FACTORS IMPACTING THE EFFECTIVENESS OF COMMUNITY HEALTH WORKER BEHAVIOR CHANGE

A LITERATURE REVIEW

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ACRONYMS

ART	Anti-retroviral therapy
ASHA	Accredited social health activist
CCP	Johns Hopkins Center for Communications Programs
CHA	Community health agent
CHEW	Community health extension worker
CHW	Community health worker
DOTS	Directly Observed Treatment, Short-Course
HC3	Health Communication Capacity Collaborative
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IUD	Intrauterine device
TB	Tuberculosis
SBCC	Social and behavior change communication
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Social and behavior change communication (SBCC), which uses communication to positively influence the social dimensions of health and well-being, is an important strategy for improving health services at the provider level. As community health workers (CHWs) play an increasingly important role in providing health services, there is also an increasing focus on to how to use SBCC strategies to build CHWs' capacity to offer quality services to the community members they serve. A key step in designing and implementing effective SBCC programs for CHWs is understanding the barriers and facilitators that effect CHWs in providing these services. The aim of this literature review is to examine the barriers and facilitators to CHW service provision in three areas: knowledge and competency barriers in which CHWs lack the skills and knowledge to provide services, structural and contextual barriers in which systemic and environmental factors influence CHWs' ability to provide services, and motivational barriers in which social norms and attitudes that effect CHWs willingness to provide services. In all three areas, findings revealed that CHWs face significant barriers, ranging from lack of materials and high workloads to ingrained attitudes and insufficient training. The results and recommendations in this paper can be used to anticipate and respond to potential barriers and promote facilitators to service provision through SBCC programs for CHWs.

INTRODUCTION

The Health Communication Capacity Collaborative (HC3) is a five-year global project funded by the United States Agency for International Development (USAID), designed to strengthen the capacity of middle- and low-income countries to develop and implement state-of-the-art health communication programs. HC3 is led by the Johns Hopkins Center for Communication Programs (CCP) and addresses important health issues, such as child survival, family planning, Ebola, HIV/AIDS and malaria.

An important focus of this project is to determine how to maximize the effectiveness of SBCC programs within the context of low- and middle-income countries. While SBCC programming can be influential at all levels of the health system, its impact within these countries' contexts is particularly important at the service provision level. Community-level providers represent the final link between communities and the essential health services upon which they rely. In many cases, this responsibility falls upon CHWs, who are increasingly becoming primary service providers in low-resource settings. HC3 aims to examine how SBCC programs that focus on improving CHW service provision can in turn strengthen CHWs' ability to effectively deliver quality health care by developing provider-centered strategies that identify challenges to changing provider behavior within these contexts.

CHWs play a crucial role within health systems where geography, a lack of resources or a lack of trust make providing health education and services through the more formal sector challenging. The term "community health worker" can apply to a wide range of health workers at the local level. However, for the purposes of this paper, a CHW is defined as a health worker who receives standardized training outside of 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.[1] It should be noted, however, that some studies cited in this paper include CHWs within the broader category of local health workers. These papers still present information that is representative of and relevant to the CHW experience.

As an increasingly significant component of the health system, CHWs present an important opportunity to use SBCC strategies to improve health education and services. CHWs fulfill a broad scope of responsibilities within a community, from providing family planning education, and detecting and referring serious illnesses in remote areas to dispensing anti-retroviral treatment (ART) and administering immunizations. SBCC programming can improve the effectiveness and quality of these services through positively influencing the social determinants that influence the CHWs' work, such as knowledge, attitudes, norms and cultural practices. Through identifying and addressing these issues, CHWs can become more competent and conscientious in addressing the needs of their communities.

Within community health work, numerous factors exist that impede or improve CHWs' ability to effectively provide services to beneficiaries. Understanding these factors and how they may be influenced by a social behavior change program allows SBCC programs to anticipate and respond to barriers through program objectives and design.

HC3 conducted a literature review to identify barriers and facilitators to service provision commonly experienced by CHW programs. Specifically, the paper presents barriers within three categories:

- **Knowledge and Competency Barriers**—CHWs do not know how to perform assigned tasks.
- **Structural and Contextual Barriers**—CHWs are not able to perform assigned tasks.
- **Attitudinal Barriers**—CHWs are not willing to perform assigned tasks.

The aim of this paper is to serve as a tool to assist SBCC programs in recognizing potential factors that may influence CHWs, thereby helping program designers, managers and other stakeholders to better tailor their SBCC programs to meet these challenges. This paper also presents recommendations based on the findings from the literature to guide stakeholders in conceptualizing and designing SBCC programs that can create

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[1]Adopted from the USAID CHW Evidence Summit Steering Committee

substantial and sustainable change. While this literature did seek to identify both facilitators and barriers, the body of evidence provided more information on challenges faced by CHWs than on factors that increased effectiveness. This paper reflects the findings of literature and therefore, has a greater emphasis on barriers to, rather than facilitators of, effectiveness. Program designers should also keep in mind that these findings and recommendations are based on a broad analysis of CHW programs in multiple countries, and that local contexts should be evaluated and incorporated in the design of specific programs.

METHODOLOGY

The literature search included both peer-reviewed journals and grey literature on the topic of CHWs (with a particular focus on CHWs' abilities, performance and attitudes), limited to resources published in the last 10 years, which focused on middle- and lower-income countries. The database search strategy included relevant terms from the controlled vocabularies of the databases consulted (PubMed, SocINDEX and ERIC)—"community health workers," "home health aid," "home health provider," "community health assistants," "lay health worker," "health extension worker" and "village health team," supplemented with country terms, thesaurus terms and limits from each database as appropriate.

KEY FINDINGS

Knowledge and Competency Barriers

As CHWs increasingly play a more prominent role in providing health services in low- and middle-income countries, there is an increasing need to ensure that CHWs possess the necessary knowledge and competencies to satisfactorily perform their expanding roles. Effective training of new CHWs, as well as training for existing CHWs in new topics and skills, ensures that health workers have the capacity to provide quality health education and services to their target populations.

Several studies note that CHWs' level of knowledge is an important factor in determining the success of a CHW program. A study of CHWs and auxiliary nurse midwives in India, for example, found that after adjusting for socio-demographic factors, the knowledge level of CHWs was the most important factor in adherence to essential newborn care practice by new parents (Agrawal et al., 2012). Mothers who had been visited by a highly knowledgeable CHW were twice as likely to adhere to essential newborn care practices as compared to those who were visited by CHWs having less knowledge. A study of community-based reproductive health agents in Ethiopia determined that the competency of CHWs also contributes to the success of CHW service provision (Prata, Weirdert, Fraser & Gessessew, 2013). The study determined that successful uptake of contraception among the target population was a result of CHWs who had been trained and, in turn, provided the most popular contraception method, injectable contraceptives, rather than only condoms or pills.

Despite the importance of CHWs as frontline workers in health care provision, evaluations of CHW programs show that these health workers often lack the knowledge necessary to safely and effectively perform their responsibilities. An evaluation of community health extension workers (CHEWs) tasked with providing family planning education in Nigeria found that most CHEWs did not know about several family planning methods, such as intrauterine devices (IUDs) (Onwuhafua, Kantiok, Olafimihan & Shittu, 2012).

Insufficient training leads to poor service quality

While knowledge and competency among CHWs is acknowledged as central to the success of CHW programs, research shows that many programs continue to provide training that is insufficient or of poor quality, resulting in knowledge gaps among health workers. A study evaluating accredited social health activists (ASHAs) in India found that despite training, there were still significant gaps in their knowledge in child morbidity and mortality (Shrivastava & Shrivastava, 2012). Kalyango et al. compared post-training knowledge gains between CHWs in Uganda who were trained in the management of both malaria and pneumonia with knowledge gains of CHWs trained exclusively in malaria case management. While 88 percent of CHWs trained in the dual case management and 94 percent of those trained in malaria-only management reported the training as sufficient, knowledge assessments found that both groups scored an average of only 70 percent on malaria knowledge and the dual case management group scored only 60 percent on the pneumonia assessment (Kalyango, Rutebemberwa, Alfven, Ssali, Peterson & Karamagi, 2012). The study demonstrates not only that both CHW groups could benefit from additional training, but also that CHW perceptions of the quality of the training and their own knowledge and competency level do not necessarily align with actual knowledge.

However, some studies show that CHWs can recognize gaps in their knowledge base. Community reproductive health workers tasked with providing family planning education in Uganda claimed that additional training and factual information were necessary for them to effectively resolve misconceptions about family planning among community members (Martinez, Vivancos, Visschers, Namatovu, Nyangoma & Walley, 2008). Successful training programs can lead to increased effectiveness and confidence among CHWs. Lay health workers in Cambodia reported that their training, particularly the discussion sessions, were helpful in increasing their knowledge, skills and confidence (Vichayanrat, Steckler & Tanasugarn, 2013).

Improving the quality of training is not necessarily sufficient to improve long-term knowledge among CHWs. The routine provision of refresher trainings is also important in reinforcing and updating skills and knowledge. A study in Madagascar found that in a CHW contraceptive knowledge assessment, additional refresher courses were associated with a 13.2 percent increase in a CHW's score (Gallo et al., 2013). A similar study in Kenya also showed that refresher courses led to increased adherence to treatment guidelines among CHWs (Rowe, Olewe, McGowan, McFarland, Rochat & Deming, 2007). Investment in ongoing training can lead to the long-term success of a CHW program. Nxumalo, Goudge and Thomas compared three CHW programs in South Africa and found that the program that was by far the most successful invested significantly more resources in ongoing training than the other two programs (2013).

One potential cause of unsuccessful training is when courses do not allot sufficient time for content mastery. This is particularly true when trainings cover more complex or technical topics. For example, Chinbuah et al. found that CHWs in Ghana successfully adhered to dosing guidelines for simple childhood illnesses, but did not adhere to referral guidelines (2013). The study identified the complicated referral algorithms and guidelines as a possible cause of the sub-optimal performance. Similarly, in evaluating a CHW training course in the use of rapid diagnostic malaria tests in the field, Blanas et al. found that shortly after the training, only half could correctly explain the program's referral algorithm, even when showed a visual depiction of it, and almost half could not prescribe first-line treatment correctly (Blanas, Ndiaye, Nichols, Jensen, Siddiqui & Hennig, 2013).

Research in India is consistent with the findings of Blanas et al., showing that learning dosage and treatment regimens can pose a challenge for CHWs. A report assessing the feasibility of using village health workers to control visceral leishmaniasis found that while the village health workers demonstrated good knowledge of the presenting symptoms, mode of transmission and diagnostic tools, they showed poorer knowledge of treatment regimens and few knew the specific drugs that were recommended as first-line medications and their specific durations (Malaviya, Hasker, Singh, van Geertruyden, Boelaert & Sundar, 2013). Identifying

potentially challenging topics or skills and designing effective training with sufficient time allocated to master these areas is essential for ensuring quality service provision.

The knowledge barriers faced by CHWs extend beyond technical topics. Research suggests that CHWs would benefit from training on non-technical topics that would facilitate their effectiveness in carrying out their responsibilities. Nxumalo, Goudge and Thomas (2013) found that training which enhanced problem-solving skills helped CHWs to respond more efficiently to complex challenges. A study of CHWs in India found that those CHWs that demonstrated better time management skills score higher on performance evaluations, leading researchers to suggest that additional training should not be limited to subject matter topics, but also should include training in managerial skills (Maji, Hutin, Ramakrishnan, Hossain, De 2010). When community reproductive health workers in Uganda were struggling to overcome community barriers toward family planning, researchers suggested that training in communication strategies might help to overcome these barriers (Martinez, et al., 2008). Training in "soft" skills, such as problem solving, management and communication, can provide CHWs with the tools to address some of the challenges they face within their work.

Expanding roles and responsibilities require ongoing training

Often, CHWs' lack of knowledge stems from either a formal or informal expansion of the CHWs' responsibilities without corresponding training. Increasingly, struggling health systems are shifting tasks formerly performed by clinic staff to CHWs as a strategy to resolve human resources shortages (Smith et al. 2014; Tantchou & Gruenai 2009; Alamo, Wabwire-Mangen, Kenneth, Sunday, Laga, Colebunder 2012). While the initial orientation and training may properly address the anticipated activities of a CHW, over time, the increasing scope of these activities can lead to gaps in knowledge and competency.

A recent situational analysis of task-shifting to CHWs in Malawi found that instead of training all CHWs in a new task, clinics trained only one or two CHWs and expected the remaining CHWs to learn the new task on the job through informal peer-to-peer instruction (Smith et al. 2014). CHWs felt that

this type of training was insufficient for some of the more complicated new responsibilities, such as tuberculosis (TB) medication and ART. Similarly, lay health workers in Uganda were expected to add ART services for children to their ART responsibilities without receiving any training on counseling or treatment for children (Rujumba, Mbasaalaki-Mwaka, Ndeezi 2010). The study found that 24 percent of health workers were constrained by inadequate knowledge about pediatric HIV care and lack of pediatric counseling skills. The consequences of the lack of training are compounded when CHWs lack on-site support of health professionals. An investigation into the high incidence of facility-based obstetric hemorrhage in Malawi found that these facilities were being manned by local nurse midwives, who never received training in responding to complicated situations, such as hemorrhages, and lacked the support of trained health personnel (Beltman, et al., 2013).

Community demands of and expectations for CHWs can extend beyond the scope of CHWs' knowledge and competencies. Given CHWs' role as local health representatives, community members often expect additional assistance that CHWs are not equipped to provide. Community health agents (CHAs) in Brazil were called upon by community members to provide social support, in addition to health education, such as facilitating access to social services (Zanchetta, Salami, Perreault, & Leite, 2012). A study examining the use of CHWs for community-based distribution of a specific fever medication in Uganda found that community members were disappointed that CHWs were only trained in treating a single illness instead of in an integrated approach to managing multiple conditions (Nsabagasani, Sabiiti, Kallander, Peterson, Pariyo, Tomson 2007). Some programs have successfully responded to these additional demands from communities through ongoing training. A peer facilitator program in India successfully addressed community expectations by providing peer facilitators additional trainings in topics that frequently arose during their outreach work, such as mental health, domestic violence, malaria and HIV/AIDS (Alcock, More, Patil, Porel, Vaidya, Osrin 2009). Careful and ongoing evaluation can assist in creating CHW programs that are responsive to community and CHW needs.

Recommendations

- CHW programs should have provisions for providing additional trainings that are responsive to CHW and community needs.
- If additional tasks are assigned to CHWs after the initial training, they should be coupled with corresponding trainings.
- CHW programs should be designed with resources designated for periodic refresher trainings.
- Training programs should match the expertise needed to master content and skills.
- Communication programs should work to clearly establish the role of CHWs within the community to manage community-level expectations.
- Programs should supply on-site mentorship or access to experts to supplement training.
- Trainings should move beyond teaching technical skills and include "soft" skills, such as time management, problem solving and communication.

Structural and Contextual Barriers

Even when CHWs possess the necessary knowledge and skills to provide health education and services to their communities, they are often challenged by the health system of which they are a part, or the context in which they work. Institutionalized and structural deficiencies can pose significant barriers to CHWs, with the added frustration that these barriers are very often out of their control. Contextual barriers resulting from the characteristics of the community itself can be equally problematic, with geographical and societal obstacles in the community interfering with CHWs' effectiveness. While more systemic barriers can prove difficult to address through SBCC programs, certain structural and contextual barriers, such as community attitudes and relationships within the health system, do present opportunities in which SBCC can have a significant positive impact.

CHWs often operate on the peripheries of formalized health care

CHWs' position as informal, unsalaried health workers can jeopardize their ability to provide health services. Furthermore, CHWs' informal position within the health sector can lead to difficult relationships or contention between CHWs and professional health workers, often due to ill-defined roles and responsibilities. A field observation and interviews with CHWs and formal health workers in Cameroon found that there were strained relationships between these two groups, which CHWs attributed in part to the lack of clearly delineated duties (Tantchou, Yakam, & Gruenai, 2009). Research shows that the hierarchal structure of some health systems can limit communication across status, seniority and income (Scott & Shanker, 2010), and even escalate into harassment of CHWs by formal health workers (Sarfraz & Hamid, 2014; Dawson et al., 2013).

A study in Zambia found that community health assistants were omitted from meetings and staff lists, delegated the most undesirable tasks and discriminated against in sharing financial and even pharmaceutical resources (Zulu, Kinsman, Michelo, & Hurtig, 2014). These tensions, however, can be avoided through engagement with health workers and CHWs throughout the planning process. A CHW program in Nicaragua successfully avoided issues related to the blurring of roles and responsibilities of CHWs and nurses through a process of consultation, training and support directed specifically at health posts and center staff in the design and implementation of a CHW scale-up (George, Menotti, River, & Marsh, 2011).

CHWs commonly cite a lack of supervision and support as a barrier in performing their responsibilities (Nsabagasani, Sabiiti, Kallander, Peterson, Pariyo & Tomson, 2007; Smith et al. 2014; Suri, Gan & Carpenter, 2007; Scott & Shanker, 2010). Some studies found that a lack of supervision was a result of the coordinating entity being too poorly resourced to provide adequate support (Teklehaimanot & Teklehaimanot, 2013; Sarfraz & Hamid, 2014). In identifying characteristics of a successful CHW program in South Africa, Nxumalo, Goudge and Thomas found that the program invested significantly in supervision and mentoring, even providing CHWs with phone vouchers to stay in contact with their supervisors (2013). CHWs completed 14 training modules and ongoing assessments, and received extensive mentorship focusing on their technical skills and well-being.

A study of community health assistants in Zambia found that clear definitions and an understanding of staff responsibilities at health posts are essential in promoting good work performance (Zulu, et al., 2014). Some supervisors involved the community health assistants in tasks by including them in meetings and regularly holding discussions with each community health assistant aimed at reviewing community health assistant reports, targets, challenges and successes. While clearly a lack of technical and logistical support contributed to difficulties in providing health services, CHWs also expressed a desire for more emotional and moral support from their managers (Javanparast, Baum, Labonte & Sanders, 2011; Suri, Gan & Carpenter, 2007).

Weak internal systems

CHWs often work within health systems that are weak, are underfunded or exhibit gaps in functionality. Because CHWs' effectiveness is in large part reliant upon the systems with which they are affiliated, deficiencies within these systems can leave CHWs unable to perform their responsibilities, or cause the work that they do accomplish to fall short of desired outcomes. An evaluation of a TB/HIV program in South Africa found that even when CHWs did perform the necessary outreach to encourage TB patients to get tested for HIV, the health facilities

themselves lacked the infrastructure to encourage, monitor and deliver the counseling and testing (Heunis et al., 2011). Similarly, ASHAs in India were reluctant to promote birth at the birth centers when the health centers were so ill-equipped (Scott & Shanker, 2010).

Lack of frameworks and formalized procedures within a health system can also create challenges for CHWs. In a project in Ethiopia seeking to task shift ART delivery from physicians to local health officers, the lack of a regulatory framework for prescribing ART was a barrier in the adoption of these new responsibilities by the local health workers (Assefa, Kilflie, Tekle, Mariam, Laga & Van Damme, 2012). In particular, the lack of a formal referral system is commonly cited by literature as a barrier to CHW effectiveness (Beltman et al., 2013; Khan, Amjad, Hafeez & Shareef, 2012; Rujumba, Mbasaalaki-Mwaka & Ndeezi, 2010; Vichayanrat, Steckler & Tanasugarn, 2013).

High workload
Because CHWs often work within under-supported health systems that have a shortage of personnel, CHWs can be overburdened with a heavier than anticipated workload. This heavy workload can lead to lapses in patient care and poor quality of services (Heunis et al., 2011; Vichayanrat, Stekcler & Tanasugarn, 2013; Yan, Liu, Gruber, He, & Gongdon, 2012). Staff shortages and high workload in South Africa were found to have a negative impact on HIV testing by TB patients (Heunis et al., 2011). In Malawi, the heavy workload of local nurse midwives led to negative attitudes among health workers, which discouraged community use of the health facilities (Beltman et al., 2013). Likewise, local health workers were found to be overworked during a cholera outbreak in Nigeria, leading to poor patient management and lapses in proper personal protective equipment to protect themselves from infection (Oladele et al., 2012).

A high workload can also result from unrealistic expectations of what CHWs can reasonably accomplish within their work schedule. A large number of accountable households (Suri, et al., 2007) and expansive coverage areas (Kalyango, et al., 2012) contribute to CHW underperformance. Forty-three percent of CHWs in South Africa considered the large number of assigned households a barrier to their work (Suri, et al., 2007). Female health workers

in India reported that while they felt supported and appreciated by their supervisors, their monthly targets were unrealistic (Iyer, 2013). In a Uganda program with a record of poor patient follow-up, 92 percent of CHWs felt that the system could be improved by reducing the workload (Alamo, et al., 2012).

High workloads and expanding responsibilities can also detract from CHWs' primary objectives or can cause confusion regarding priorities. When a new ART delivery model was implemented in Ethiopia, health workers were concerned that the workload of ART, both in training and service delivery, would divert staff away from general health services (Assefa, Kiflie, Tekle, Mariam, Laga, & Van Damme, 2012). Lady health workers in Pakistan complained that they were often called upon to perform duties outside of their job descriptions, such as loading and unloading medicines, that took away from their other responsibilities (Afsar & Younus, 2005). Similarly, task-shifting in Malawi left CHWs confused regarding whether they should be focusing on preventative or curative activities (Smith et al., 2014).

Additional responsibilities can also carry a significant administrative burden on CHWs, which can further interfere with service provision. When researchers in India tracked how female health workers were spending their time, they found that 26 percent of the time was occupied completing documentation, while only 7 percent was spent on family planning and general health education (Maji, et al., 2010). CHWs in Iran also specifically noted that the paperwork accompanying an increasing workload was a significant barrier (Javanparast, Baum, Labonte & Sanders, 2011).

Lack of necessary supplies and resources
Changes among CHWs through SBCC can be rendered ineffective when CHWs lack the materials and equipment to properly serve the community. Research consistently shows that shortages of necessary supplies are considered by CHWs to be a significant barrier to their work (Sarfraz & Hamid, 2014; Scott & Shanker, 2010; Ndou, van Zyl, Hlahane & Goudge, 2013; Gebrehiwot, San Sebastian, Edi, Goicolea 2014; Beltman et al., 2013). In some cases, the lack of supplies directly impacts CHWs' ability to fulfill their primary responsibilities. For example, in Senegal, lay health workers were tasked with performing rapid diagnostic tests for malaria and

providing combination therapy in the field. However, frequent stock-outs of both medication and tests posed a serious challenge to these health workers (Blanas, et al., 2013). Similarly, health workers in Uganda were trained to support home-based management of fever in rural areas, but lacked the diagnostic equipment, such as thermometers, that they had been taught to use in training (Nsabagasani, Sabiiti, Kallander, Peterson, Pariyo & Tomson 2007). Another study in Uganda found that, in trying to add ART services to children in a health clinic, the health department neglected to ensure that sufficient supplies of ART medication for children were available at the clinic (Rujumba, et al., 2010). While a lack of medication and other pertinent health supplies were often cited as a challenges (Beltman et al., 2013; Gebrehiwot, San Sebastian, Edin & Goicolea, 2014), CHWs also noted that a lack of simple supplies, such as notebooks and pens, was also problematic (Suri, et al., 2007).

Remuneration
When asked how to improve their programs, CHWs often mentioned increased compensation (Afsar & Younus 2005; Alamo, et al., 2012; Smith et al., 2014). When evaluating job satisfaction among lady health workers in Pakistan, 60 percent expressed "little" or "very little" satisfaction with the amount of salary they were receiving, distantly followed by satisfaction with the amount of work at only 26 percent (Haq, Iqbal & Rahman, 2008). In this same survey, inadequate or irregular pay was the second most common problem reported by lady health workers (61 percent), after irregular supplies/medicines (68 percent). Other studies in Pakistan and Ethiopia found similar results (Khan, Amjad, Hafeez, Shareef 2012; Teklehaimanot & Teklehaimanot, 2013). Despite this commonality, few studies demonstrated a direct link between issues surrounding remuneration and CHWs failing to provide services. From those studies that do directly link remuneration and service delivery, a few trends emerge.

One way in which remuneration has been shown to directly impact service provision is when stipends are not sufficient to cover the expenses incurred by CHWs in performing their duties. For example, an evaluation of a CHW program in India found that CHWs were spending more on transportation than they made for the corresponding work (Scott & Shanker, 2010). This same study revealed a second way in which remuneration issues affect services—

when incentive policies actually discourage quality service provision. In this program, CHWs only received remuneration if they promoted the government's chosen approach to family planning—sterilization after two children and birth in health centers. Anything beyond this was not recognized by the government and therefore not compensated. However, when thoughtfully designed and implemented, incentive programs can be a facilitator to CHW success and satisfaction (Javanparast, et al., 2011).

While, in general, CHWs continue to work even if they feel undercompensated, the delay or non-payment of promised stipends appears to have a more serious impact on their motivation. A study of community midwives in Pakistan found that a delay in stipend payments led to resentment and resistance to work (Sarfraz & Hamid, 2014). Even more significantly, unpaid stipends for community health assistants in Zambia led to work halts and public demonstrations at health buildings (Zulu, et al., 2014).

The influence of community contexts
Some barriers to CHWs' effectiveness are not a product of the health system itself, but rather arise from the context in which the CHWs work. Some of these barriers are a result of the physical characteristics of community. For example, large coverage areas with limited transportation options can make conducting home visits challenging (Scott & Shanker, 2010). Long distances can also make it difficult for community members to access health posts when referred to by CHWs or for follow-up (Blanas, et al., 2013; Martinez, et al., 2008). In Ethiopia, health extension workers responsible for promoting facility-based birth reported that community members facilitated transportation to health centers by organizing groups to carry expecting mothers on stretchers or bicycles (Gebrehiwot, et al., 2014). Even still, the extension workers felt that geographical barriers were still a significant impediment to a woman's ability to get to a health center.

Interviews with community members to evaluate a malaria program found that better access to malaria information and care through CHWs was strength of the program, however, lack of transportation to health facilities for referrals limited the effectiveness of the program (Blanas, et al., 2013). Physical barriers are not always geographical. CHAs who work in the shantytowns of Rio de Janeiro found

that poor physical conditions, such as open sewage and precarious houses, limited their effectiveness (Zanchetta, Salami, Perreault, & Leite, 2012). In addition, the CHAs also claimed that drug lords inhibited health agent access to people under their control.

Other contextual barriers are a result of the community's attitude toward and support for CHW activities. Community reproductive health workers in Uganda felt that they needed increased support from community leaders in order to alleviate community stigma toward family planning (Martinez, et al., 2008). Likewise, health workers in Uganda felt that the lack of community ownership and support of the health workers were barriers to the sustainability of the program (Nsabagasani, Saiiti, Kallander, Peterson, Pariyo & Tomson, 2007). Poor introduction of community health assistants to local structures and committees in Zambia made outreach difficult in the communities in which they were assigned to work (Zulu, Kinsman, Michelo & Hurtig, 2014). Furthermore, a study of community midwives in Pakistan found that not only was the community uncooperative, but midwives were reporting being harassed by community members (Sarfraz & Hamid, 2014). However, this same study found that married midwives had greater success than unmarried midwives, as community members tended to trust them more and perceive them as having more experience in childbirth.

A study in Uganda found that gender can influence a CHW's success within a community, with female health workers reported as more appreciated by community members and less likely to lose contact with patients (Alamo, et al., 2005). A different study in Pakistan found that recruiting local women to act as lady health workers helped to facilitate trust and acceptability within the community (Asfar & Younus, 2005). Correspondingly, a show of community support was found to encourage CHW activity. An evaluation of a CHW program in Iran found that building lasting and sustainable relationships with the community, and CHW recognition within the community, facilitated the contributions of the CHWs (Javanparast, et al., 2011). Several studies showed that fostering trusting and personal relationships between CHWs and patients was a key factor in facilitating the effectiveness of CHW services (Alcock, et al., 2009; George, 2008; Javanparast et al., 2011).

Stigma toward controversial health topics, such as family planning, can be pervasive among community members. Research shows that CHWs can be challenged by local beliefs and misconceptions that impede their efforts to provide health information and services. For example, in interviews with lady health workers in Pakistan, 78 percent stated that having a mother-in-law present in the house was a barrier in providing family planning counseling, as the mother-in-laws would discourage family planning due to widely-held stigma against the practice (Khan, Amjad, Hafeez, & Shareef, 2012). Half of the CHWs stated that they encountered similar resistance when the husband was present in the house. Additionally, 51 percent found that religious beliefs were a barrier to providing family planning counseling, particularly among ethnic minorities. The stigma attached to family planning can cause CHWs to avoid approaching clients, instead, they wait for their clients to approach them (Martinez, et al., 2008). Special care to maintain privacy during family planning counseling was shown to help overcome some barriers to family planning (Khan, et al., 2012).

Traditional beliefs and stigma can affect CHW activities beyond family planning. In interviewing CHWs involved in directly observed therapy in TB treatment in Lesotho, CHWs identified local traditional beliefs about the origins of the illness as a barrier to encouraging compliance in the treatment regimen (George, 2008). Community beliefs toward HIV/ AIDS can also pose a contextual challenge to CHW work. CHWs in South Africa who provided health services to TB patients reported that these patients were reluctant to be tested for HIV, partly due to fear of rejection by the community (Heunis et al., 2011). An evaluation of CHWs that provided ART services to HIV-positive patients found that CHWs who were also HIV-positive were more appreciated and accepted by patients, which suggests that recruiting CHWs who have shared common experiences and circumstances can help overcome barriers caused by societal norms (Alamo, et al., 2005). CHWs in Uganda charged with providing HIV testing and counseling to children found that parents often were reluctant to have their children tested for HIV for fear that the results might reveal their own HIV status and as a result, they would face community stigma (Rujumba, Mbasaalaki-Mwaka, Ndeezi, 2010). Encouraging facility-based delivery is also a health area commonly inhibited by local beliefs, with family and community members

encouraging mothers to deliver at home or delaying referrals for deliveries in which problems arise (Beltman et al. 2013; Gebrehiwot, et al., 2014). However, providing information about the benefits of institutional delivery during antenatal care check-ups or at-home visits was found to be a major facilitating factor for increasing women's awareness (Gebrehiwot, et al., 2014).

Discrimination can also be directed from community members toward CHWs, impeding CHWs' ability to connect with the people they are serving. CHAs in Brazil found that their target population resisted them because they were promoting western medicine (Zanchetta et al., 2012), which community members associated with the elite and the government, forecasting CHAs as part of the cause of their own marginalization. Efforts by CHAs to provide health services were seen to represent public authority and government power. In Ghana, tension between the uneducated rural women and health workers in community clinics arose when community members perceived the workers as judgmental and stopped using clinic services (Moyer et al., 2012). Patients in South Africa refused to be tested for HIV in part because they did not trust that the tests were confidential and thought that the nurses and lay health workers gossiped too much (Heunis, et al., 2011).

Recommendations

- CHW programs should include training for supervisors and other health staff to ensure appropriate support for CHWs.
- Job descriptions for CHWs should be written through an inclusive process involving CHWs and impacted health workers.
- Scopes of work and targets should be based on realistic expectations and take into account the time required for communicating the information required and for travel.
- Community members should be engaged with CHW program development early in the process to secure support and buy-in.
- When designing CHW programs, care should be taken to ensure that appropriate systems and policies are in place to facilitate CHW service delivery objectives.
- Similarly, program planning should ensure that sustainable and ongoing resources are available to provide the supplies necessary for the assigned CHW responsibilities.
- Thoughtful consideration should be given to incentive structures as part of a strategy to retain trained CHWs.
- Programs should look beyond impacting CHWs to influencing the wider community, finding ways to engage the community around issues of stigma and discrimination.

Attitudinal Barriers

CHWs' attitudes toward their work, controversial health topics, or certain individuals or groups within their community can prevent CHWs from providing health services. However, these attitudinal barriers also present opportunities in which SBCC programs can be particularly effective in influencing CHWs and thereby improving service delivery.

Motivation

Maintaining the motivation of CHWs to consistently conduct their responsibilities is a challenging, but crucial, element in CHW programs. Retention of CHWs is critical for making SBCC programs to improve CHWs' ability to provide services more effective over the long-term. When CHWs lose the motivation to work, it represents a loss of investment and opportunity for SBCC activities. While specific practices in implementation vary, research generally agrees that recognition within the community and health system, opportunities for job promotion or advancement (particularly into the formal sector) and incentive systems can contribute to maintaining CHW morale. Simple appreciation for and recognition of the contributions of CHWs has been shown to impact CHWs' attitudes toward their positions and responsibilities. In a case study of a community-based health extension program in Ethiopia, researchers concluded that incentives and recognition of contributions could help to improve motivation and retention (Teklehaimanot & Teklehaimanot, 2013). This approach is supported by research in Iran, where recognition within the community was perceived by CHWs as a facilitating factor (Javanparast, et al., 2011).

In a global study of CHW programs, Maes et al. recommended that to be successful, CHW programs should work to improve CHW labor relations, particularly in creating more opportunities for job promotion and moving away from requiring volunteerism (2014). More focused studies of CHW programs in South Africa supported this conclusion, finding that less successful programs had limited prospects for CHWs to grow within the organization or further their skills (Nxumalo, Goudge, Thomas, 2013), and that creating advancement opportunities in the formal sector would improve CHW morale and performance (Schneider, Hiophe, van Rensburg, 2008). In a robust study of incentives, selection and performance in public service delivery in Zambia,

Ashraf, Bandiera and Lee concluded that career incentives play an important role in attracting workers that are better qualified and more effective (2014). They also concluded that offering modest incentives does not necessarily attract applicants whose primary motivation is personal gain, but rather encourages qualified pro-socially motivated applicants. As mentioned earlier in the paper, remuneration can impact a CHW's motivation to meet program objectives, with remuneration perceived as insufficient, or issues on timely payment negatively impacting CHW work.

Stigma

While stigma and social norms in the community were discussed earlier as a contextual barrier to CHW work, these attitudinal barriers can also be pervasive among CHWs and can render CHWs unwilling to provide services to their clients. The personal beliefs of both CHWs and of their target populations can be impediments in motivation to provide health education and services. Several studies found that despite training, CHWs persisted in having negative attitudes toward certain health topics that they perceived as controversial or taboo. In some cases, CHWs' stigma was in direct contradiction with their mandate as CHWs. This is particularly true among CHWs whose responsibilities include family planning education and services.

In Ethiopia, in a survey conducted among health professionals and CHWs tasked with providing reproductive health services, Tilahun et al. found that 30.7 percent had unfavorable attitudes toward providing sexual and reproductive health services for adolescents and 13 percent were in favor of applying penal rules and regulations against pre-marital sex among adolescents (2012). In this same study, 57.9 percent responded that they had never used family planning themselves. Lower education level, lack of training in reproductive health services and not using family planning services were significantly associated with negative attitudes. While not such an overwhelming majority as in the Tilahun study, other research has shown that a small, but important, minority of CHWs holds strong negative attitudes toward family planning practices. Byamugisha et al. found that 5 percent of CHWs were in favor of legalizing restriction of emergency contraception and some expressed concerns that increased access to emergency contraception would lead to increased immorality (2007). Similarly, Onwuhafua et al. found

that among CHEWs in Nigeria, only 50 percent were currently using family planning methods and a small number (4.7 percent) were against the use of family planning altogether (2005). This finding was particularly true among male CHEWs, who did not practice family planning despite their good knowledge of family planning methods. This finding corresponds with the wider observation that the burden of family planning within Nigeria continues to be borne by females. Holt et al. found that among health care workers interviewed in South Africa, many believed that young women should not have sex before marriage and 20 percent described abstinence as their preferred method of family planning for young women (2012).

Barriers caused by personal beliefs can be reflected in attitudes toward certain health topics that are perceived as controversial or taboo, but can also be a result of stigmatizing attitudes toward other individuals due to socio-economic status, ethnic profile or perceived affiliations. Maes et al. (2014) found that CHWs do not necessarily treat all patients equally, but distinguished between "good patients" and patients who "do not have good behavior," which can lead to tendencies to discriminate and distance themselves from certain community members. Sometimes, these judgements are based on stigma toward an entire population. For example, Maes found that in Pakistan, CHWs were reluctant to visit minority or ethnic populations. Female peer facilitators in India acknowledged that individual differences in caste, language, ethnicity and religion were challenges in performing their responsibilities, however, the peer facilitators endeavored to focus on characteristics and experiences that they had in common to overcome these barriers (Alcock, et al., 2009).

Research shows that some knowledge gaps among CHWs result from the omission of certain topics from training because they are considered too controversial. A study in Brazil found that CHAs' misconceptions of mental health were in large part due to a lack of training on the topic (Waidman, da Costa, & Paiano, 2012). Similar findings emerged in a study of CHW attitudes toward mental health in South Africa (Mall, Sorsdahl, Swartz, & Joska, 2012). Trainings have also been shown to exclude certain topics within family planning, such as emergency contraception (Byamugisha, Mirembe, Faxelid, & Gemzell-Danielsson, 2007), and certain types of contraception, such as IUDs and vasectomies (Holt et al. 2012). CHWs can choose to omit information to certain patients, as well. For example, directly observed treatment, short-course (DOTS) supervisors in Lesotho often chose not to discuss HIV co-infection with TB patients because they felt that the topic of HIV was too discouraging and would demoralize the patients (George, 2008).

Differences in socio-economic status can also influence the services health workers provide. A study of the knowledge, attitudes and practices of health workers who provided medical abortions in India found that 74 percent of health workers felt medical abortion was appropriate for well-educated women, while only 39 percent felt it was appropriate for women with no education (Archarya & Kalyanwala, 2012). The study also found that 59 percent would recommend it to a woman from a middle- or higher-income family, compared to only 46 percent for poor rural women. Conversely, a different study in India found that CHWs were more likely to provide services to lower-income women, often skipping more well-off houses or neighborhoods (Iyer, 2013).

Recommendations

- Recognition for CHWs' contributions, both within the health system and in the community, and when possible, opportunities for advancement, should be included as part of a CHW program.
- CHW training should include components to help CHWs recognize and overcome their own preconceptions and stigma.
- If appropriate, selection of CHWs should include screening for stigmatizing beliefs held by CHWs that might impact their ability to provide equal and quality care for all community members.

CONCLUSION

CHWs face a variety of challenges in performing their responsibilities, which can compromise the quality and effectiveness of the health services received by community members. These barriers can arise out of not knowing how to complete the responsibility, being unable to complete the responsibility due to contextual or structural barriers, or lacking the desire to complete the task. Neglecting to understand the barriers facing CHWs in specific contexts can lead to ineffective programming that fails to meet service delivery objectives. While identifying and understanding barriers can assist in the design and implementation of SBCC programs, additional research is needed to evaluate the actual impact of SBCC programs in overcoming these barriers. Some knowledge and attitudinal barriers may be easily addressed through communication strategies, however, more serious systemic barriers may prove more challenging to resolve.

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