Community Health Workers for ART in sub-Saharan Africa: Learning from past experiences? Capitalising on new opportunities?

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Introduction

Despite the significant progress that has been made in scaling up antiretroviral treatment (ART) in low and middle income countries in the past couple of years, the gap between the need for ART and the numbers currently receiving it is still wide in most of sub-Saharan Africa.[1,2]

The health care systems of low-income countries with high HIV prevalence have been struggling to provide even basic health care to the population, let alone to deal with the additional burden of scaling-up ART.[3-5] Moreover, ART poses a fundamentally new challenge for the weak health systems as it is transforming HIV/AIDS from a deadly into a chronic condition for which millions of people will need lifelong care. In the majority of low-income countries with high HIV prevalence in sub-Saharan Africa the most crucial bottleneck for scaling up ART and managing an effective system of chronic ART care is the lack of qualified Human Resources for Health (HRH).[4,6,7]

While estimations of HRH needs for scaling up ART show wide variations depending on contexts and programme variables[8], there is an enormous mismatch between the HRH needs of the prevalent ART delivery models and the HRH supplies in the health systems in most of sub-Saharan Africa.[9-11] This situation has triggered the renewed interest in task shifting as it may help to reduce the need for highly qualified health professionals in ART programmes.[12,13]

According to WHO, task shifting describes the moving of certain tasks from more to less specialised health workers through the entire spectrum from the physician at the one end and the non-professional health worker at the other end.[13]

In this article we focus on task shifting for ART to community health workers (CHWs), asking how far they have taken on board the lessons learnt from past experiences with CHW programmes for primary health care and how far they are seizing the new HIV/AIDS-specific opportunities. Our framework for analysis is a list of ten issues: eight conditions for successful large-scale CHW programmes plus two ART-specific opportunities.

We have opted for the term CHWs because it illustrates better than the terms lay-providers or non-professional health workers that the use of this type of cadre has a history which may provide important lessons for today. It is also widely used in the recent literature on task shifting and HRH issues in the scale-up of priority interventions such as ART.[12,13] We regard CHWs as lay people who have been trained in order to be able to assist the health professionals and to take over certain tasks from them. In doing this we acknowledge that we are not taking into account part of the original concept of CHWs, which emphasises their role in community empowerment. This is one consequence of an important choice we made when conceiving the argument of the paper:
We view CHW programmes exclusively from the perspective of the formal public health system, which results in some limitations regarding the complexity of CHW-related issues. In the first part of our paper we establish the list of ten criteria for successful CHW programmes for ART, which is based on our literature review of task-shifting, on previous multi-purpose CHW programmes for primary health care and on the more recent specific HIV and ART-related CHW programmes. In the second part we give six examples of ART-related CHW programmes, which we identified during our field research in Uganda, Tanzania and Ethiopia in 2007. Finally, we appraise the six CHW programmes according to our list of ten criteria and formulate a conclusion.

**Task shifting to CHWs**

Studies of the effectiveness of CHW programmes in sub-Saharan Africa in the past show a mixed picture. There is wide agreement on the potential of CHW programmes to improve access to and coverage of communities with basic health services. There is some evidence too, that they can improve health outcomes under certain conditions.[14-17] However, it has also been illustrated that many CHW programmes have not been successful. Especially large-scale and national CHW programmes have been beset by problems affecting their sustainability and the quality of services they provide.[18,19] Yet, examples exist of large-scale programmes which are widely considered to be successful. One such example is the CHW programme set up by BRAC in Bangladesh in the 1970s, which has been expanded to more than 70,000 female CHWs by 2007. Taking a long-term view, BRAC has evolved the programme based on accumulating experience and learning.[20] Another programme that seems to be successful is the Brazilian Programa Agente Comunitario de Saude, with a coverage of more than 60 million people.[21]

From our literature analysis it emerges that there are several fundamental characteristics of successful CHW programmes just as there are some fundamental problem areas. Successful CHW programmes fulfil a number of conditions to ensure performance with regard to quality assurance, long-term reliability and scale-up of activities. We consider eight issues as essential for the success of CHW programmes: Five of them are basic conditions for all CHW projects and three are necessary for the scale-up to large programmes with wide coverage. The success of a CHW programme depends on all eight conditions, and the neglect of even one may jeopardise the success of the entire CHW programme.

(1) **Selection and motivation:** There is wide agreement that CHWs should be selected on the basis of their motivation to serve the community they will be working in. Belonging to this
community is crucial. Prior level of education is less important, although literacy and numeracy facilitate participation in training and follow-up activities.[16]

If selection has not been carefully considered, it can lead to a lack of trust from the community and become a contributing factor to a high turn-over of CHWs which will make sustained quality assurance unlikely to achieve.[16,22]

(2) **Initial training:** This is of crucial importance and its length and content depend on the prior knowledge and the tasks and roles to be fulfilled by the future CHWs. Training should be practically oriented and not only consist of transferring disease-specific knowledge but also communication and counselling skills.[14,22] Guidelines and standardised protocols are beneficial tools for initial training.

(3) **Simple guidelines and standardised protocols:** The use of protocols and standard guidelines is increasingly being recognised as an important tool for quality assurance in most health professions. CHWs are certainly no exception.[14,16,23] BRAC’s CHWs, for example, who follow simple and standardised protocols for acute respiratory disease control, have received very positive evaluations.[20] Under this condition also fall issues related to the scope of practice and clear definition of the roles of CHWs. Evaluations of PHC-CHW programmes in the past have shown that oftentimes CHWs were overwhelmed by a very broad range of tasks with negative effects on the overall quality of their performance. Also, CHWs with too many tasks tended to select only a few activities, which they themselves regarded as most feasible. Clearly defined roles and standardised protocols should make sure that CHWs practice within the limits of what they can achieve and what they have been trained for. Simple guidelines and standards also greatly facilitate supervision and supply management.

(4) **Supervision, support and relationship with the formal health services.** Especially supervision and other forms of support, such as supplies, are widely acknowledged in the literature as crucial for the continued quality of service provision by CHWs. Particularly large-scale CHW programmes have often neglected these areas, mainly because they had overlooked their cost in the planning stage.[19,24-26] Only good supervision together with adequate material support will enable CHWs to function. This can be organised through the formal public health system (e.g. the Programa Agente Comunitario de Saude in Brazil) or through a formal NGO network (e.g. BRAC in Bangladesh), but in both cases referrals to the formal health services need to be facilitated.
Also of crucial importance for sustaining the quality of performance of CHWs is the continued support in terms of refresher trainings and regular mentoring. Several studies have shown that without refresher trainings acquired skills are quickly lost.[22,25]

Many instances of past CHW programmes have been described where professional health workers saw community members as lowly aides and failed to understand the potential value of their contributions. Thus, the relationship between CHWs and the formal health services often became strained, impacting negatively on the satisfaction and performance of CHWs.[12,14,25] To avoid this the management of CHW programmes needs to pay attention also to the concerns and attitudes of health professionals.[27]

(5) Adequate remuneration/career structure: One major socio-economic challenge which has been the subject of ongoing debate is the issue of payment versus voluntarism. The initial idea of the CHW assumed the existence of a pool of willing volunteers, but lack of payment has emerged as an important cause of attrition of CHWs in many programmes.[16,26] This is not to deny that a lot of true voluntarism can be found in many communities, where people dedicate part of their time to social activities. Still, in truly voluntary programmes, CHWs are only able to work a maximum of a few hours per week and a high turn-over of volunteers is the rule.[27] Most successful CHW programmes have therefore ensured that their CHWs receive adequate remuneration if their programme activities prevent them from gaining their livelihoods in other ways.[20,21] Some evidence suggests that the possibility of professional development is an important motivating factor for CHWs possibly improving retention.[24,28]

Three additional conditions for the successful scale-up of CHW programmes are:

(6) Political support and a regulatory framework: For national CHW programmes it is necessary to develop regulatory frameworks that demarcate the boundaries between CHWs and the professional health cadres and provide protection for patients as well as health workers.[12] Depending on the context, any of the above mentioned criteria can be part of the regulation: selection, training, supervision & support and remuneration & career tracks.

(7) Alignment with broader health system strengthening: As Abbatt points out, training large numbers of CHW will not be a “quick win” as implied by the UN Millennium Project Report in 2005, as long as it is not accompanied by broader efforts to strengthen health systems.[25] Indeed, CHWs are not a remedy for weak health systems. Health systems must assure a number of functions, such as clinical care, uninterrupted supply, training and
supervision, monitoring and evaluation etc. CHWs can never be a substitute but only an additional component in health systems that reliably fulfil these functions.[27,29]

(8) **Flexibility and dynamic**: There is some indication that in order to be sustainable and remain relevant, CHW programmes need to evolve in continuous interaction with the formal health system and, more widely, with the society they are based in. As patterns of societies are changing and health systems are becoming increasingly pluralistic, CHW programmes should not remain static but need to be reactive to arising needs, changing expectations and other new challenges.[20]

**CHWs in the times of ART**

It is becoming ever more obvious that for scaling-up ART to the millions in need, not only the roles of professional health workers must be redesigned but also the pool of other, non-professional HRH must be tapped.[15,30] Already, a wide variety of CHWs are active in many ART delivery sites. Thus, for example in our study of task-shifting practices in Uganda, Malawi and Ethiopia we could identify at least 8 different types of CHWs in Uganda, 6 in Malawi, and 6 in Ethiopia.

In general, we can distinguish between CHWs that have long been established for a variety of health care activities and who have recently reassumed additional HIV/AIDS-related tasks, and those CHWs who have been especially introduced for specific HIV/AIDS-related tasks, such as counsellors and expert patients. The majority of ART-related CHW programmes are not well documented and there is so far no systematic assessment of their performance and their potential to mitigate the HRH crisis. There are, however some studies that indicate that CHWs can make a positive contribution to the performance of ART programmes. In Malawi, for example, Zachariah et al. describe the very positive experience of involving community volunteers in programme-related activities, such as for example Voluntary Counselling and Testing (VCT), ART adherence counselling and referrals for ART or opportunistic infections.[15] The crucial role of CHWs for the success of the HIV/AIDS programme of *Partners In Health* in Haiti has been described at various stages of programme development, most recently by Mukherjee et al. in 2007.[31] The CHWs (*accompagnateurs*) in Haiti are involved in many HIV/AIDS and TB-related activities, including even the provision of ART to the patients. In Zambia, a study of the effectiveness of Adherence Support Workers (ASWs) in adherence counselling, treatment retention and addressing HRH constraints at health facilities showed that there was marked shift of workload from health workers to ASWs without any compromise in the quality of counselling. The loss to follow-up rates of new clients declined from 15% to 0% after the deployment of ASWs.[32]
AIDS Support Organisation (TASO) in Uganda has been working lay providers, called ‘field officers’ providing ART at home since June 2004. Adherence to ART has been shown to be very high and a recent study of the mortality under ART in this programme concluded that “the overall effect of ART on mortality was similar to or better than that seen in facility-based studies (...)”[33,34]

Based on such examples and on experiences with chronic care in high-income countries, we hold that additionally to the eight general conditions for successful CHW programmes, there are two more specific opportunities for ART-related CHW programmes, completing our list of ten issues:

(9) Using the life-experience of People Living with HIV/AIDS (PLHAs): What makes HIV/AIDS special is that it is a chronic condition resulting in a growing pool of people living with the disease. The concept of using the personal experiences of people living with the disease is emerging as one important building block for chronic care programmes in the North.[35-38] The NHS of the UK went furthest in establishing an expert patients programme as one pillar of the national chronic disease management programme.[36,39] Here, people living with the disease are involved as volunteers in training and counselling activities and their life-experience is regarded as their most important asset.[40] We judge the potential of using the life-experience of PLHAs in ART models as very promising and thus worth further exploration in CHW programmes.

(10) Using chronic care models with their special focus on adherence to treatment and retention in care: Chronic care models usually put a lot of emphasis on the self-management skills of patients in order to achieve the best results in terms of adherence to treatment and long-term retention in care. The problems of loss to follow-up and the negative effects of non-adherence are well documented for ART programmes.[41,42] We regard adherence and retention in care as two of the most important issues for the long-term success of ART programmes and contend that PLHAs are probably best qualified by their life-skills to promote these.

Examples of ART-related Community Health Workers in Uganda, Malawi and Ethiopia

Of the three countries, it is Uganda where we met with the widest range of CHWs involved in ART-related health activities. We identified the following eight types, which may not be exhaustive: ART aides, HIV medics, field officers, community ART and TB treatment supporters (CATTS), community AIDS support agents (CASAs), AIDS community workers (ACW), expert
patients (network support agents), TB tracers. According to our knowledge, only the field officers have been described in various publications.[33,43,44] We present here four types of CHWs who we found to be most involved in ART-related services, which are Expert Patients, ART Aides, HIV Medics and Field Officers.

None of these four types of CHWs is formally recognised or regulated by the Ministry of Health (MoH).

**Expert patients** are found in almost every ART site in Uganda. They are by no means a clearly defined group or cadre as the characteristics of their recruitment, their training, their responsibilities and their remuneration depend on the respective NGO who is locally in charge of the expert patient programme. Accordingly, their salary ranges from less than US$ 2 to US$ 75 per month. The main common selection criterion is their positive HIV status. The most generally known ‘expert patients’ are TASO’s Network Support Agents who receive 5 weeks training in VCT and 2 weeks training in ART-related tasks. While the term ‘expert patients’ is clearly being used as a label for these and other HIV-positive lay providers, we did not find that the term meant the original concept of the expert patient, as it was developed for the self-management of chronic disease care.[36]

**ART aides** are mostly but not necessarily PLHAs, trained in five days with the WHO *Integrated Management of Adolescent and Adult Illness* (IMAI) course by the NGO *Uganda Cares*. Most of the over 20 ART aides existing in 2007 were chosen from among PLHAs who had received a previous training as expert patients, also as part of the IMAI approach. The training of ART aides is focused on general support for HIV care and ART, with specific activities in triage, adherence support, group education, pre- and post test counselling, drug dispensing and records management at health centre level. The ART aides receive a salary of US$ 35 per month from *Uganda Cares*.

**HIV medics** are trained by the NGO *Uganda Cares* and supported by the *AIDS Healthcare Foundation*. They are a mix of PLHAs on ART (about 25%) and non-PLHAs with no prior medical background. They are required to have a high-school education and be able to read and write English. They follow a twelve-weeks training course whose curriculum includes six weeks of class-room teaching and six weeks of practical clinical training. It covers topics such as general knowledge of HIV/AIDS and ART, counselling, adherence support, medical history-taking, triage, examination and referral of patients, follow-up of patients. Some HIV medics have additionally been trained in doing CD4 tests and HIV-tests. By June 2007, 55 participants had
completed the course and were employed and paid by different NGOs. The ones employed by *Uganda Cares* receive a salary of US$ 226 per month.

**Field Officers** are mostly social workers with a university degree. They are employed by TASO. Their training lasts around two months and enables them to follow-up clients on ART at home, including the delivery of ARVs, provision of home-based care and counselling and referral of complicated patients. They are selected by TASO centres and supervised monthly by the Parish AIDS Committee. They receive a monthly salary of about US$ 350, and a daily lunch allowance of about US$ 3. With their high level of education they are fairly atypical CHWs.

In **Malawi** we identified the following six types of CHWs involved in HIV-related activities: Community health workers, community care providers, VCT community counsellors, volunteers trained at the health facilities, HBC volunteers and the Health Surveillance Assistants (HSAs).

We chose to focus on the HSAs, as they are the most widely established of them all. Also, while there is some literature on HSAs[15,24], we found none on any of the other CHWs.

**HSAs** have been in existence since the 1960s and 1970s when they were recruited as temporary ‘Smallpox Vaccinators’ and ‘Cholera Assistants’. Malawi’s Ministry of Health and Population (MoHP) decided to keep these trained people for the purpose of surveying health risks and providing basic care before referral to a health facility. Over the years the mandate of HSAs has widened considerably and now includes vaccination of under-fives, growth monitoring, supervision of traditional birth attendants, sanitation, water source protection and water treatment, disease surveillance, health and nutrition advice, provision of family planning devices and the follow-up of TB patients.[24] While being a cornerstone of the preventive health care system, it was not until 1995 that the HSAs became officially regulated as part of the structure of the MoHP, from where they also receive a salary, ranging between US$ 42 and US$ 52 per month.

In the context the HIV/AIDS programme and the scaling-up of ART in a number of projects and districts, the HSAs have been assigned a number of additional tasks, such as HIV prevention, provision of VCT, basic care for opportunistic infections, administration of cotrimoxazole prophylaxis, ART defaulter tracing, prevention of mother to child transmission for the newborn and general support to ART clients. However, we found that the specific tasks given to HSAs differed a lot in the various facilities studied. Their HIV/AIDS related roles and functions were determined by the level of resources available and the needs at each site.

The initial training for HSAs lasts 10 weeks and focuses on their core tasks. Training for HIV-related activities is shorter and done after the initial training. The selection of HSAs is done centrally. After training they are sent to the communities in which they are to work and live.
While in 2004, there were around 4,000 HSAs in the country, by 2008 their number had more than doubled to almost 11,000. This fast expansion was made possible with funding from the Global Fund, but the formal trainings of these new staff have not yet taken place and are being replaced by on-the-job initiations by already existing HSAs or NGOs.

In Ethiopia we identified six different types of CHWs involved in HIV-related activities: Health Extension Workers (HEWs), Care Givers/Care Aides, Expert Patients, Kebele Health Workers, Community Counsellors and Community Health Agents.[45]

We want to focus here on the HEWs, because the Government of Ethiopia is investing substantially in a Health Extension Programme for increasing the access of the population to promotive, preventive and curative care. Also, there are number of publications focussing on HEWs[28,46,47] but we did not find anything specifically on the other types of CHWs. The cadre of HEWs was created in 2003 and by the end of 2007 more than 17,600 people had already been trained. Currently there are 24,000 HEWs and the aim is to extend their number to 30,000 by 2009.[48] HEWs must be female and must have a high-school education. They must be members of the community they will serve in and they are selected by a committee of the local administration (different Woreda offices). Their training lasts 1 year and includes theoretical as well as practical parts, covering a wide array of mainly promotive and preventive topics within the four categories of hygiene and environmental sanitation, family health services, disease prevention and control and health education and communication. According to their job description they spend 25% of their time in the health posts and the other 75% in the community. HIV/AIDS is part of the curriculum, and we could identify the following activities of HEWs: Provision of HIV education, psychological support, HIV counselling, prevention of mother to child transmission of HIV including the provision of Nevirapine, patient care during home visits, ART adherence counselling, individual or group treatment support, referrals of complicated patients and defaulter tracing.[49] HEWs are part of the national Ethiopian health service receiving a monthly MoH salary equivalent to US$ 68.

Appraisal of ART-related CHW Programmes

Based on what we know about the CHW programmes described in the previous chapter, we want to attempt to examine them against the background of the eight conditions for the success of past CHW programmes and the two HIV/AIDS- specific opportunities.

(1) Selection and motivation. The ART aides and HIV medics in Uganda are selected and recruited by NGOs or the health facilities. Also the field officers are selected by TASO and
not by the community, but it should be noted that they are to some extent part of a wider community-based structure. Thus, TASO’s AIDS Community Workers and Community AIDS Support Agents are usually identified in dialogue between the programme managers and the communities. It is the communities themselves who decide on their final selection. The HSAs in Malawi have to live in the community and profess the motivation to serve the community they will be working in. Their selection, however, is done centrally and not by the community. Only the HEWs in Ethiopia are selected with the participation of the community. Our finding that communities are not necessarily pivotal in the selection of CHWs may be related to the fact that some of the cadres reviewed are rather facility-based lower cadres than real community-based health workers.

Of all six programmes only the expert patients and ART aides are chosen on the basis of having a positive HIV status.

(2) **Initial training.** It is a matter of course for all six CHW programmes to provide initial training to the prospective CHWs. The length and type of initial training vary between programmes and it is not the purpose of our overview to assess its quality or adequacy. However, the example of the HSAs in Malawi indicates that the timely provision of adequate training can become a challenge. Recently, this cadre was vastly expanded from 4,000 to 11,000, but the plans for initial training in HIV-related tasks have not yet been realised. The new HSAs are still being trained ‘on-the-job’ by the existing HSAs and by local NGOs. The 12 month-long training of HEWs in Ethiopia may well prove one important factor of success.

(3) **Simple guidelines and standardised protocols.** In the four Ugandan programmes which were created exclusively for HIV/AIDS-related care, the CHWs stick to a relatively narrow range of activities. HIV medics and ART aides for example are given very specific tasks at the laboratory, the pharmacy, the consultation room of the health facilities. By contrast, the HSAs and HEWs who are working in much broader community health programmes, have to fulfil a much larger range of tasks. Interviews with HSAs in Malawi revealed that many of them feel overloaded with work as more and more tasks are being added to their job description. This was also seen as one of the reasons affecting the quality of their performance in key activity areas such as immunisation.[24] Judging from past experiences with PHC-CHWs, this very broad range of tasks may overstrain the CHWs in the national programmes in Malawi and Ethiopia.

(4) **Supervision, support and relationship with formal health services.** The responsibility for the supervision of ART Aides, HIV Medics and Expert Patients in Uganda lies with the
respective health facility where the CHWs are based. The ART Aides should be supervised by HIV Medics, the home-based care coordinator or a health centre nurse and the HIV medics should work under the supervision of medical doctors, nurses or clinical officers.[50] These CHWs conduct their main activities at the health facilities, and there is a close and daily contact with the professional health workers facilitates supervision. The supervision rules for expert patients depend on the health facility or the NGO where they are employed.

The HSA programme in Malawi prescribes that HSAs should be supervised by Environmental Health Officers and Community Health Nurses. The survey by Kelly et al. described the actual supervision system as inadequate and reported that due to transport problems, supervision was hardly ever done except on immunisation days when transport was available.[24] In the same survey, the HSAs also complained about lack of transport and irregular supply of drugs and vaccines. In view of the decreasing HRH base and increasing workload due to HIV/AIDS in Malawi, the issue of insufficient supervision and support looks likely to remain very problematic in the years to come.

The HEWs in Ethiopia are in most cases supervised by the Woreda Health Office and sometimes also by the Health Centre they are based at. An assessment by the Center for National Health Development in Ethiopia from May 2006 found that good guidelines for team supervision exist and that a lot of attention was given to the supervision of HEWs at all levels. However, the Woreda Health Offices as well as the health centres were usually neither sufficiently staffed nor trained to provide good quality supervision.[28]

It seems that in none of the programmes the issue of refresher trainings has received a lot of attention in the initial planning process. Uganda for example had a well organized network of community based health care NGOs in the past, who variously developed criteria, trainer and facilitator manuals. But these have not been taken up by the new ART orientated CHW programmes, except in those supported by TASO. Given the importance of continuing training for a sustained quality of service provision by CHWs there is a risk that this may become a weakness of these CHW programmes.

While in small CHW projects with strong NGO back-up, the organisation of sufficient support looks feasible, it is much more of a challenge for the large national programmes. There are big doubts about adequate supervision and support in these programmes, especially due to the overall lack of professional HRH. Also, clinicians are usually poorly trained for such tasks and the relationship between health professionals and CHWs may become strained
because of frustrated expectations on both sides. There is a real risk that poor supervision and support will compromise the quality of the large-scale CHW programmes.

5) **Remuneration and career structure.** In all six programmes the CHWs receive a regular salary. TASO’s field officers earn a monthly US$ 350 and the HIV Medics earn with US$ 226 per month only little less even than a nursing or a clinical officer. Although the pay of ART Aides is quite modest with US$ 35 a month, given the wide-scale rural unemployment, it may constitute an important reason to continue service as a CHW. It is quite striking that there is such a wide range of salary options for CHWs with not so very different activity packages.

In Malawi and Ethiopia, where the HSAs and HEWs are part of the MoH structure, their salary is below that of the professional health workers.

None of the CHW cadres in Uganda has so far been formally recognised by the MoH. The consequence is that they do not have structured career opportunities. A recent policy prescribes that there should be Village Health Teams with the role, among other things, to select and support CHWs. The modalities of how this will actually operate are still under development leaving room for various NGOs to experiment with different forms of CHW programmes.

The HSAs in Malawi, by contrast, have a career path. According to the ministry, they can be promoted to the position of senior HSA and plans have been made recently to create several levels of HSAs with increased salary scales. They also have a better chance of being accepted for further studies to become Environmental Health Officers, Clinical Officers or Nurses. The HEWs in Ethiopia have an opportunity to upgrade to nurses. This depends on their performance and recommendation from their supervisors. However, by 2008 none of the HEWs had so far upgraded.

6) **Political support and regulatory framework.** As the CHWs in Uganda are not officially recognised by the MoH they do not have a regulatory framework in spite of the fact that they work in MoH facilities. A system-wide scale-up of one specific CHW programme for the provision of ART does not seem to be intended. The HSAs in Malawi and the HEWs in Ethiopia are officially regulated by the Ministries of Health. In fact, in both countries it was the MoH, supported by donors, who decided to quickly and substantially expand these cadres.

7) **Alignment with broader health system strengthening.** This point can be regarded as a summary of most of the previous points. The national scale-up of a CHW programme for ART is only conceivable in a strong health system that can provide regular follow-up
training, organise and sustain adequate support and supervision, ensure the adherence to protocols and implement and enforce a regulatory framework. CHWs are not a substitute for professional HRH but only a complement.

(8) **Flexibility and dynamic.** All programmes are reactions to the new challenges posed by HIV/AIDS and the scale-up of ART. The Ugandan CHWs have been newly created for HIV-related purposes, the Malawian and Ethiopian CHWs have been assigned new HIV-related functions. In how far these CHW programmes will interact in flexible and dynamic ways with the formal health services and evolve along with broader changes in the societies, remains to be seen.

(9) **Using the life experience if PLHAs.** We have mentioned that only two small-scale NGO projects select their CHWs on the basis of being PLHAs. Of course, there exist many other smaller projects in all three countries, such as mutual support groups, peer educators and community counsellors that specifically involve PLHAs with good results. However, neither of the two large-scale national programmes uses this ‘positive discrimination’ of PLHAs in their selection of CHWs. Not to tap the life-experience of the ever growing pool of PLHAs on ART means missing an important new HIV-related opportunity.

(10) **Chronic care focus on adherence and retention.** Small-scale NGO projects, such as those described in Uganda, often pay high attention to the issues of adherence and retention in care. We have the impression, though, that these two crucially important aspects of long-term success of ART programmes have so far been relatively neglected in the large-scale national CHW programme in Malawi. Ethiopia has recently piloted a case management programme as a strategy to provide a continuum of care and link the health facilities with the community to prevent loss to follow up and improve adherence to treatment. The plan is to scale up the case management programme at national level once it is evaluated.[51] However, the involvement of PLHAs in tasks such as adherence counselling and defaulter training has not been considered even though it may be one of the most important elements for achieving good results in these two crucial programme aspects.

**Conclusion**

Our appraisal of the CHW programmes in Uganda, Malawi and Ethiopia shows that some lessons seem to have been learnt from past experiences but that others have been neglected and that important weaknesses remain. New ART-related opportunities are not sufficiently seized.
All programmes have learnt the lesson that CHWs cannot be retained in the long-term if they do not receive adequate remuneration. Yet, concerns about the long-term funding of NGO programmes with high CHW salaries have been voiced.

Based on lessons from the past, we contend that while an adequate and competitive salary may prevent a high turnover of CHWs, the apparently insufficient attention to other issues such as quality supervision and continuous training will lead to decreasing quality of the programmes over time. The strong need for support and training illustrates clearly that CHWs are not a simple and cheap solution to the lack of qualified HRH. CHW programmes which seem to be successful show that quite the contrary may be the case. They usually employ a lot of qualified HRH for training, supervision and support.[15,52] Therefore the real cost of scaling-up CHW programmes, including the additional qualified HRH for supervision and training, should not be neglected.

The government programmes seem more attractive than the NGO-based programmes for scaling up ART and reaching coverage, as the CHWs are already part of the health system’s structure, regulatory frameworks exist and career prospects can be created. However, we contend that they run the highest risk of neglecting quality assurance if their scale-up is not aligned with broader health systems strengthening. For scaling up ART, health systems need to fulfil many functions in a reliable way, including the provision of support, supervision and training of CHWs. Therefore, CHWs can only ever be an addition, never a substitute for health systems strengthening.[27,29]

We have the impression that small NGO projects are more likely than large national programmes to select PLHAs as CHWs. Not to capitalise on the life-skills of the growing number of PLHAs for the crucial programme aspect of long-term retention in care is a missed opportunity of large-scale CHW programmes. It is easy to imagine how much more motivating it would be for example for an HIV positive pregnant woman to be counselled by an HIV positive mother with a healthy child than by a CHW without this personal experience and with only limited training.

We argue that current CHW programmes for ART should not be regarded as something entirely new but as standing in the context of a history of CHW programmes so that lessons of failure and success, as outlined here in the form of eight conditions, can be incorporated in the design of new CHW programmes. The use of the life-experience of PLHAs may give HIV/ART-related CHW programmes better chances of success than their predecessors and may be crucially important for adherence and retention in large-scale ART programmes.[35]

Due to our formal health system perspective, we did not deal with an important aspect of the original CHW concept, i.e. their role as agents of change in the relationship between health services and population and for community empowerment. More research on non facility-based
CHW programmes, their lessons of failure and success, and their present and potential role in the scale-up of ART would be very useful and timely.

CHWs as a community-based extension of health services are essential for the ART scale-up and comprehensive PHC. The renewed attention to CHWs is thus very welcome; but the scale-up of CHW programmes runs a high risk of neglecting the necessary quality criteria. For achieving universal access to ART this is of paramount importance and should receive urgent attention.

References


Authors’ contributions and Conflict of Interest Statements

Katharina Hermann wrote the manuscript and reviewed the literature. Wim Van Damme conceptualised the study and reviewed the various draft stages of the text. Anna Cirera, William Massavon and Wim Van Damme designed and conducted the field studies. George William Pariyo, Yibeltal Assefa and Erik Schouten contributed country-specific data and reviewed the final manuscript.

I declare that I wrote the manuscript, did the literature review and participated in the editing process. I have seen and approved the final version and have the final responsibility to submit the manuscript for publication. I have no conflict of interests.

Katharina Hermann

I declare that I participated in the design and conduction of the field studies. I conceptualised the study, reviewed the manuscript at its various stages and participated in the editing process. I have seen and approved the final version. I have no conflict of interests.

Wim Van Damme

I declare that I participated in the design and conduction of the field studies. I have seen and approved the final version. I have no conflict of interests.

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I declare that I participated in the design and conduction of the field studies. I have seen and approved the final version. I have no conflict of interests.

William Massavon

I declare that I have contributed country-specific data on Uganda and have seen and approved the final version. I have no conflict of interests.

George William Pariyo

I declare that I have contributed country-specific data on Ethiopia and have seen and approved the final version. I have no conflict of interests.

Yibeltal Assefa

I declare that I have contributed country-specific data on Malawi and have seen and approved the final version. I have no conflict of interests.

Erik J Schouten