. Consequently, they raised a series of relevant sub-questions, particularly around the notion of the ideal balance between the community and formal health system. For example,

- What role does social capital play in striking this balance?
- What are the structural issues that allow for these two systems to come together?

- Is there a way to analyze and provide guidance regarding which systems should provide what inputs?

Second, they confirmed that documentation on community and health system interventions, as well as activities at the intersection of the two systems, was available, but that this information may largely reside in the grey literature. Third, considering the prominent role of the grey literature in exploring these questions, the partners recommended that the Steering Committee carefully consider its definition of 'evidence.'

The partners' expectations of the Summit were diverse:

- Evidence-based guidance is needed on a common set of definitions, parameters, and/or measurements of support and performance so that the global community is collecting consistent data on inputs and defining success in the same way.
- Guiding principles may be in place about CHWs, but less is known about how to manage the CHW as an input for scaling up and sustainability. Best practices need to be identified, particularly at the interface of the community and formal health system to understand what works and how they can be replicated.
- Where and how the formal and community systems converge will be different in every context, and which system requires further strengthening to achieve quality health outcomes will also be dictated largely by context. However, it would be helpful if there are some general points of guidance that could be developed.

The results of the scoping exercise, inductive analysis, and consultation led to a decision to focus the evidence summit on the independent and combined effects of community and formal health system interventions in enhancing CHW performance, and on the most feasible, affordable, and contextually acceptable ways of providing such support.

Step ❷: Focal questions/hypothesis development

Focal questions

As a result of these exercises and consultation, and the decision to focus on support activities or interventions intended to improve CHW performance (Figure 2), USAID formulated four core focal questions to guide the evidence review (Box 4).

Box 4. Focal questions

1. Which community support activities improve the performance of CHWs?
2. Which formal health system support activities improve the performance of CHWs?
3. Which combination of community and formal health system support activities improve the performance of CHWs?
4. How are community and formal health system support activities structured and/or operationalized to improve CHW performance?

In the process of formulating the focal questions, the Steering Committee identified numerous community and health system actors who interact with CHWs and may or may not participate in the delivery of various support interventions (depending on the local context). For example, community system actors include village health committees, traditional healers, religious leaders, faith-based organizations, social support networks, community-based organizations and associations, multi-sectoral organizations, as well as political and governance leaders and groups. Health system actors include facility-based public sector health providers, facility-based private providers, supply chain personnel, ministry of health managers at all levels, and training and academic institutions, among other actors.

Hypothesis

The following hypothesis emerged from the formulation of the focal questions:

> *The combined effect of community and formal health system support activities on improving CHW performance is greater than the effect of either alone.*

Step ❸: Initial acquisition and screening of the literature

Based on the results of the three formative exercises described in Step 1, the Steering Committee did not expect to find a large number of high quality studies that directly answered the focal questions. However, the Committee decided to proceed with its investigation of these questions for several reasons. First, a potential finding of "insufficient research evidence" to satisfactorily address either the central hypothesis of the Summit or the four core questions was deemed an important finding in and of itself. A consequence of such a finding could be the identification of a strategic research agenda that could ultimately inform CHW policy and practice.

Second, the indirect benefits of the consultative and participatory approach to knowledge synthesis envisioned by the Steering Committee—involving a mix of academics and practitioners from the global health community—were judged to be worth the costs of investigating these questions. The evidence generation and synthesis process was viewed as a public good—not only because it provided an opportunity to marshal expert opinion on questions of policy and programmatic relevance in the event of a finding of insufficient research evidence, but also because a shared understanding of the strengths and limitations of the literature and current normative guidance-in-use might lead to an important evidence-to-action agenda. Finally, it was acknowledged that the mere exploration of these questions might lead to new and creative ways of thinking about how to enhance CHW performance, as the conceptual thinking reflected in these questions has largely been absent from the literature.

The Steering Committee's goal was to generate an initial database of literature comprising high-quality studies relevant to the focal questions in the belief that rigorous research would provide the strongest evidence for decision making, which was the goal of the Summit. The Committee also recognized, however, the rich body of work on CHWs beyond rigorous studies in the peer-reviewed literature. In the course of developing its literature search strategy, the Committee learned of a systematic review being carried out by researchers at the Centers for Disease Control and Prevention (CDC) on the effectiveness and costs of interventions to improve health care provider performance and related health outcomes in LMICs.

This review included a subset of studies on improving CHW performance. Considering the substantial overlap of the goals of the CDC review and those of the Summit, the Committee decided to incorporate the subset of CHW studies, with CDC's permission, into the Summit literature search strategy. The CDC database, however, only included studies published through May 31, 2006[4], with the exception of those studies that had been identified through personal libraries and other sources through September 15, 2010. USAID updated the CDC search to include studies published between June 1, 2006 and December 22, 2011. USAID did not have the resources, however, to replicate the CDC search strategy. Consequently, USAID completed a narrower search (PubMed only, compared to CDC's 15 electronic databases) in the "spirit" of the CDC search protocol (inclusion of experimental and quasi-experimental designed studies), acknowledging that experts would supplement this initial database with additional literature.

[4] Rowe AK, Rowe SY, Peters DH, Holloway KA, Chalker J, Ross-Degnan D. (2009). Improving health care provider performance in low and middle income countries. Chapter in: Implementing health service strategies in low and middle income countries. The World Bank: Washington, DC.

The CDC search yielded 128 studies on CHWs. The USAID search, covering the period June 2006-December 2011, yielded 183 studies. Because several of the studies identified through the CDC review were published after May 31, 2006, there were eight duplicate papers, which were removed from the USAID database. This yielded a total of 303 papers. Studies identified by CDC had all been screened for relevance to the CDC systematic review, but not for relevance to the Summit focal questions. Consequently, five dyads comprising ten members of the Steering Committee were tasked with screening approximately sixty studies each for their relevance to the focal questions and for subsequent sorting of studies by source of the intervention. The screening criteria were as follows:

- Language: English
- Study setting: LMICs
- Support activity: the paper must describe at least one specific activity intended to improve CHW performance
- CHW performance: the paper must report on one or more of the following measures of CHW performance—proximal, intermediate, distal outcomes (Box 1).

Each study that met the screening criteria was then assigned to one of the following four groups:

❖ Group 1: Community

The intervention(s) intended to improve CHW performance is/are delivered by actors based in the community. These actors could include village health committees, religious leaders, social support networks, community-based organizations/non-governmental organizations, multi-sectoral organizations, and political and governance leaders/groups.

❖ Group 2: Formal Health System

The intervention(s) intended to improve CHW performance is/are delivered by actors based in the formal health system. These actors could include facility-based public and private providers, supply chain personnel, and Ministry of health personnel.

- Group 3: Both the Community and Formal Health System

The intervention(s) intended to improve CHW performance is/are delivered by actors based in both the community and formal health system. Interventions may or may not be coordinated among the different system actors.

- Group 0: Does not apply

The intervention(s) intended to improve CHW performance is/are not delivered by either the community or the formal health system (such as when CHWs are trained by members of a research team) or it is not known who is delivering the intervention.

The resulting database included 147 documents, 21 of which were assigned to Group 1 (community), 75 to Group 2 (formal health system), and 51 to Group 3 (community and formal health system support). The remaining 156 articles were excluded from further review either because they did not meet the initial screening criteria or because they were assigned to Group 0.

Step ❹: Convening of evidence review teams (ERTs), assignment of literature, and call for additional evidence

The Steering Committee organized three evidence review teams (ERTs), one for each of the first three focal questions (i.e., a community team, a health systems team, and a combined community-health systems team). All ERTs were charged with addressing focal question #4 and considering the hypothesis during their reviews. Each ERT featured a mixture of academics and development practitioners with expertise in the design, implementation, and evaluation of CHW programs (Table 1). A chairperson and vice-chair guided the work of each team. Upon confirmation of the leadership and membership of each team, the Steering Committee assigned the relevant sets of the initial 147 document database to the respective ERTs.

The Steering Committee invited all ERT members to a Pre-summit meeting in March 2012, during which the Committee described the goals of the Summit; shared the preliminary conceptual thinking, focal questions, and hypothesis; and explained the procedures for the evidence review process and the two-day Summit event.

Table 1. Composition of Evidence Review Teams and literature assignment

Evidence Review Team/Article assignment	Institution
1—Community (21 articles)	AMREF, CORE Group, Future Generations Peru, IRC, Johns Hopkins University, Management Sciences for Health, National Institutes of Health, Population Council, Save the Children, University Research Corporation, World Vision
2—Formal Health System (75 articles)	Harvard University, Abt Associates, AMREF, CDC, EnCompass LLC, Gates Foundation, Population Council, Helen Keller, Initiatives, IntraHealth, John Snow Inc., Karolinska Institute/Uppsala University, Management Sciences for Health, Pathfinder, World Vision
3—Community + Formal Health System (51 articles)	Columbia University Earth Institute, FHI 360, George Washington University, John Snow Inc., Management Sciences for Health, National Institutes for Health, Save the Children, Training Resources Group, Universidad Peruana Cayetano Heredia, University Research Corporation

The Committee also asked the ERTs to recommend additional studies from the peer-reviewed and grey literature that they believed were relevant to each of the focal questions (Box 5). This "Call for Evidence" process began on March 5, 2012 and continued until May 24, 2012.

The Steering Committee suggested that each ERT conduct a simple quality screen of both the assigned articles and the additional literature identified through the "Call for Evidence" using a set of 6 questions. The ERTs differed in the degree to which they applied each of these questions. Those questions were as follows:

- Is the study design appropriate for the hypotheses?
- How well does the study adhere to the research plan (intervention implemented with fidelity?)
- Are the comparison groups equivalent?
- Are the endpoints valid and relevant to the study objectives?
- How appropriate was the data analysis?
- Are the study results generalizable (i.e., does it have external validity?)

Box 5. Guidance for the "Call for Evidence"

Priority 1: *Primary data papers of high scientific quality from the peer-reviewed literature*

- Describe at least one support activity intended to improve or maintain CHW performance and reporting one or more measures of performance, to include proximal, intermediate, and distal outcomes (as previously defined)
- Intervention studies or program evaluations with sufficient detail about what was implemented to analyze how the activities contributed to the outcomes
- Studies must be relevant to LMICs even though they may describe work done in developed countries
- Studies must be published in English

Priority 2: *Studies not peer reviewed*

- High quality systematic reviews based on a comprehensive literature search
- Grey literature (documents not published in journals) in the form of studies, reviews or evaluations
- Books or book chapters

Exclusions

- Descriptive studies
- Letters to the editor, commentaries or recommendations, book reviews, historical accounts
- Documents published in languages other than English, unless an English translation can be provided

Step ❺: ERT modifications to the initial focal questions, preliminary conceptual thinking, and the initial database of literature

Each of the ERTs exercised considerable discretion in preparing for its evidence review and synthesis. Some reframed the focal question; all refined the initial conceptual thinking so that it aligned with the original or their revised focal question(s); and all sought more relevant literature to better answer their focal questions. All ERTs supplemented their initial bibliographies with documents that they or their peers deemed important (final bibliographies are available in the ERT final Synthesis Papers). All ERTs subjected the majority of their papers to some kind of quality evaluation. The customized manner in which each ERT carried out this step is described in Boxes 6 (ERT 1), 7 (ERT 2), and 8 (ERT 3) below.

Box 6: ERT 1 (15 members)
FQ: Which community support activities improve the performance of CHWs?

There was a consensus among ERT members that the 21 articles they had received as their initial database did not adequately address their focal question. Although many of the studies demonstrated a positive health outcome resulting from one or more CHW-delivered services, the studies provided minimal description about how CHWs functioned in the community and almost no detail about how communities provided support to enhance their effectiveness. The CHW-delivered services and their health impact were the primary focus of most studies, not the nature of support CHWs received to enhance their performance.

Considering this limitation, the ERT charted a new course. First, they decided to identify what the team considered (i.e., expert opinion) to be essential components of community support needed by CHWs to optimize their performance. Those components were 1) *access*: What the community can do to facilitate the selection and utilization of CHWs; 2) *demand*: What the community can or cannot do to promote utilization of CHW services; 3) *support*: What the community can do to provide both financial and non-financial support to CHWs; and 4) *trust*: What the community can do to build trust between the community and the CHW. The team then established four sub-groups to search for evidence that addressed these four topics.

The team searched for studies where a positive outcome was achieved and that described the process of community engagement with CHWs. Approximately 255 documents—including peer-reviewed journal articles and reports from the grey literature—were found. All these articles were systematically screened for their relevance to the four topics, to the focal questions, and for quality. However, because many of these articles were identified late in the process, not all could be included in the evidence synthesis. The quality of the papers that were included was judged to be mixed, with limited experiments combined with descriptive studies.

Second, the team decided that the formulation of case studies of effective CHW programs from countries where these various topics of community support are known to be an integral component of program functioning could help contribute to the evidence in addressing the focal question. Third, the group identified additional documents that would be helpful in answering its focal question.

ERT 1 developed a conceptual framework that outlined the factors, processes, and structures that affect community support of the CHW. This model depicts the relationship between the CHW and the community, the various aspects of CHWs and the community that affect CHW performance, and the dynamics that create trust between the CHW and the community (See ERT 1 Synthesis Paper for more detailed information).

Box 7: ERT 2 (20 members)
FQ: Which formal health system support activities improve the performance of CHWs?

ERT 2 members believed that the initial body of literature gathered for their review included a large number of papers that were not relevant to answering its assigned focal questions. The overriding bias was towards studies of inputs and processes at the program level with little or no attention to higher system-level activities or how higher-level system factors affect CHW performance at scale. In response, ERT 2 formulated a modified focal question, developed a conceptual framework for organizing its literature review findings, and expanded its review criteria to include systematic reviews and studies with non-experimental designs.

Question. ERT 2 believed that its focal question was insufficiently robust; that is, it did not adequately distinguish between or address the dual roles played by the health system and CHW programs operating within those systems in enhancing CHW performance at scale. Consequently, the team refined its focal question to read as follows: *How can formal health systems do better to improve CHW performance, including aspects of program design, launch, scale-up and continuous improvement?*

Framework. ERT 2's conceptual framework is a nested hierarchy which embeds CHW performance within CHW program support factors (design, implementation, and monitoring/evaluation elements), which is embedded within health system support factors that are analogous to the WHO health system building blocks (governance, financing, health workforce, information, medical products, and service delivery). ERT 2 further "unpacked" both the program and health system factors to guide the literature review (See the ERT 2 Synthesis Paper for a more detailed discussion of these factors).

Literature review. With this revised question and conceptual frame in mind, ERT 2 revisited the preliminary database of 75 articles. Of the 75 articles, 27 were deemed relevant to this new thinking. Several other papers were identified via the Call for Evidence (10) or suggested by other ERTs (25). These 35 papers were screened for relevance to the new focal question. Of these 35 papers, 26 were deemed relevant. ERT 2 also added 12 review articles to their database, all of which had been excluded by the initial literature search strategy. In total, 62 articles were deemed relevant for more in-depth review. An ERT 2 member reviewed each of these articles, in accordance with a relevancy rating scale developed by ERT 2 members. The reviewer summarized each paper's findings using a review template developed by the ERT to match the conceptual framework and focal questions. One of the questions included in the review template asked whether there were any citations that should be added to the database. These citations generated an additional 29 articles, 10 of which were deemed relevant. In conclusion, 75 articles were reviewed by ERT 2 out of a total of 150 consulted.

Box 8: ERT 3 (14 members)
FQ: Which community and formal health system support activities improve the performance of CHWs?

At the pre-Summit meeting, ERT3 members agreed that in addition to reviewing the literature, the group should work through a structured critical thinking process to reach a shared understanding of CHW performance outcomes, the pathway of intermediary outcomes (or conditions) that may be required for these outcomes to be achieved, and, as a result, a broader understanding of support activities (or interventions) that enable the attainment of these outcomes. The goal of this exercise was to assist in examining the literature for interactions between the community and formal health systems. By defining conditions that contribute to improved CHW performance, ERT 3 analyzed the literature for interactions and complementary support activities between these systems for each condition in an effort to understand the relationship between these and the mechanism by which they contributed to performance (See ERT 3's Synthesis Paper for a more detailed discussion of the steps in and the outcomes of the critical thinking process). This process not only engaged ERT 3 members but also members of ERT 1 and ERT 2 to foster joint thinking across the ERTs. This exercise resulted in the iterative mapping of outcomes and conditions.

Similar to ERTs 1 and 2, ERT 3 found that the 51 assigned articles did not adequately address its focal question. The "Call for Evidence" generated 53 additional documents that met the established criteria (Box 5). All 104 articles were reviewed for relevancy using a rating scale developed by the ERT. Studies that met the relevancy criteria were then reviewed for the quality of the research design, implementation, analysis, and interpretation. All ERT members applied the quality screen recommended by the Steering Committee, which was administered through Survey Gizmo, which yielded a quality score between 0-1 for each document. The quality score of the reviewed literature varied between 0.14 and 1, with a mean score of 0.73. Finally, ERT 3 members completed a content review of each document and extracted any available information (See ERT 3's Synthesis Paper for a more detailed discussion of the literature review process.) Documents were also tagged with conditions identified through the critical thinking process to facilitate analysis of the literature. The conditions contributing to performance identified by this group process were used as themes for the analysis of interactions between community and formal health systems and the relationship between these support activities and performance.

Step ❻: Literature review, synthesis, and recommendations

The USAID Steering Committee charged each ERT with 1) reviewing and synthesizing the literature; 2) making recommendations for policy and practice; and 3) identifying knowledge gaps to inform a research agenda. The Committee also advised ERTs to use both expert opinion and empirical evidence in their deliberations. ERTs also were asked to evaluate the strength of

the evidence for efficacy (what works in a specific context or for an individual), effectiveness (what works in a variety of contexts, among different populations and countries), and sustainability (what is affordable, feasible and culturally appropriate at scale) using a five-point scale: strong, moderate, poor, not supported because of inconsistent or insufficient data, and evidence against the approach. Similarly, they were asked to make recommendations based upon both evidence and expert opinion, according to the strength of the recommendation and the quality of the evidence.

In practice, numerous constraints made it difficult for the ERTs to adhere to all of the afore-mentioned guidance. These constraints included the following:

- The compressed timeframe for review and synthesis
- The broad nature of multiple focal questions
- The mix of peer-reviewed and grey literature in each ERT database
- The poor fit between the literature and the focal questions
- The delay in acquiring all pertinent literature
- The customized search-selection-appraisal-synthesis approaches pursued by each ERT
- The limited supplementary resources available to support this work
- Challenges in interpretation of findings

Taken together, the literature reviews conducted by the three ERTs combined elements of a traditional systematic review with those of a rapid, narrative evidence summary[5], resulting in a hybrid approach to knowledge synthesis.

Where the ERT reviews converged with a systematic review were in the following areas:

- The purpose was to collect, evaluate, and present available research evidence and identify gaps in the literature.
- An *a priori* specified set of research questions guided the CHW literature review strategy.
- Pre-defined eligibility criteria for study inclusion were established.
- An explicit search strategy to identify all studies meeting the eligibility criteria was pursued.

[5] Khangura S, Konnyu K, Cushman R, Grimshaw J, Moher D (2012). Evidence summaries: the evolution of a rapid review approach. Systematic Reviews, 1:10. http://www.systematicreviewsjournal.com/content/1/1/10.

- There was on-going consultation with the reviewers to identify additional studies.
- The two-day Summit event was structured to inform and validate the findings of the review.

Where the CHW literature review diverged from most systematic reviews were in the following areas:

- The ERTs comprised a large number (approximately 49 individuals) of part-time reviewers, some of whom may be considered "stakeholders" (i.e., currently engaged in supporting CHW programs around the world through policy and program advice, technical assistance, and financial support), who were spread over multiple teams, each of which exercised discretion in the procedures they followed and the instrumentation they applied to their tasks. *(Systematic reviews are commonly carried out by a small number of full-time researchers with more limited or no "stake'' in the results, who are guided by standard and tightly controlled procedures and instrumentation.)*

- The ERTs had no choice but to carry out their reviews and write their syntheses within a very limited time frame and with few supplemental resources. Although their reviews may be considered "rapid," there were important costs in terms of the individual time commitment of team members, most of whom had other full-time jobs. *(Systematic reviews can take several years to complete, which increases the costs of implementing them.)*

- The ERTs accepted a wide range of controlled and uncontrolled studies drawn from the published and gray literature, evaluation reports, and systematic reviews, which presented challenges for judging the strength of the evidence. *(Systematic reviews commonly accept the Randomized Controlled Trial as the gold standard design—although quasi-experimental designs are sometimes admitted—thereby allowing for application of standard rules and procedures for judging the strength of the evidence.)*

- The methods adopted by the ERTs are only partially reproducible, because of the customized approach used by each team. *(Systematic reviews commonly apply a single explicit, rigorous, transparent, and reproducible method.)*

- The extent to which each ERT presented the basic characteristics and findings of each study reviewed varied. *(Systematic reviews commonly present the basic characteristics and findings of all the studies included in the review.)*

- Each ERT provided a concise, readable, narrative summary of the evidence. (*Systematic reviews usually produce longer, more detailed technical reports on evidence findings.)*

- ERT appraisal of the literature was complicated by the difficulty of assessing quality and synthesizing findings from different study designs included in their reviews, few of which adequately addressed the focal questions of interest. *(The hallmark of systematic reviews is the quality appraisal and synthesis activity, which assigns relative weight of the evidence in favor of the effectiveness of particular interventions.)*

- Because of many of the afore-mentioned factors, particularly the ERTs' need to rely on expert opinion, the experts' interpretation of their findings was more limited and cautious. *(Systematic review inferences are usually evidence-based.)*

ERT Synthesis Papers were shared with the Steering Committee and all participants invited to the two-day Summit event in advance of the meeting.

II. The Evidence Summit Event (May 31-June 1, 2012)

On May 31-June 1, 2012, approximately 150 participants (Annex I) from LMIC governments and non-governmental organizations, USG and non-governmental agencies, bilateral and multilateral agencies, and domestic and international academic institutions assembled at the Kaiser Family Foundation in Washington, D.C. to review and comment on the findings and recommendations of the ERTs. What follows are the highlights from the agenda of the two-day meeting (Annex II):

- A keynote address by the Deputy Administrator of USAID (Annex III)

- A panel discussion—with representatives of the USG, the UN system, the Global Health Workforce Alliance, and an NGO—that examined the role of enhanced CHW performance in reaching the MDGs (Annex IV)

- A summary presentation on the evidence review process and overall results

- Individual presentations from the ERTs on their evidence syntheses and recommendations (See the Recommendations section of this report for additional information). Each ERT made two presentations: an overview of the evidence used in drafting the synthesis report and draft recommendations for policy, practice, and research. Different group exercises provided the opportunity for participants to provide feedback to the ERTs.

- A panel session on innovations that influence CHW performance, including the role of mobile technology, task shifting, and a case study of innovation in action, featuring the Female Community Health Volunteers (FCHVs) of Nepal (Box 9)

Box 9. Female Community Health Volunteers (FCHVs), Nepal

FCHVs are recognized at the community, district, and national levels through an "FCHV Day" celebration. FCHV image and credibility is further enhanced through advocacy materials and television programs. Financial support for FCHVs is provided at both the community (monthly meeting costs, uniform purchases, etc.) and national levels (management of a FCHV fund, uniform allowances, etc.).

- A synthesis of policy, program, and research recommendations (See the Recommendations section of this report for additional information). Participants suggested additional evidence that may have been missing from the reviews, and offered additional recommendations for policy, practice, and research[6].

- A panel discussion about country perspectives and priorities with official representatives of Liberia, South Africa, Vietnam, Zambia, and the India National Health Systems Resource Center. This session provided an opportunity for country representatives to react to the findings of the review and to share their experiences and challenges in ensuring good stewardship and the sustainability of their respective programs (Box 10).

[6] All ERTs took into consideration these suggestions of additional evidence and recommendations in the preparation of their final synthesis papers.

Box 10. Country perspectives on CHWs

Presentations from India, Liberia, South Africa, Vietnam, and Zambia confirmed many of the design and implementation challenges documented in the literature, but also provided fresh policy and programmatic insights often only partially captured by the written record. For example, all countries confirmed the dynamic and contrasting environments in which CHW programs emerge and evolve—from a response to a decimated health workforce resulting from civil strife, to a particular feature of a national re-engineering of service delivery, or as an outgrowth of larger health sector reforms—suggesting the importance of context for proper design, implementation, and evaluation. The saliency of context and the need for tailoring support to local needs to achieve impact were further reflected in the reporting of the variation in roles and responsibilities of CHWs from one country to another.

Many countries also highlighted the value of learning by doing and seeing—from incremental piloting, evaluation, and modification of a program within a country, to first-hand learning from countries such as Brazil and Ethiopia through site visits or review of their program documentation. Every country is keenly aware of the contribution key stakeholders make to the successful development and nurturing of CHW programs. For example, CHW strategies, policies, and human resource plans developed by national and local governments need to accompany continuous community involvement and buy-in—an assertion that demonstrated the relevance of the Summit's central hypothesis.

Many of the countries face common challenges of ensuring adequate coverage of their populations with a well-deployed CHW workforce and identifying appropriate remuneration or compensation, whether it be in the form of salaries, stipends, incentives (both financial and non-financial), or some combination of these. Although the different kinds of basic programmatic support CHWs require to be functional are well understood, all countries cited the challenge of providing adequate, consistent, and sustained support. Other challenges include ensuring CHWs provide quality services, continuously improve their performance, and be responsive to the expressed needs of communities.

- A "Next Steps" session intended to build on the momentum created by the Summit. Participants assigned to three work groups were charged with making suggestions on how to improve collaboration at the country and global levels, and with identifying a research agenda for the future. A fourth group comprising ERT members discussed the implications of the Summit for the revision and completion of their Synthesis Papers and the eventual publication of their work

- Closing remarks from the Senior Deputy Assistant Administrator for Global Health, USAID

Findings

This section of the report examines the extent to which the evidence addresses the Summit's focal questions and hypothesis, and what was learned about stewardship of CHW programs at country and global levels.

Focal questions/hypothesis

Acknowledging that…

1) CHWs can successfully deliver a range of preventive, promotional, and, in some cases, curative services that contribute to improved coverage and positive health outcomes; and
2) there are many factors other than performance-improving interventions that influence CHW performance, including CHW, client and community characteristics; service mix, the complexity of the service package; and contextual factors

…experts participating in the Summit identified, through literature review and expert opinion, different kinds of technical and social support interventions as well as different forms of recognition that may plausibly contribute to improved and sustainable CHW performance at scale. Experts cautioned, however, that context matters—the effectiveness of similar interventions may vary by cultural setting, type of service, target group, and other contextual factors.

On the community side, the interventions that are likely associated with positive CHW performance include some combination of those listed in Box 11. A more detailed discussion of each of these interventions is available in ERT 1's Synthesis Paper.

On the formal health system side, the interventions that are likely associated with positive CHW performance include some combination of those listed in Box 12. A more detailed discussion of each of these interventions is available in ERT 2's Synthesis Paper.

Box 11. CHW performance-improving community interventions

- Community participation/involvement in CHW selection, and all aspects of CHW programming (design, management, implementation, monitoring, evaluation)
- Technical and social support from formal community structures, such as health committees, oversight bodies, women's groups, local leadership, community-based organizations, faith-based groups, clubs, community care coalitions, immediate and extended family, and kinship networks
- Incentives: non-financial (e.g., praise, respect, feedback), in-kind (exemption from other duties in the community, access to free health care or education services, donations of animals or food, provision of free farm labor or other services), and financial (supplementary income from sale of medicines and other health-related products, performance-based pay, transport stipend, etc.)
- Strengthened relationships among CHWs, such as facilitating CHW membership in CHW associations or peer group interactions

Box 12. CHW performance-improving health system interventions

- Clarity of role and responsibility and a feasible, manageable scope of work through clearly defined job descriptions
- Consistent availability of drugs, commodities, tools, supplies, and equipment (i.e., an adequate supply chain that provides CHWs with the essential tools of the trade)
- Provision of appropriate pre-service education and continuing in-service training
- Provision of job aids and other performance-enhancing tools and materials
- Supportive supervision, constructive feedback, mentoring
- Adequate financial and non-financial incentives
- Guidelines for planning, including costing
- Effective linkages with formal health system structures, other health care workers, and community structures
- Support from local and national government entities
- Systematic monitoring and evaluation of CHW performance

Despite evidentiary shortcomings, experts from ERT 3 asserted that when both systems provide support—in an integrated manner—positive, sustained CHW performance at scale is likely to result. Current evidence, however, is insufficient to determine what combination of support activities produce the best results as most studies are not designed to answer such questions.

Some examples are presented in Box 13. A more detailed discussion of each of these interventions is available in ERT 3's Synthesis Paper.

Box 13. CHW performance-improving interventions from communities and health systems

- Shared ownership of CHW programs through joint collaboration in program design
- Joint supervision
- A negotiated and coordinated package of incentives, whereby the formal health system may provide financial incentives while the community and health system combined provide non-financial incentives, including career growth opportunities or recognition
- Development of a practical information system that captures data from both the formal health system (e.g., health records, supervisor observations, etc.) and community system (e.g., community member feedback, individual CHW feedback, etc.) that both use to enhance CHW performance
- Strengthened linkages between communities and health systems to enhance performance and mitigate unintended consequences

The research evidence in support of moderate to strong expert opinion, however, is weak. This is not because rigorous studies of the support-performance relationship have demonstrated a lack of effect; rather, questions about which interventions from which systems (independently and combined) are most likely to improve CHW performance are not commonly raised or adequately investigated. In this literature on CHW support interventions, conceptual thinking is not robust, the scope of formal inquiry is narrow, few studies describe what CHWs actually do, and few explain adequately to what extent and how communities and/or formal health systems support them.

Furthermore, many of the studies are short-term, carried out on a small-scale —often with a rural focus—and tend to test the efficacy of either a discrete programmatic activity (akin to a clinical drug trial and under conditions that are not easily replicated in routine programs at scale) or an entire program (without adequate specification of the program, or attention to the relative importance of different programmatic elements). Few test the effect on performance of specific health system or community system interventions beyond the program level. Even at the program level, however, there are gaps. For example, multi-arm studies of the relative effectiveness of different combinations of technical support vs. social support vs. recognition are absent in the literature.

There is also a bias toward the measurement of distal measures of performance without explicit linkages to more intermediate or proximate changes that are in the causal pathway to ultimate population-level change. Finally, the literature provides few insights into the question of feasible, affordable, and appropriate ways to provide different kinds of support. For example, there are virtually no rigorous studies that examine the attributes of program interventions, such as the type and intensity of different models of CHW training, or the frequency, nature, and duration of supervision. Moreover, few studies shed light on how support activities might vary according to the kinds of tasks and responsibilities CHWs are expected to carry out, or by the nature of the communities they serve. The value of such studies is that they might identify more effective and efficient means of delivering these and other program-level interventions.

Experts agreed that the existing empirical database provides insufficient evidence to satisfactorily address either the central Summit question of the independent and combined effect of community and formal health system interventions in enhancing CHW performance, or the complementary question of the most feasible, affordable, and contextually acceptable ways of providing such support. There is strong colloquial knowledge,[7] but weak research evidence about the support-performance relationship as it relates to CHWs. This knowledge comes primarily from studies that are limited in scope and lack rigorous designs and methods, observation of program implementation over many years, and monitoring and evaluation reporting on CHW programs. Current normative guidance is driven primarily by this colloquial knowledge. Finally, the authors recognize that documents published in languages other than English, inaccessible documentation, and undocumented experiences may address these focal questions.

Stewardship

During both the year-long lead-up to the Summit and during the two-day Summit event, it became apparent that stewardship of CHWs at both the country and global level is fragmented. Many public health programs and actors at national and sub-national levels enlist the services of CHWs, with, it appears, limited coordination. This fragmentation raises the question, among many others, of who is responsible for the overall welfare of CHWs and quality assurance of the services they provide. There appears to be considerable variation in the degree of

[7] Bosch-Capblanch X et al. (2012). Guidance for evidence-informed policies about health systems: rationale for and challenges of guidance development. *PLoS Medicine*, 9 (3): e1001185. Doi: 10.1371/journal.pmed.1001185.

fragmentation from one country to another, explained, in part, by the differing origins and evolution of CHW programs over time. This same fragmented, multi-actor response is also observable at the global level. For example, within two months of the Summit event, three other international conferences on Community Health Workers were organized[8]. Although the purpose and objectives of each of these events was slightly different, there was considerable thematic overlap and inadequate coordination among these meetings.

Recommendations

By shining a light on the CHW at the intersection of two dynamic and overlapping systems, the Steering Committee hopes the Summit will stimulate an evidence-to-action agenda reflecting new and creative thinking about how to better mobilize and optimize the value of the inputs from both systems to enhance CHW performance; the development of a research agenda to support sustainable, effective health service delivery at the community level; and improved stewardship at global and community levels. Three sets of recommendations are presented here: (1) five core recommendations, (2) a set of specific recommendations for policy/practice and research; and (3) recommendations directed specifically to the USG.

Core recommendations

1. To foster a stronger evidence base, the USG Evidence Summit recommends a strategic research agenda that attempts to answer challenging questions of policy and programmatic significance for CHW programs operating at scale. A more rigorous exploration of this multi-level (program and system), dual and overlapping system support-performance relationship, for example, could advance the knowledge base on how best to support CHWs in the field. This perspective has been largely missing from the literature. Adoption of a strategic agenda that better addresses the central hypothesis of the Summit could provide a better understanding of how to optimize the

[8] Technical consultation on the role of community based providers in improving MNH (30-31 May), organized by the Royal Tropical Institute, Netherlands; Community Health Worker Regional Meeting (19-21 June), convened by USAID-funded Health Care Improvement Project, Addis Ababa, Ethiopia; Health workers at the frontline: Acting on what we know. Consultation on how to improve frontline access to evidence-based interventions by skilled health care providers (25-27 June), convened by NORAD and coordinated by EQUINET, in Nairobi, Kenya. The Global Health Workforce Alliance is endeavoring to coordinate these various actors and to develop a strategic agenda that could provide better stewardship of CHW programs at country and global levels.

value of the inputs and processes from both community and formal health systems to enhance CHW performance.

2. This research agenda will require innovative study designs and methodologies—potentially synthetic or novel methods from non-health fields—to answer complex questions about the performance of this important and diverse cadre of the health workforce. It also will require increased mentorship and capacity building to ensure CHW research is driven by investigators in LMICs. A concerted effort is needed to develop the capacity of investigators from LMICs in formulating research questions of local relevance and in carrying out the investigations using a range of methods.

3. CHW programs change in predictable and unpredictable ways as community and formal health systems evolve. Yet, there is limited understanding of how CHW programs are designed and implemented, and what works; consequently, greater investment in prospective and retrospective documentation of large-scale programs is recommended, with an eye toward their intended, unintended, and perhaps counter-intuitive effects.

4. The Summit has contributed to greater conceptual clarity about how to think about improving CHW performance. A robust logic model that captures this thinking could guide country policy makers and donors in their efforts to improve program design as well as monitoring and evaluation efforts. Such a model also could help identify potentially promising areas for operational research.

5. A more coordinated approach to sound stewardship of CHW programs at both the country and global levels is urgently needed. The role that the Global Health Workforce Alliance can play in improving such coordination should be further explored and discussed.

A collective commitment to improved stewardship, backed by greater conceptual clarity, documentation, and LMIC-driven research is a potentially fruitful evidence-to-action agenda that could help address the common constraints to improved and sustained CHW performance at scale.

Specific recommendations for policy/practice and research

These recommendations reflect the deliberations of the ERTs and are based on a combination of the following: analysis of the initial and expanded literature, consultation with team members, analysis across available evaluations, consideration of consensus across the literature, consensus and expert opinion, and suggestions made to the ERTs by the participants at the two-day Summit event.

The recommendations below are organized into two categories: policy/practice and research. The authors have organized the research recommendations into three categories—research questions, conduct of future research (setting, type of research, methods, funding, etc.), and use of findings—by domain (community, formal health system, both)[9]. A more detailed discussion of the recommendations can be found in all the ERT Synthesis Papers.

Policy and Practice

A. Community (ERT 1)

1. Long-term, sustainable financing mechanisms are critical for sustaining the provision of services by CHWs, allowing for continuity in training and supervision, as well as expanding services to achieve desired coverage to achieve benefits.
2. Community participation—in deciding what duties CHW should assume and how they will be selected, trained, recognized, supported, supervised, and provided with incentives and ongoing training or opportunities for advancement—should be an integral part of CHW programs.
3. Considering that community demand/satisfaction appears to be influenced by CHW provision of curative services and drugs, emphasis should be placed on training CHWs to provide some basic curative services and on improving the medical supply chain. Community satisfaction with the curative services provided by CHWs provides legitimacy to the CHW, which brings credibility to the preventive and health promotion activities of the CHW program.
4. If sectors other than health are seen as higher priorities and/or root causes of poor health by the community, then CHW programs should be linked to those

[9] This is a post-hoc, author-imposed classification system. Consequently, not all categories contain recommendations from all ERTs.

sectors (for example, agriculture or water). This, like curative services, may offer an entry point for broader primary health care programming and also may led to a better reception of the key CHW services that improve population health.

5. Fostering the development of interpersonal, institutional, and community trust is critical for effective CHW programs. Programs should ensure that context-specific expectations of CHWs, program managers, and policy makers are in alignment, and that policies and resources are in place to enable these expectations to be met.
6. Equity considerations are paramount in structuring community engagement to prevent co-optation by influential members of the community and exclusion of marginalized groups, and to ensure that the interests of women and children are represented adequately.
7. CHW programs need to learn how to meaningfully tap into the community's reservoir of good will, volunteerism, and desire to help others in the community, and self-interest for the benefit of CHW programs.

B. Formal health system (ERT 2)

1. CHWs expand access to services in resource-poor areas; they do not replace the need for facility-based services.
2. Any CHW program should include clear standards, competency-based capacity building, on-going mentoring and supervision, a defined scope of work, some kind of incentives (financial/non-financial), clear links to the formal health system care processes, and performance monitoring and improvement.
    a. Adequate role definition is important both for training needs and for how to integrate CHWs into the health delivery system.
    b. Training is necessary but not sufficient to translate knowledge into practice.
    c. Supervision is a continuous challenge; creative solutions or new approaches are needed to monitor, support, and coach CHWs in a consistent manner.
    d. Motivation is key to ensuring ongoing productivity and quality of CHW performance.
3. Avoid previous design and implementation failures by ensuring the health system is ready to provide the necessary support (supervision, supplies, incentives, etc.).

4. Country health systems need to directly address the role they see for CHWs, how they are integrated into the formal health system, and how their role is intended to evolve as part of an evolving health system.
5. If multiple initiatives in different regions or in the same region but focusing on different health programs are found to weaken health system support, consider strategies for integration or local variation and control.
6. Supportive regulatory frameworks and bodies (councils, unions, associations) for CHW practice need to be developed to establish well-defined scopes of practice, standardized training, clear career development paths, and incentive systems. This, along with continued advocacy, will engage governments and formal cadres within the health system and the community to accept and support a fully prepared, integrated, and respected CHW cadre.
7. Develop guidelines for formal health system support planning and monitoring, including unit costing and for remedial action for weak support.
8. Formalizing and strengthening the role of the CHW needs to fit with the broader effort of strengthening the entire health system to ensure sustainability and achievement of specific MDG goals. The role of government funding sources, country ownership, and the private sector are critical components that cannot be ignored.

C. Community and formal health system (ERT 3)

1. Ensure joint ownership of CHW programs by the formal health system and the community.
2. Consider fundamental linkages and interactions between support activities during program design and implementation.
3. Combine an appropriate package of financial and non-financial incentives for increased sustainability and improved performance and retention.
4. Utilize a combined approach (i.e., interventions from both the formal health system and community systems) to support CHW performance.
5. Structure a practical information system to support CHW performance.
6. Increase documentation and dissemination of design and implementation of CHW support activities.

Research

-Potential research questions-

A. Community (ERT 1)

1. What are the best and most appropriate indicators of individual CHW and overall CHW program effectiveness?
2. What are the determinants of community satisfaction, trust, demand, and use of CHWs, particularly with respect to how setting (urban vs. rural), ethnicity, inclusion, and equity affect community demand for services?
3. What role do CHW-specific networks or associations play in improving CHW support and performance, at both individual and group level, in generating and sustaining demand, as well as in facilitating an effective continuum of care between the community and health facilities?
4. How can community engagement and demand be maintained and how does this affect CHW performance as greater scale and coverage are achieved?
5. How can community monitoring of CHWs enhance CHW motivation and performance?
6. What are the inputs and processes at the community and formal health system levels necessary for optimizing CHW performance and retention as well as overall CHW program effectiveness?
7. What is the link between social inclusion and achievement of better equity and coverage of CHW services for the poorest of the poor?
8. What are the different dimensions of CHW programming at the community level? How do successful programs function at the community level?
9. How is trust best measured and what are the actions CHW programs can take to maximize CHW-client trust or, at least, to minimize the initial level of mistrust that might exist?
10. What are the best practices in community support for CHWs, particularly in the form of non-financial incentives and local financial support?
11. What kinds of supportive policies are needed that will foster community support for optimizing CHW performance?
12. How can CHWs build the capacity of communities to improve the health of all its members?

13. Does community support always improve CHW performance? Are there examples where it does not?
14. To what degree do CHW programs promote community ownership and community empowerment versus increased dependency on outside entities, and how do these contrasting approaches affect CHW performance?
15. What kind of demand-side incentives increase the uptake of CHW services in the community?
16. Is there any association between diversity in financial support for CHWs (including local community support) and sustainability or effective service delivery?
17. What are the consequences and potential productivity losses that occur when community members are asked to serve as volunteers?
18. Does the availability of other community-level providers affect the role and function of CHWs?
19. What can be done to strengthen village health committees so that they function in an equitable, transparent, and responsive manner and improve CHW performance?
20. How can community governance structures be strengthened to empower communities to assist in the planning of CHW programs and to assist CHW program implementers in improving CHW performance?

B. Formal health system (ERT 2)

1. Do multiple CHW initiatives in different regions or in the same region (but focusing on different health programs) weaken health system support for CHWs by diffusing effort, or do they have positive effects by allowing greater programmatic focus?
2. How much can CHWs effectively do?
3. How might their characteristics affect performance?
4. How much financing of CHW programs is adequate (including both design and operational costs)?
5. When is it appropriate to remunerate CHWs? Who should pay and how much?
6. Which interventions to strengthen specific health system support activities result in improved CHW performance at scale?
7. How do specific health system factors or combinations of those factors affect CHW performance at scale?

8. How can the efficiency and cost-effectiveness of CHW programs be improved?
    a. What is the optimal number of tasks/interventions to be delivered?
    b. What is the optimal supervisor to CHW ratio?
    c. What is the optimal geographic coverage for CHWs?
    d. What is the optimal remuneration (financial and non-financial) to maintain motivation and retention?

C. Community and formal health system (ERT 3)

1. What mix of community and formal health system support activities improve CHW performance?
2. What is the effect of shared ownership of CHW programs?
3. What are the fundamental linkages and interactions between support activities?
4. What is the optimum structure of a practical information system to support CHW performance?
5. How are CHW support activities designed and implemented?

-Conduct of future research (setting, type of research, methods, funding, etc.)-

A. Community (ERT1)

1. Priority needs to be given to answering the Summit's focal questions in large-scale CHW programs and in urban slum settings.
2. There is a need to document and assess best practices in community and formal health system support for CHWs. Case studies of CHW programs can provide rich insights into the questions raised by the Summit. Although some studies exist (e.g., Comprehensive Rural Health Project in Jamkhed, India; BRAC Shashtya Shebika CHW program; Female Community Health Volunteer Program in Nepal; Community-directed Interventions Program in Africa) more can and should be developed.
3. A rich body of "unprocessed" evidence exists in program evaluation reports and personal experience that needs to be refined to help in addressing the Summit's focal questions.
4. Considerations regarding CHWs and their effectiveness need to move into the mainstream of health systems strengthening research because this is clearly the new frontier for health systems to optimize their impact on population health.

Interested researchers will need adequate funding to support these types of investigations.

5. Randomized trials of CHW performance in large-scale programs where significant investments in building community partnerships are made in the intervention arm of the study are needed.

B. Formal Health System (ERT 2)

1. Research should shift from pilot studies of single interventions to how programs should operate at scale.
2. Evaluate long-standing CHW programs that are operating at scale (Ethiopia, Malawi, Nigeria) to identify and test interventions to strengthen health system support.
3. Develop a long-term (10 years) global human resource agenda of policy and implementation research that focuses on key priority areas that PEPFAR/GAVI/GFATM and other donor funding can support. This agenda should focus on building evidence on how the formal health system can better support and improve CHW performance in a sustainable manner.
4. Promote best practices for CHW program performance evaluations and a "basic minimum" of reporting standards on key elements that relate to health system factors, CHW program factors, and proximate and intermediate outcome measures of CHW performance where possible.

C. Community and Formal Health System (ERT 3)

1. A range of innovative research methodologies, both quantitative and qualitative, will be required to better address the outstanding question of the optimal mix of community and formal health system support interventions to improve CHW performance.
2. Future research should draw upon sources of data beyond those commonly collected through the health system, to include community and individual CHW feedback on performance, as well as availability and supply of medical materials, tools, and technology.
3. Future research should include more precisely defined process indicators as end-points and include detailed descriptions of the steps taken to measure impact of CHW support activities.

-Use of research findings-

A. Community (ERT 1)

1. Ministries of Health can learn from successful, large-scale programs in Brazil, Nepal, and Ethiopia, for example, when developing their CHW programs. These programs offer key lessons on determining how community support and engagement can be encouraged and organized, as well as on how to monitor and evaluate implementation.
2. Progress will depend, in part, on leaders from communities and health systems learning from successful examples of effective CHW programs, which will require adequate funding to facilitate the process.
3. There is a need to develop "communities of practice" where the accumulated information and knowledge can be shared with practitioners and leaders of CHW programs

<u>Recommendations directed specifically to the USG</u>

-Conduct of future Summits[10]*-*

1. It would have been useful for the ERTs to have had more time to prepare their Synthesis Papers and for all participants to read the papers in preparation for the Summit.
2. The country perspectives panel should have been first on the agenda to frame thinking in some real context and to provide examples of country programs to refer back to throughout the Summit. Overall, discussion could have benefitted from more case studies.
3. Future Summits could place greater emphasis on sustaining dialogue and mechanisms for participating in future documentation.
4. When the issues of interest concern real world services and programs, the medical perspective on what constitutes "high quality evidence" is not appropriate. RCTs are far too narrow in focus to provide insights that are genuinely useful on complex implementation issues.

[10] All recommendations come from written participant evaluations of the Summit Event.

-Proposed follow-on support[11]*-*

1. There is an urgent need for detailed case studies of large-scale CHW programs. USAID could provide funding to move this documentation forward.
2. USAID should improve accessibility to its existing resources, including project reports and evaluations of CHW work. This catalogue could be part of a larger CHW toolkit.
3. To drive progress in CHW programming, USAID should develop a clear position paper validating the importance of CHWs to share with other donors.
4. Convene a global advisory group to propose strategies for addressing the formal health system level support needed for functioning CHW programs (keeping in mind past mistakes or oversights that led to a reduction of support in the 1980s for CHW programs).
5. Continue to support CHW programs contingent on significant efforts to address health system support necessary to ensure continuous provision of essential CHW program elements.
6. Work with GHI countries to include strategies for CHW support in their country programs and monitor progress as part of their HRH strategies.

Conclusion

Countries that are making limited-to-no progress on the MDGs need to act in the near term to counteract the health workforce shortages that are impeding their progress. As the Summit has demonstrated, these countries will have to make decisions about CHWs with less-than-perfect information. Current research evidence is insufficient to determine the best combination of support activities to produce the best results. Moreover, fragmentation in CHW stewardship—at both global and country levels—further impedes effective decision making.

Although the Summit—which adapted the methods of a systematic review condensed into a compressed timeframe—has not produced conclusive findings or provided definitive, evidence-based guidance, experts recommend that countries that continue to deploy CHWs at scale do so in a way that 1) reflects the accumulated body of colloquial and research knowledge; 2)

[11] These recommendations emerged from a "Next Steps" discussion during the Evidence Summit event, and are drawn from the three ERT Synthesis Papers.

fosters continuous learning and experimentation, resulting in appropriate local adaptations of programs over time; and 3) sheds further light on the proposition that supporting strong CHW program development can help strengthen health and community systems, and that supporting strong health and community systems can strengthen programs and ultimately enhance CHW performance.

Better documentation and more rigorous, systematic inquiry can help address this knowledge gap and improve understanding of what works best. Improved stewardship of CHW programs at global and country levels also can go a long way toward ensuring this important work moves forward in a way that allows the global community to advance incrementally the state of the art. As a follow-up to the Summit, USAID intends to review its internal stewardship of CHW programming to ensure optimal efficiency and effectiveness of its considerable investment in improving care at the community level. The findings and recommendations from the Summit, as well as a more in-depth exploration of many of the themes that emerged during the Summit, will be further disseminated through the publication of a series of papers in the peer-reviewed literature.

Annexes

Annex I: Evidence Summit Event Participants

Annex II: Evidence Summit Event Agenda

Annex III: Evidence Summit Event Opening remarks by Deputy Administrator

Annex IV: Evidence Summit Event CHWs and MDGs Panel Q&A

Annex I

Evidence Summit Event Participant List

First	Last	Title	Representation
Ummuro	Adano	Deputy Director and Senior Capacity Building Advisor, AIDSTAR-Two Project	Management Sciences for Health
Laura	Altobelli	Peru Country Director	Future Generations
Ugo	Amanyeiwe	Senior Technical Advisor, Community Care and Prevention with PLHIV	USAID
Roodly	Archer	Epidemiologist, Health Systems Reconstruction Office, Center for Global Health	Centers for Disease Control
Ian	Askew	Director, Reproductive Health Services and Research	Population Council
Brook	Baker	Health Global Access Project, Program on Human Rights and the Global Economy	Northeastern University
Robert	Balster	Jefferson Science Fellow	USAID
Donna	Barry	Policy & Advocay Director	Partners in Health
Amie	Batson	Deputy Assistant Administrator	USAID
Junior	Bazile	Director of Community Health	Partners in Health Malawi
Jennifer	Bergeson-Lockwood	Technical Advisor, Maternal & Child Health	USAID
Peter	Berman	Adjunct Professor of Population and International Health Economics	Harvard School of Public Health
Linda	Birch	County Health Officer	Liberia Ministry of Health and Social Welfare
Jill	Boezwinkle	Grants Management Specialist	USAID
John	Borrazzo	Chief, Maternal and Child Health Division	USAID
Mario	Bravo		USAID
Lily	Brent	Orphans & Vulnerable Children Intern	USAID
Clive	Brown	Associate Director for Science, Division of Global Migration and Quarantine	CDC
Mary	Carnell	Director, Center for Maternal, Newborn and Child Health	John Snow Inc.
Dennis	Cherian	Deputy Director	World Vision
Dawn	Chin-Quee	Researcher, Behavioral and Social Sciences	FHI 360
Andrew	Chirwa	Training Officer	Zambia Ministry of Community Development, Mother and Child Health
Var	Chivorn	Chief of Party	Cambodia Together for Good Health Project
Mickey	Chopra	Chief of Health	UNICEF
Gloria	Coe	Technical Advisor	USAID
Pamela	Collins	Director, Office for Research on Disparities & Global Mental Health; Director, Office of Rural Mental Health Research	National Institutes of Health
Paul	Colson	Program Director, CP Felton National TB Center; Project Director, Peer Advanced Competancy Training	International Center for AIDS Care and Treatment Programs, Columbia University
Kristin	Cooney	Director, Country Portfolio	Management Sciences for Health
Samantha	Corey	Program Assistant, Office of Population & Reproductive Health	USAID
Lauren	Crigler	Senior Quality Improvement Advisor for Health Workforce	Initiatives, Inc.
Karen	Daniels	Health Systems Research Unit	Medical Research Council of South Africa
Diane	DeBernardo	Nutrition Advisor	International Medical Corps
Emmanuel	D'Harcourt	Senior Health Director	International Rescue Committee
Nene	Diallo	Technical Specialist	Africare
Hannah Sarah	Dini	Program Manager, CHW Scale Up	Earth Institute, Columbia University

Annex I

Evidence Summit Event Participant List

First	Last	Title	Representation
Stephanie	Dolan	Program Manager, Malaria and Child Survival Department	PSI
To	Duc	Chief, Social Work Division/Social Protection Department	Vietnam Ministry of Labour, Invalids and Social Affairs
Aaron	Emmel	Senior Policy Advisor	PATH
Thobekile	Finger	Care Specialist	USAID/South Africa
Lisa	Fleisher	Technical Advisor	USAID
Jim	Foreit	Doctor of Public Health	Population Council
Ciro	Franco	Global Technical Lead, MNCH	Management Sciences for Health
Lynne	Franco	Vice President, TA and Evaluation	EnCompass LLC
Seble	Frehywot	Associate Research Professor of Health Policy and Global Health	George Washington University School of Public Health and Health Services
Diana	Frymus	Health Systems Strengthening Advisor	USAID
Christine	Galavotti	Director, Sexual, Reproductive & Maternal Health	CARE USA
Hannah	Gardi	Community Care and Prevention Intern	USAID
Connie	Gates	Vice President	Jamkhed International
Asha	George	Assistant Professor, Health Systems & International Health	Johns Hopkins Bloomberg School of Public Health
Christine	George	Department of International Health	Johns Hopkins Bloomberg School of Public Health
Jesse	Germanow	Program Assistant, Office of HIV/AIDS	USAID
Kate	Gilroy	Assistant Scientist	Johns Hopkins Bloomberg School of Public Health
Victoria	Graham	Senior PVO/NGO Technical Advisor	USAID
George	Greer	Senior Child Health Advisor	USAID
Marcia	Griffiths	President	Manoff Group
Kristina	Gryboski	Technical Advisor, Child Survival and Health Grants Program	USAID
Jose	Gutierrez	Health Systems Strengthening Intern	USAID
Agnes	Guyon	Senior Child Survival and Nutrition Advisor	John Snow Inc.
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Paige	Harrigan	Advocacy Specialist, SPRING Project	John Snow Inc.
Jim	Heiby	Medical Officer	USAID
Anne	Herleth	Care and Support Intern	USAID
Jim	Herrington	Director, Division of International Relations, Fogarty International Center	National Institutes of Health
Libby	Higgs	Science Advisor for Research and Innovation	USAID
Steve	Hodgins	Global Leadership Team Leader, MCHIP Project	John Snow Inc.
Joan	Holloway	Vice President	International Association of Physicians in AIDS Care
Luis	Huicho	Professor	Universidad Peruana Cayetano Heredia
Dennis	Israelski	President & CEO	InSTEDD
Troy	Jacobs	Senior Advisor, Child Health & Pediatric HIV/AIDS	USAID
Erin	Jones	Project Coordinator II, Global Health and WASH	World Vision
Kristy	Kade	Family Health Advocacy Officer	PATH
Jimmy	Kolker	Principal Deputy Director, Office of Global Affairs	Health and Human Services
Dan	Krashaauer	Global Technical Lead, Health Systems Strengthening	Management Sciences for Health
Nazo	Kureshy	Team Lead, Child Survival and Health Grants Program	USAID

Annex I

Evidence Summit Event Participant List

First	Last	Title	Representation
Londa	Langa	Manager, Special Projects	South Africa National Department of Health
Lindsay	Lange	Public Health Officer	International Medical Corps
Ilana	Lapidos-Salaiz	Senior Advisor, HIV/AIDS Care and Support	USAID
Laura	Laski	Chief, Sexual and Reproductive Health Unit	UNFPA
Karen	LeBan	Executive Director	CORE Group
Simon	Lewin	Senior Researcher	Norwegian Knowledge Centre for the Health Services and Medical Research Council of South Africa
Anne	Liu	Health System Development Coordinator, Center for Global Health and Economic Development	Earth Institute, Columbia University
Rose	MaCauley	Chief of Party	Liberia Rebuilding Basic Health Services Project
Ronald	Magarick	Vice President, Technical Leadership	Jhpiego
Murtala	Mai	Community Health Advisor	E2A Project
Leah	Masselink	Department of Health Services Management and Leadership	George Washington University School of Public Health and Health Services
Jim	McCaffery	Deputy Director, CapacityPlus Project	Training Resources Group
Suzzane	McQueen	Technical Director, African Strategies for Health	Management Sciences for Health
Lisa	Meadowcroft	Executive Director	AMREF
Maury	Mendenhall	Orphans & Vulnerable Children Advisor	USAID
Maurice	Middleberg	Vice President for Global Policy/CapacityPlus Project Director	IntraHealth International
Mutinta	Musonda	Deputy Director of Human Resources and Administration	Zambia Ministry of Health
Joe	Naimoli	Health Scientist	USAID
Hana	Nekatebeb	Senior Technical Advisor, Nutrition	John Snow Inc.
Martha	Newsome	Partnership Leader, Global Health and WASH	World Vision
Peter	Ngatia	Director, Capacity Building	AMREF
Crickett	Nicovich	Outreach and Advocacy Associate	RESULTS
Tim	O'Brien	Jefferson Science Fellow	USAID
Susan	O'Halloran	Director	Frontline Health Worker Coalition
David	Oot	Associate Vice President, Health and Nutrition	Save the Children
Julio	Pacca	Director, Technical Services Unit	Pathfinder
Daniel	Palazuelos	CHW Task Force Coordinator	Partners in Health
John	Palen	HRH Technical Advisor	Abt Associates
Raj	Panjabi	Executive Director	Tiyatien Health
Kaitlyn	Patierno	Program Analyst, Africa Bureau Health Team	USAID
Charmaine	Pattinson	Director, Human Resources for Health	Clinton Health Access Initiative
Henry	Perry	Senior Associate	Johns Hopkins Bloomberg School of Public Health
Stefan	Peterson	Professor of Global Health	Karolinska Institutet and Uppsala University
Joseph	Petraglia	Senior Advisor for Behavior Change	Pathfinder
Suzanne	Petroni	Vice President for Global Health	Public Health Institute
Jim	Phillips	Professor of Clinical Population and Family Health	Mailman School of Public Health, Columbia University
Amelia	Pousson	MPH Student	George Washington University School of Public Health and Health Services

Annex I

Evidence Summit Event Participant List

First	Last	Title	Representation
Estelle	Quain	Senior Technical Advisor, Human Resources for Health	USAID
Pamela	Rao	Senior HIV/AIDS Prevention Technical Advisor	USAID/Vietnam
Roxana	Rogers	Director, Office of HIV/AIDS	USAID
Emily	Roseman	Program Analyst, Health Systems Strengthening	USAID
Rebecca	Roth	Presidential Management Fellow	National Institutes of Health
Chi Chi	Roxo	Technical Advisor, Community & Home Care	USAID
Kelly	Saldana	Deputy Director, Office of Health, Infectious Disease and Nutrition	USAID
Lois	Schaefer	Senior Technical Advisor for Human Capacity Development and Training	USAID
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Anita	Shankar	Associate	Johns Hopkins Bloomberg School of Public Health
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Sarah	Shannon	Executive Director	Hesperian Health Guides
Mubashar	Sheikh	Executive Director	Global Health Workforce Alliance
Ashoke	Shrestha	Chief of Party	Nepal Family Health Program II
Ram	Shrestha	Senior Quality Improvement Advisor	University Research Co., LLC
Diana	Silimperi	Vice President, Center for Health Services	Management Sciences for Health
Prabjhot	Singh	Postdoctoral Research Scientist, Director of Systems Design	Earth Institute, Columbia University
Linda	Spink	Organizational Development Specialist	Training Resources Group
John	Stanback	Deputy Director, PROGRESS Project	FHI 360
Eric	Starbuck	Advisor, Child Health and Pandemic Preparedness	Save the Children
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Andrea	Sternberg	GHI Country Coordinator, Nepal and Bangladesh	USAID
Barbara	Stilwell	Director of Technical Leadership	IntraHealth International
Eric	Swedberg	Senior Director, Child Health & Nutrition	Save the Children
Thiagarajan	Sundararaman	Executive Director	India National Health Systems Resource Center
Khetisa	Taole	Director of Primary Health Care	South Africa National Department of Health
Mary	Taylor	Senior Program Officer, Global Health Program	Bill & Melinda Gates Foundation
Manisha	Tharaney	Policy and Health Systems Advisor, SPRING Project	Helen Keller International
John	Townsend	Vice President, Reproductive Health	Population Council
Carolyn	Wetzel	Director of Health Programs	Food for the Hungry
Erica	Wheeler	Advocacy and Communications Officer	WHO
Timothy	Williams	Senior Evaluation Advisor	John Snow Inc.
Tana	Wuliji	Senior Quality Improvement Advisor for Health Workforce Development	University Research Co., LLC
Mark	Young	Senior Health Specialist	UNICEF
Rose	Zulliger	PhD Student	Johns Hopkins Bloomberg School of Public Health

ANNEX II

Evidence Summit Event Agenda

U.S. Government Evidence Summit:

Community and Formal Health System Support for Enhanced Community Health Worker Performance

May 31st & June 1st, 2012 • Kaiser Family Foundation • 1330 G Street, NW • Washington, DC 20005

PROGRAM OVERVIEW

The global shortage of skilled, motivated and supported health workers is universally acknowledged as a significant barrier to reaching the Millennium Development Goals. To help alleviate this shortage, many countries are implementing large-scale Community Health Worker (CHW) programs to extend the reach of services to underserved populations. Several health workforce campaigns launched in 2011 called for more and better-supported health workers, a large number of whom are CHWs. Evidence to inform effective, sustainable CHW programs is essential to the low- and middle-income country (LMIC) governments implementing them. This Evidence Summit will examine the types of community and formal health system support activities that are intended to improve CHW performance and how this support is provided. Three evidence review teams were formed to review both peer-reviewed and gray literature through the lens of four focal questions:

Focal Question 1: Which community support activities improve the performance of community health workers?

Focal Question 2: Which formal health system support activities improve the performance of community health workers?

Focal Question 3: Which combination of community and formal health system support activities improve the performance of community health workers?

Focal Question 4: How are community and formal health system support activities structured and/or operationalized to improve CHW performance?

Draft Evidence Review Team papers will be circulated to participants prior to the Summit. During the Summit, the evidence review teams will present preliminary findings and recommendations for discussion by Summit participants. The Summit format utilizes plenary sessions and small group discussions to maximize opportunities for expert consultation with leading researchers and technical experts. Based on recorded and documented feedback, final papers will be revised following the Summit and submitted for publication.

Expected outcomes from the Summit include a clearer understanding of where evidence supports standardizing policies, programs and strategies; the identification of knowledge gaps to shape a research agenda; and the identification of recommendations for LMIC governments and communities for enhanced CHW performance. It is hoped that the global health community, including the US Government and LMIC governments, will utilize these evidence-based recommendations to envision a novel systems strategy and research agenda to support sustainable, effective health service delivery at the community level by maximizing the value of all systems inputs to improve CHW performance.

Funding for the Summit *was provided by the USAID Bureau for Global Health. The Kaiser Family Foundation provided venues for the Pre-Summit and Summit. Many organizations contributed by supporting expert participant time and travel.*

U.S. Government Evidence Summit: Community and Formal Health System Support for Enhanced Community Health Worker Performance

EVIDENCE SUMMIT AGENDA

Day 1 – May 31st, 2012

8:00-8:30 Registration and Coffee

SESSION I WHY CONVENE THIS EVIDENCE SUMMIT?

8:30-8:40 Welcome and Introduction
Estelle Quain, *U.S. Agency for International Development*

8:40-9:00 Keynote Address
Ambassador Donald Steinberg, *Deputy Administrator, U.S. Agency for International Development*

9:00-10:00 Reaching the Millennium Development Goals through Enhanced CHW Performance
Mickey Chopra, *Chief of Health, UNICEF*
Ambassador Jimmy Kolker, *Principal Deputy Director, Office of Global Affairs, Health and Human Services*
David Oot, *Associate Vice President, Health and Nutrition, Save the Children*
Mubashar Sheikh, *Executive Director, Global Health Workforce Alliance*
Moderator: **Estelle Quain**, *U.S. Agency for International Development*

SESSION II THE EVIDENCE REVIEW PROCESS

10:00-10:20 The Evidence Review Process and Results
Elizabeth Higgs, *U.S. Agency for International Development*

10:20-10:50 Coffee Break

10:50-11:00 Evidence Review Team (ERT) Presentations and Discussion Process Overview
Linda Spink, *Training Resources Group, Inc.*

SESSION III EVIDENCE REVIEW TEAM 1: COMMUNITY SUPPORT ACTIVITIES
Chair: **Henry Perry**, *Johns Hopkins Bloomberg School of Public Health*
Vice Chair: **John Townsend**, *Population Council*

11:00-1:00 Presentation of Evidence
Presentation of Recommendations
Interactive Small Group Discussion and Evidence Review Team Feedback

1:00-1:45 Lunch

U.S. Government Evidence Summit:
Community and Formal Health System Support for Enhanced Community Health Worker Performance

SESSION IV **EVIDENCE REVIEW TEAM 2: FORMAL HEALTH SYSTEM SUPPORT ACTIVITIES**
Chair: **Peter Berman**, *Harvard University School of Public Health*
Vice Chair: **Lynne Franco**, *EnCompass, LLC*

1:45-3:45 Presentation of Evidence
Presentation of Recommendations
Interactive Small Group Discussion and Evidence Review Team Feedback

3:45-4:00 **Coffee Break**

SESSION V **INNOVATIONS THAT INFLUENCE CHW PERFORMANCE**

4:00-5:00 Panel Presentation
mHealth: **Dennis Israelski,** *InSTEDD*
Task Shifting: **Barbara Stilwell,** *IntraHealth International*
Innovation in Action: Female Community Health Volunteers in Nepal: **Ashoke Shrestha,** Nepal Family Health Program II
Moderator: **Joe Naimoli**, *U.S. Agency for International Development*

U.S. Government Evidence Summit:
Community and Formal Health System Support for Enhanced Community Health Worker Performance

Day 2 – June 1st, 2012

8:00-8:30	Registration and Coffee
SESSION VI	**EVIDENCE REVIEW TEAM 3 – COMMUNITY AND FORMAL HEALTH SYSTEM SUPPORT ACTIVITIES** Chair: **Seble Frehywot**, *George Washington University School of Public Health and Human Services* Vice Chair: **Tana Wuliji**, *University Research Co., LLC*
8:30-10:30	Presentation of Evidence Presentation of Recommendations Interactive Small Group Discussion and Evidence Review Team Feedback
10:30-11:00	Coffee Break
SESSION VII	**SYNTHESIS OF POLICY, PROGRAM AND RESEARCH RECOMMENDATIONS**
11:00-12:30	Interactive Small Group Discussions Looking at ERT Recommendations
12:30-1:30	**Lunch**
SESSION VIII	**EVIDENCE TO ACTION**
1:30-3:00	Country Perspectives and Priorities: Integrating and Building on the Recommendations **Linda Birch,** *Liberia Ministry of Health and Social Welfare* **Duong Thu Hang,** *Vietnam Ministry of Health* **Mutinta Musonda,** *Zambia Ministry of Health* **Khetisa Taole,** *South Africa National Department of Health* **Sundararaman Thiagarajan,** *India National Health Systems Resource Center* Moderator: **Roxana Rogers,** *Director, Office of HIV/AIDS, U.S. Agency for International Development*
3:00-3:15	**Coffee Break**
3:15-4:45	Next Steps: Building on the Summit Momentum
4:45-5:00	Closing Remarks **Amie Batson**, *Senior Deputy Assistant Administrator for Global Health, U.S. Agency for International Development*

ANNEX III

Evidence Summit Event Opening Remarks by Deputy Administrator Donald Steinberg

Good morning. I'm pleased to be here today to kick off this evidence summit on community health workers and the role they play in improving health outcomes and saving lives.

This summit is part of a broader series of roundtables on components of the President Obama's Global Health Initiative, and it's another important step in our efforts to put knowledge and learning at the center of our global development work.

I've had the pleasure to participate in previous summits on the role of trained practitioners in maternal-child health care and on efforts to assist children outside of family care.

At USAID, we're committed to bringing together practitioners, researchers, social scientists, advocates, private enterprise, foundations, international organizations, and government officials from donor and partner countries to address the world's most difficult development challenges.

And so I wanted to begin by thanking you both for the work you've already completed in reviewing the evidence and formulating the recommendations that serve as the basis for discussions over the next two days, and for your commitment going forward.

In particular I want to thank Ambassador Jimmy Kolker from Health and Human Services, Mickey Chopra from UNICEF, Mubashar Sheikh from the Global Health Workforce Alliance, and David Oot from Save the Children, who will be presenting their perspectives and experience with community health worker programs this morning.

I'm also particularly grateful for the participation of representatives of seven ministries of health from Africa and Asia. You bring experience, wisdom and ground truth to our work, which is essential as we review recommendations and develop an agenda for supporting these community workers and improving programs for the most hard-to-reach populations.

Health service delivery in countries with critical health worker shortages remains a major challenge facing the global health community and an obstacle to reaching the health-related Millennium Development Goals.

I've spent most of my career in developing countries in Africa and Asia, where there is a lack of doctors, nurses, midwives and other professionals. In these environments, community health workers are the key to better health at the local level. They provide the life-saving information, medicines and referrals which can save a child from dying from malaria, diarrhea or pneumonia, or a mother or infant from dying in childbirth.

I've recounted the story before, but this summit brings me back to where I started in the development arena. Thirty-five years ago, I went out to my first Foreign Service assignment in the Central African Republic, where I was asked to help create and implement a $2 million health project for the rural province of Ouham.

With no experience, I had the novel idea to travel to the region and talk to the people there. We first talked to the government officials – provincial governor and mayors. Incidentally: all men. They told us that health conditions were generally acceptable, and that the principal need was an air conditioned office building for government workers.

Then we went out to the marketplace and the community centers to sit under baobabs trees and talk to women. They said that the principal health problem was that mothers and children were dying in vast numbers from childbirth and preventable childhood diseases.

They said that the causes included mothers in weakened conditions from malnutrition, malaria, diarrhea, and schistosomiasis; the absence of trained midwives and birth attendants; and the lack of clinics at the village level with most basic drugs. They were also realistic enough to know that neither their government nor the donor community would build them a big fancy hospital filled with doctors and nurses.

And so we took their cue. We put together emergency feeding programs for children and pregnant and lactating women. We supported training and financial incentives for community health workers. We built and stocked village health huts. Over the next two years, we monitored the progress, made course corrections, and built local capacity to take over the program. Two years later, we could already see significant declines in child and maternal mortality.

As I reflect back, our conversations with those women in the marketplace was an early form of an evidence summit. The methods we applied in the Central African Republic are being mirrored throughout the world, and we're having real success and getting new attention. Read the Washington Post editorial this morning, entitled: "The Drop in Child Mortality: A Wonderful Accomplishment Offers Promise for the Future."

The editorial notes that two weeks from today, USAID, in collaboration with UNICEF and the Governments of India and Ethiopia, will be hosting a Call to Action to End Preventable Child Deaths here in Washington. Community health workers are central to achieving the vision of ending preventable child deaths. Without their efforts to reach the most remote communities where there is no other access to health services, this vision cannot be achieved.

Our government has a long history of improving the supply and quality of human resources for health. For decades, USAID and our US government partners at State and HHS have integrated education, training and support of health workers into our programs. These investments have accelerated since the fight against HIV/AIDS and the advent of PEPFAR, under which we have trained almost 300,000 of these workers in the last two years alone.

But training alone won't ensure the effective and sustainable improvements, even at the community level where providers are closest to those they serve. And so our approach to human resource strengthening thus includes efforts to also improve the motivation, productivity and retention of health providers.

For this reason, this summit is focused on community health worker performance. We know what community health workers are able to achieve and the impact they can have on the health of their communities, but we know less about how they work or the interaction of the systems within which they function.

The CHW is a key actor at the intersection of two dynamic and overlapping systems. Both the community and the formal health system provide support to these workers. How this support is provided is not often examined and how these two systems interact to influence CHW performance is rarely considered.

By being evidence-based, we help to ensure that we can save the greatest number of lives as cost-efficiently as possible and that our investments will be sustainable by our partner countries.

In this time of diminishing donor resources, and in accord with the principles of President Obama's Global Health Initiative, we are supporting "country ownership" and investing in country-led plans.

Throughout this summit, and especially tomorrow, we will be looking to the representatives of partner country governments to provide your perspectives on how we can work together to achieve greater sustainability and strengthen country stewardship of community health worker programs.

We also need to consider how to build innovative and sustainable coalitions among donors, partner governments, civil society, and the private sector, recognizing that no single entity has the capacity to do this alone and recognizing that no one has a monopoly on financial resources, on good ideas, on ground truth or on moral authority.

In conclusion, I want to urge you, throughout the next two days, to keep your eyes squarely focused on the prize: the fight to improve health outcomes and save lives in developing countries. And in so doing, we will need to keep these people themselves at the center of our discussion.

Thinking back to the lesson of the Central African Republic, our strategies must involve them as planners, implementers and beneficiaries of all our programs. We have an expression at AID: "Nothing about them without them." Let that admonition guide our work over the next two days. I wish you a productive two days, and I look forward to the outcome of your deliberations and follow up actions. Thank you.

ANNEX IV
Evidence Summit Event CHWs and MDGs Panel Q&A

Reaching the Millennium Development Goals through Enhanced CHW Performance

Panelists:

- Ambassador Jimmy Kolker, Principal Deputy Director, Office of Global Affairs, Health and Human Services
- David Oot, Associate Vice President, Health and Nutrition, Save the Children
- Mubashar Sheikh, Executive Director, Global Health Workforce Alliance
- Mark Young, Senior Health Specialist, UNICEF (Mickey Chopra was unable to attend the Summit due to a last-minute conflict).

Q: Given that the MDGs are set for 2015, can you identify our collective progress toward meeting these goals? To what extent is the lack of health services at the community level contributing to the slow progress?

Mark Young: We have seen a reduction in under-five mortality since 1990 (12 million in 1990 versus 7.6 million in 2010, representing a 1/3 reduction in 20 years). To meet the goal, we need another 1/3 reduction over five years. According to the 2012 Countdown Report, 22 countries are on track to meet the goal, but 13 are making little progress. There is great inequity between the lowest and highest quintiles of the population. Treatment coverage is low for primary causes of under-five mortality, and there are inequities in coverage as well (socioeconomic status, rural/urban). Treatment tends to go to those who are already receiving interventions. Strategies to increase availability of and access to services for the most disadvantaged are needed.

Mubashar Sheikh: We have seen encouraging reductions in maternal mortality (maternal mortality reduction of more than 50%), but only 9 of 75 countries are on track for the same reduction in under-five mortality. The problem really lies with the countries with the bulk of under-five and maternal mortality. Global averages mask what is happening within these countries. The human resources are not there and the services are simply not being delivered. The human resource crisis is a global one – the skills mix, support from the formal health system and competency is not present. This is adding to the inequity, raising issues of fairness and obligations of the health sector and the government. Over the last 10-15 years, innovative ideas have been raised and funded, one of which is CHWs. The evidence showing that CHW programs are working and saving lives is critically important.

Q: What is the role of CHWs within our ability to achieve the MDGs? What is the USG doing to expand the role of CHWs?

David Oot: Additional deaths need to be averted: we need to save the lives of 6-7 million children under five in order to reach the MDGs (according to a Lives Saved Tool analysis). In theory this is possible. If we dramatically increase delivery of services, there is the possibility of achieving real impact at scale. Empowering and enabling frontline health workers to deliver these interventions would have great impact. The USG should continue to make smart, strategic choices – focusing on the gaps in coverage (for example, newborn care – in Southeast Asia, 50-60% of under-five deaths occur in the first month of life) and reaching the unreached. More resources are needed, but increased funding isn't the whole answer. We are under-financing the cost of scaling up programs and lack the health workers needed to deliver these interventions. In some countries there is no delivery platform to be mobilized, but there is promise in many areas where we work.

Ambassador Jimmy Kolker: The GHI makes a difference, and this Summit is evidence that the GHI is changing the way we think about global health, as the scientific and implementing partner communities don't always communicate. AIDS shines a light on many issues in health systems that were present before the disease was discovered – access, stigma, family-centered approaches, health workers. In Uganda in the early PEPFAR days, the delivery of services by paraprofessionals on motorcycles shifted service delivery from the clinic to the home. Home-based testing has seen more success in Uganda than in Kenya, even though the communities seemed similar. PEPFAR has supported training for CHWs in Ethiopia, where the AIDS epidemic is concentrated among MARPS. General CHWs may not be the best way to reach MARPS and specialized programs may be needed. Less than 25% of mothers receive an antenatal care visit. PMTCT coverage is only 40%.

Q: What specific experiences working with CHWs would you like to share?

Mubashar Sheikh: The Lady Health Worker program in Pakistan. In 1993 the government decided to look for resources for a CHW program focused on delivering an essential package of services to women and children. The program had to overcome cultural constraints – women were not allowed to leave their homes or to seek health services – and clinics lacked staff and financial resources. The government reached out to the international community and received a poor response. Donors believed there was not enough evidence to support the proposed programs and they shouldn't be pursued. But there was political will behind the initiative and the program moved forward. After showing initial success in attracting volunteers, donors were more willing to provide funding. With the right support, commitment and education, CHW programs can have great impact. CHW programs face different gaps, different challenges and different lessons to be learned, but they still have impact. This summit is to discuss evidence but there is considerable experience to show that these programs work (Iran community-based health systems strengthening program with good indicators, GHWA systematic review of eight case countries). The evidence is there and it should be used to build better programs (like Ethiopia has done). Politicians and policymakers should be taken to the field to be exposed to these programs.

David Oot: Experience managing a USAID basic health services project in Pakistan. The project trained a new cadre of workers called medical technicians. Implementation was challenging – the workers who had received training were not from the locality where they were assigned, so they didn't go to work. The innovation in Pakistan is to find a way to locally recruit and train. Absenteeism in the Lady Health Worker Program is negligible. There is an assumption that CHWs are overworked, but CHWs (Nepal study) want to do and learn more. Motivation is what they know to be valuable in their community. They must be linked to and supported by the health system – for example, drug stockouts are major constraints. Because they are frontline health workers, we often assume we are reaching the unreached through CHW programs. But we can't really make this assumption in many places, especially when talking about the poorest and most marginalized populations. We must make sure to target and reach the lowest quintile.

Q: Given that some countries have implemented CHW programs for decades, how can we promote a better exchange of ideas and experiences across countries?

Mark Young: This is very important to UNICEF. We need the right people to visit countries with established programs. Can the MDGs be achieved through CHW programs? UNICEF did an analysis that modeled the potential for mortality reduction under the current approach against an equity-focused approach. CHWs are a central part of this. An equity strategy would accelerate progress toward the MDGs.

David Oot: Cross-country visits work if the right people are on the teams. They don't (and shouldn't) necessarily result in a country adopting a particular model. But they do often lead to a review of current policy and practice. They encourage better documentation of learning and results.

Q: How can the USG contribute to the research agenda and setting research priorities?

Ambassador Jimmy Kolker: We must find champions for CHW programs – need people who can see impact. The NIH agenda depends on US-based academics/researchers and reflects their priorities. Principal Investigators from the field are needed to focus on research that is relevant to host country populations. Want to see more research on paid versus unpaid CHWs; link to clinical outcomes; impact of small-scale local technologies and how to scale up; measurements of quality and how to reward/deal with it; costing and financing of services; CHWs as value-added in some programs/diseases.

Mubashar Sheikh: Champions are important and are needed at the highest level, but frontline workers are champions themselves. They create momentum and demand, which gives them ownership and encourages quality.

David Oot: We should listen and learn from the frontline health workers about the challenges they face and get a better sense of what they are doing. We should examine how CHWs are spending their time, opportunity costs and unintended consequences.

Mark Young: Implementation research on challenges and barriers to scaling up integrated community case management (examine barriers such as motivation, supply chain, monitoring, demand side, etc.). Remember the importance of district level management of programs – this level often does not have decision-making authority or space, especially around resource allocation, that is needed.

Photo Credits

Cover/far left: A female health worker measures a newborn in a Bangladeshi village. 2009 Farrah Mateen, Courtesy of Photoshare.

Cover/middle left: In Ethiopia, a community-based distribution agent, who is also a local TBA, visits a village where she is leading a discussion about family planning. Adventist Development and Relief Agency International (ADRA), a US-based NGO, is implementing a community-focused project designed to increased knowledge about and use of family planning. In Ethiopia, the fertility rate is very high, educational levels are relatively low, and contraceptive use is very low, but increasing according to the most recent national survey. 2005 Virginia Lamprecht, Courtesy of Photoshare.

Cover/middle right: A Yezura Zenna, or volunteer health aide, is ready to work in Ghana with his project bicycle and pharmaceutical bag. 1996 James E. Phillips, Courtesy of Photoshare.

Cover/far right: A TBA in Guatemala participates in a workshop focusing on prenatal care, male participation, and community preparation for a gynocobstetric emergency during delivery. 2003 Antonieta Martin, Courtesy of Photoshare.

Page 1: A CHW in rural Ethiopia tests a boy for malaria. 2007 Bonnie Gillespie, Courtesy of Photoshare.

Page 6: A CHW in Uganda educates a mother on the dangers of malaria. 2007 Bonnie Gillespie, Courtesy of Photoshare

Page 45: In the Nakasongola District of Uganda, a community-based distrtibution agent, surrounded by some of her neighbors who use family planning, holds up a map of her village that indicates where couples are using family planning. Her community is remote, and access to family planning methods, of which Depo-Provera is most popular, is limited. Save the Children in Uganda piloted the distribution of Depo-Provera by CBDAs, and found that CBDAs can administer the injection safely. 2007 Virginia Lamprecht, Courtesy of Photoshare.