J Community Health (2012) 37:1192–1198
DOI 10.1007/s10900-012-9569-5

ORIGINAL PAPER

Motivations and Challenges of Community-Based Surveillance Volunteers in the Northern Region of Ghana

Yasemin Dil · Daniel Strachan · Sandy Cairncross · Andrew Seidu Korkor · Zelee Hill

Published online: 22 May 2012
© Springer Science+Business Media, LLC 2012

Abstract Community health workers (CHWs) are an important element of many health systems and programmes for the promotion and delivery of a wide range of health interventions and disease surveillance. Understanding the motivation and retention of CHWs is recognized as essential but there are few data from sub-Saharan Africa. This qualitative study explored factors that motivate, and the challenges faced by community-based surveillance volunteers (CBSVs) in the Northern Region of Ghana through semi-structured interviews with 28 CBSVs, 12 zonal coordinators, nine Ghana Health Service (GHS) sub-district level staff, ten GHS district level staff and two GHS regional level staff in the administrative capital. The community emerged as an important motivating factor in terms of altruism, a sense of duty to the community and gaining community respect and pride. This was enhanced by community selection of the volunteers. Major challenges included incorrect community perceptions of CBSVs, problems with transportation and equipment, difficulties conducting both volunteer and farm work and late or lack of payment for ad hoc tasks such as National Immunization Days. Most CBSVs recognized that they were volunteers, understood the constraints of the health system and were not demanding remuneration. However, CBSVs strongly desired something tangible to show that their work is recognized and appreciated and described a number of low cost items that could be used. They also desired equipment such as raincoats and identifiers such as tee-shirts and certificates.

Keywords Community-based surveillance volunteer · Community health worker · Motivation · Challenges · Ghana

Introduction

Community health workers (CHWs) became an integral part of primary health care provision in low income countries following the Alma Ata declaration in 1978 [1]. CHWs were envisaged as agents to provide education and simple healthcare interventions to their own communities, whilst ensuring community participation and action [2]. Early CHW programmes showed some success, however by the 1990s the initial enthusiasm for CHWs was dampened. Numerous problems were encountered including; poor training, supervision and support, and unrealistic expectations leading to high attrition rates and poor-quality services [3–5].

Over the last decade there has been a resurgence of interest in the use of CHWs in low income countries stemming from human resource shortages, the increasing burden of HIV/AIDs, and World Health Organization's (WHO) proposal of "task shifting" [6] and the push towards achieving the Millennium Development Goals [5]. This has resulted in programmes recruiting and training

Y. Dil · D. Strachan · Z. Hill (✉)
Institute of Child Health, Centre for International Health and Development, University College London, 30 Guilford Street, London, WC1N 1EH, UK
e-mail: zhill.ich@gmail.com

S. Cairncross
London School of Hygiene and Tropical Medicine, London, UK

A. S. Korkor
Ghana Guinea Worm Eradication Programme, Ghana Health Service, Tamale, Ghana

new CHWs as well as reorienting existing CHWs to perform new tasks. For example, CHWs are vital in several key interventions such as the Integrated Management of Childhood Illness strategy [2, 5] and the WHO/UNICEF new born home visit strategy [7].

Present CHW programmes and interventions are extremely variable in terms of the function of CHWs, how they are trained, remunerated and supported, and the way in which the government views them. Studies have shown that CHWs can be effective in reducing morbidity and mortality for single diseases such as malaria and pneumonia [8–10] as well as for broader interventions such as essential new born care [11–14] and for community-based surveillance programmes [15, 16]. However, a recent systematic review of randomized-control trials, the majority from developed countries, concluded that there was only moderate evidence of an impact of lay health workers on behaviours such as breastfeeding and immunization uptake, and low evidence for an impact on neonatal and child mortality [17].

The issue of how to keep CHWs motivated and reduce attrition rates, including whether they should be paid or not, has been hotly debated [2, 18]. Although the importance of motivation is recognized, there are few papers which examine what actually motivates CHWs. The majority of papers that do exist are from South Asia and those from sub-Saharan Africa have focused on HIV/AIDs and tuberculosis volunteers.

From the available studies altruism, self-development, recognition from the community and the hope of formal employment in the future are commonly mentioned motivators [2, 19–21]. Lack of remuneration, recognition and support from both the government and community and time spent volunteering were frequently mentioned challenges [2, 19–23].

This qualitative study seeks to understand the motivations and challenges of community-based surveillance volunteers (CBSVs) in the Northern Region of Ghana, both from their own perspective and also from the perspective of Ghana Health Service (GHS) staff, adding to the limited literature base on CHW motivation in sub-Saharan Africa.

The Community-Based Surveillance (CBS) system was established in 1998, by expanding the role of existing volunteers from guinea worm activities to surveillance of key diseases, vital and unusual events [24]. At present Ghana's volunteers, now called community-based surveillance volunteers (CBSVs), are in a phase of revitalization as they form part of Ghana's Community Based Health and Planning Services (CHPs) strategy [25, 26]. It is therefore crucial that the motivations of these volunteers and the challenges they face are assessed and understood in order that the strategy is successful.

Methods

Qualitative interviews were collected over a 4 week period in July 2010, in six of the 18 districts in the Northern Region of Ghana. Three districts had recently been freed of guinea worm disease and three had been free of guinea worm disease for more than 3 years. The recently freed districts had on-going Guinea Worm Eradication Programme (GWEP) activities, principally surveillance and education which are performed by CBSVs.

Semi-structured interviews were conducted with 28 community-based surveillance volunteers (CBSVs) from 24 different villages. Ghana Health Service (GHS) sub-district level staff were asked to identify villages with CBSVs and these villages were visited and available CBSVs interviewed. In addition interviews were conducted with 12 zonal coordinators, nine GHS sub-district level staff, ten GHS district level staff and two GHS regional level staff in the administrative capital.

The interview questions varied by respondent group and were developed on the basis of a literature review and a pilot in a non-study area. They included questions regarding the nature of CBSV work, how the system works, and CBSVs motivations and challenges. Respondents were given a chance to discuss any other issues at the end of the interview.

All interviews were conducted by the principal researcher (YD), interviews with zonal coordinators, CBSVs and community members were conducted in the local language through an interpreter. Interviews with sub-district, district and regional personnel were conducted in English. The study was explained to all participants with the use of an information sheet and written consent was sought. Interviews took around 30–45 min. Notes were taken during the interviews which were typed up fully following the interviews.

Transcripts were analysed manually, they were first explored through multiple readings to ensure familiarity with the data. The transcripts were then hand coded and systematically analysed. As key themes emerged a code frame was developed and descriptive quotes coded under each theme.

Ethical approval was received by the London School of Hygiene and Tropical Medicine Ethics Committee.

Results

Study Population and Context

Of the 28 community-based surveillance volunteers (CBSVs) interviewed 61 % were male and 39 % were female. This reflected Ghana Health Service (GHS) staff

reports that, despite a plan for one male and one female community-based surveillance volunteer in each community, male CBSVs were more 'active'. The average age of CBSVs was 39 years and approximately 64 % of all CBSVs were literate. 88 % of male CBSVs were farmers and 50 % of female CBSVs were teachers. Over 60 % of all CBSVs had served in their positions for between five and 15 years.

CBSVs were members of the community that they served and those who were interviewed reported that they are responsible for between 50 and 200 compounds each. They explained that they obtain information regarding births, deaths, diseases and unusual events by visiting each compound at least once a month, through community members notifying them and by using children in the village as informants. The information is recorded in a pictorial register using tally marks. Those who are illiterate reported that if they needed to write something in the register they would ask for assistance from their supervisor or literate community members. Many CBSVs reported that they inform their supervisor or the local health centre of any illness or emergency situation, and encourage community members to go to the health clinic when sick.

Other reported CBSV duties included the provision of health education, community mobilization, participation in National Immunisation Days and other Ghana Health Service exercises such as insecticide treated bed-net hanging, and working as community growth promoters. CBSVs in districts that have been recently freed of guinea worm disease reported that they also conduct Guinea Worm Eradication Programme pre-certification activities.

CBSVs in districts that have recently been freed of guinea worm reported that they were supervised by zonal coordinators (ZCs). Those in other areas were supervised through the health centres, nurses or ZCs. ZCs are volunteers who receive a small monthly stipend; they reported their duties as collating the information in the CBSV registers each month, investigating and verifying the validity of reports and to supervise between 10 and 20 CBSVs.

CBSVs were not paid a regular stipend but did receive one-off payments for activities such as participating in National Immunization Days and for attending meetings; for example where CBSVs conduct Guinea Worm Eradication Programme activities, they are supposed to attend quarterly meetings for which they receive a sitting allowance of about $1.00.

Motivation

The community emerged as a vital factor for motivating the CBSVs to take on and remain in the role. Almost all volunteers described a strong connection to their communities, "they are my own brothers and sisters and I want to see everyone lives in good health" [45 year old male CBSV] and felt both a duty and active desire to help their families and communities, "they count on me whenever they have a problem" [26 year old female CBSV]. Altruism towards the community emerged as a key reason for becoming volunteers and as a motivation to stay in the role.

> "Helping my own people is very important – we work as one unit. You cannot be selfish." 45 year old male CBSV.

> "It is about helping my own people. I identify health to be the most important aspect in human life therefore I should help my community and die for them." 32 year old male ZC.

Actively seeing the health and education of the community improve also emerged as a key motivator; "now compared to some years ago they are all in good health, me and my community" [45 year old male CBSV].

Many respondents explained that they were extremely proud to be the CBSV or ZC for their community and that because of the role they gained respect and recognition from their communities, elders, and the health system, "people are happy when they see you, give you the due respect. I am proud to say I am a volunteer—I have to fight these things [diseases]" [29 year old male CBSV]. Some CBSVs mentioned that being able to provide information to their communities, such as the date of birth of a child, and to the health facility, such as a death or the occurrence of a new disease, made them feel proud and respected, "if I see a new disease I report it to the health clinic—I am proud to give them the necessary information" [29 year old male CBSV].

Being selected by the community influenced the sense of duty felt by CBSVs as well as the pride they felt for the role and their motivation. Almost all CBSVs were selected by their communities and chiefs, this selection was felt as a sign that the community believed that they could undertake the role and that it was their duty to accept. ZCs explained that they were selected by their village chiefs or health staff due to their hard work and competence while they were volunteers, leading to a feeling a pride and respect.

All CBSVs reported that training sessions and workshops that they attend are extremely useful and motivational as they provide the opportunity for CBSVs to expand their knowledge and transfer this to their communities.

When asked about motivation, most district level staff explained that they attempt to motivate and encourage the CBSVs verbally. They explained that they try to treat them with respect and make them feel as though they too are part of the formal health system. Some described going to visit volunteers in their homes once in a while just to say hello, and others explained that they will give volunteers their old

clothes. ZCs and district staff reported that whenever possible CBSVs are put forward for activities with a financial reward such as National Immunization Days, "when we have polio—we use them instead of using teachers" [District Disease Control Officer].

Challenges

Working in the community presented challenges; both CBSVs and district staff reported that some community members believed the CBSVs were paid by the Ghana Health Service, "at times they think we have been paid—that is why we talk talk talk" [26 year old female CBSV]. CBSVs also reported that a lack of community cooperation during community mobilization was challenging, that community members did not always follow referral instructions (perceived to be linked to a belief in herbal medicine and a lack of health insurance), and that some community members perceived immunisations or medications as covert family planning, and so reduced their uptake.

With CBSVs having to visit up to 200 compounds, many of them expressed that it was extremely difficult to find transport and that making regular home visits on foot was very tiring. A lack of transport also affected other tasks, "there is no means of coming to report a disease here. How should I bring cases to hospital?" [35 year old male CBSV]. Transport issues had been discussed with some supervisors, "I don't want to mention bikes as we mention them every time we meet, they are given only to ZCs, not volunteers" [40 year old male CBSV].

A shortage of other equipment was described as a problem; the CBSVs, ZCs and district level staff explained that sometimes the registers do not arrive at the beginning of the year which "lowers the morale" of the volunteers [Regional GHS staff member]. Other items that they expect such as pens for recording events in the registers and file folders to keep the registers dry had not been provided at all. Some volunteers reported they were promised items such as soap for washing hands after conducing home visits and raincoats.

Attending meetings was also challenging due to a lack of adequate compensation; for example CBSVs in areas conducting Guinea Worm Eradication Programme activities were given about $1.00 to attend meetings but complained that this barely covered the cost of transport to the meeting. Other CBSVs reported that they received no form of compensation at all for training courses that they attended, "we spend an entire day here and get no benefits at all, no food or drink" [35 year old male CBSV].

Most CBSVs described that they received a strong level of guidance from supervisors with over half reporting that they see their supervisors once a week. They explained that they were able to talk openly and discuss any problems with their supervisors, however, some ZCs explained that during the rainy season or when their bicycles break they may not see volunteers for a longer period of time, "supposed to see them weekly but sometimes this is difficult as the bike breaks down. Sometimes you may not see them for up to 2 weeks but I don't feel comfortable and free about it" [Male ZC].

A further challenge reported by both CBSVs and ZCs was a difficulty in keeping up with their farm work during the farming season leading to financial problems. Some CBSVs mentioned that during the farming season the community could help the volunteers out with their farm work on days that they are unable to work. However, district staff explained that this had been tried in the community and failed.

Although CBSVs understand that they are not supposed to be paid for their work, "the word volunteer—can't say they should pay us," [29 year old male CBSV] they do receive one-off payments for participating in activities such as National Immunization Days—a major incentive. However, they explained that often there can be delays in the payment or they may only be paid for some of the days that they took part in, "for giving out polio we still haven't been paid. Three and a half months later and we haven't been paid" [38 year old female CBSV]. District level staff explained that the delays and lack of payment can result from health workers taking some of the money, "squeeze something for your own pocket too" [Regional GHS staff member] and that this is known to some CBSVs, "they feel their Technical Assistants are denying them the money and taking it for themselves" [Male ZC]. The lack of expected payment resulted in challenges as the CBSVs can become resentful, and delays in data collection and reporting by the volunteers were seen. Other district level staff felt that the *ad hoc* nature of the payments can cause problems with motivation, "motivations are not regular which more or less will affect their output" [District Disease Control Officer].

Motivation of CBSVs was identified as a major challenge by staff at all levels of the health system, and was an extremely important issue for them. It was clear that district and regional level staff valued the work of the volunteers and appreciated that they too are part of the health system. One ZC explained that to improve volunteers' motivation one had to "know their problems and meet their problems." All levels of the system explained that they had tried to respond to the needs of the volunteers by lobbying for free health insurance and as mentioned earlier, community help with farm work, but that in both cases they were unsuccessful.

In some cases local solutions were found to challenges, for example some CBSVs were able to borrow bicycles from others in the community and CBS registers were

improvised using either photocopied sheets from old books or made by hand.

Desires

Although the CBSVs and ZCs understand that their role is voluntary it was clear that they all desired something of material value for encouragement and to show that their work and commitment is recognized and appreciated; especially as many explained that during the farming season they would often get behind on their farm work due to their CBSV duties. There was a strong agreement between the CBSVs that more needs to be done in terms of motivation and incentives:

> "At the end of the day we are sacrificing and doing the groundwork so we should get something to encourage me to do better so that way everybody benefits." 33 year old male CBSV.

> "We keep the role spiritually and are happy to do it. But we need motivation to do it well and not to be reluctant." 52 year old male CBSV.

This feeling was echoed by some of the district staff, "for someone to leave his farm to do CBS without any form of motivation is something I don't feel comfortable with," [District Disease Control Officer].

Some CBSVs mentioned that a small monthly income would be motivational and that sitting allowances for meetings should be increased. However, the financial constraints of payments were identified by district and regional level staff, "we have 518 CBSVs; even if you want to give them each 10 cedis that is 5,180 cedis which is too much." [District Disease Control Officer].

A large number of CBSVs mentioned that they would like items that would aid their work such as bicycles, wellington boots, torches and soap, or items that would enhance respect such as a tee-shirts, certificates or annual awards for the best volunteer. The certificates and awards were not only reported as important for immediate community respect but could also be shown this to their children and others in the community in the future.

Two CBSVs and some ZCs explained that the prospect of salaried employment in the GHS in the future would be an extremely strong motivator.

Although the CBSVs said that the items mentioned above would be motivational, they also argued that even something small to show appreciation of their work would be motivational, "even use a bottle [of soda] and say it is a CBS award" [29 year old male CBSV]. GHS staff also stressed the motivational importance of providing tokens of appreciation every 6 months or so. They felt that these tokens should have some material value and should define the CBSVs as being unique and be something that they can be proud of.

Discussion

This study explored the motivations, challenges and desires of community-based surveillance volunteers (CBSVs) in the Northern Region of Ghana, both from the perspectives of the volunteers themselves and Ghana Health Service (GHS) staff involved in the Community-Based Surveillance (CBS) system.

Altruism, community selection, community support and improved community status have been identified as motivating CHWs in various settings [2, 5, 18, 19, 27–30] and the community also emerged as an important motivating factor in this study. CBSVs described a number of community related challenges stemming from a lack of community understanding of the duties of CBSVs, which could be resolved through helping communities understand the CBS system and what the volunteers do. Community health worker (CHW) programmes often include community selection [23, 31–33] but few make any other explicit efforts to harness community support or understanding as a means of improving motivation, retention and performance. Given the importance of the community as a motivating factor, fostering links between the volunteer and the community could be beneficial in improving motivation.

Recommendations around community involvement are not new and those who embark on programmes using CHWs have a lot to learn from past experiences, for example in 1989 a World Health Organisation (WHO) Study Group declared that, "CHWs should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organisation" [34]. The findings of this study support this declaration. Furthermore, Cambell and Scott (2009) argue that the WHO's report on task shifting through the use of CHWs fails to address the importance of promoting a strong relationship with the community which this paper amongst others [2, 5, 20, 35] has shown is vital to the success of CHW programmes.

CBSVs recognised that their role was unpaid, and although a few mentioned that a small monthly stipend could be introduced, or that sitting allowances for meetings could be increased, the volunteers were not demanding remuneration for their work. Similar to a study conducted in South Africa [19] the volunteers understood the constraints of the systems that they work in. Though volunteers are not demanding a salary, not receiving promised incentives was demoralising and distressing for some.

One-off payments for National Immunization Days (NIDs) are one of the only financial benefits CBSVs gain from the system and late or lack of payment for these jobs may lead to poor performance and commitment. Other expectations including provision of equipment to aid the CBSVs in their duties were not met and, as has been found in other studies, this lowered the morale of volunteers [28, 30]. This highlights that volunteers must have a clear picture of what to expect from the role, and that these expectations are met to ensure morale and performance remains high.

A study conducted in Mexico reported that verbal appreciation or social events for CHWs were some of their most highly valued incentives [36]. In this study CBSVs all felt that that they received strong levels of support, guidance and verbal appreciation from their supervisors, and felt valued. This is in contrast to other studies which have described a lack of health system recognition of the value of the volunteers and a lack of support or communication [19, 20, 22]. Despite this moral and verbal support, the volunteers strongly desired something to show appreciation and recognition for their work, and described a plethora of low cost items that could be used for this. These were seen as tokens of appreciation and recognition rather than an incentive to work, with the provision of something physical having more significance than verbal appreciation. GHS staff were sensitive to the problems of the volunteers and were quick to explain that they needed regular incentives, however, they did not necessarily recognize the importance of providing small tokens to show the volunteers that they are valued and recognized, and rather they discussed incentives as payment for work done.

Over the years, there has been a significant debate about whether the use of monetary incentives to reward social efforts can have a negative effect, diminishing altruism and the desire to help [37, 38]. However some, such as Kironde and Bajunirwe (2002) [18] argue that in resource limited settings non-monetary incentives are not enough to ensure volunteer satisfaction and retention, and the studies report that volunteers desire some form of payment for the work they do [19, 28, 39]. A further complication is that in programmes where regular stipends or monetary incentives have been introduced, they are often deemed insufficient by volunteers, and irregularities in payment have led to dissatisfaction [20–22, 36]. In this study, we found that although CBSVs do receive some monetary incentives in the form of one-off payments for participating in NIDs and for attending training meetings, this is actually seen as something separate from a salary, and for the majority does not seem to be affecting their altruistic drive.

A few volunteers and ZCs explained that they hoped to become salaried GHS employees in the future, but this was not commonly mentioned. In contrast, three studies in South Africa reported that the prospect for formal employment was a major motivating factor in becoming CHWs [19, 20, 29]. This difference can perhaps be attributed to contextual differences. For instance, the majority of CBSVs in the Northern Region were either farmers or teachers and tended to be older members of the community. In South Africa the majority of CHWs were young and reasonably educated but unemployed. Understanding the context of a volunteer programme including volunteer characteristics is crucial and has been identified as a determinant of the success of CHW programmes by Haines et al. (2007) [5].

There is the possibility of responder bias in this study where participants report what they think they should say instead of what they actually do or think. The presence of a translator during the interviews may have again influenced the responses of the participants and nuances may have been lost in the translation process. Qualitative methods such as those used in this study provide useful insights into the motivation of CHWs and how to improve CHW programmes. This study highlights the importance of promoting community support and understanding, and ensuring programmes establish feasible incentive systems, set and meet expectation, and recognize and respond to the context-specific differences in CHWs and programmes.

Acknowledgments We would like to thank all those who kindly took time to participate in this study. We would also like to thank the Ghana Guinea Worm Eradication Programme staff for their field and technical support and guidance, without which this study would not have been possible. Many thanks in particular to David Agyemang for his time and constant support both during data collection and analysis. Data presented in this paper were collected for the thesis component of a Masters in Control of Infectious Disease at London School of Hygiene and Tropical Medicine, London. We would also like to thank London School of Hygiene and Tropical Medicine for providing funding for flights to and from Ghana.

References

1. Walt, G., Ross, D., Gilson, L., Owuor-Omondi, L., & Knudsen, T. (1989). Community health workers in national programmes: the case of the family welfare educators of Botswana. *Transactions of the Royal Society of Tropical Medicine and Hygiene, 83*(1), 49–55.
2. Bhattacharyya, K., Winch, P., Leban, K., & Tien, M. (2001). Community health worker incentives and disincentives: How they affect motivation, retention, and sustainability. Basic Support for Institutionalizing Child Survival Project (BASICS II) for the United States Agency for International Development. Arlington, Virginia.
3. Berman, P. A., Gwatkin, D. R., & Burger, S. E. (1987). Community-based health-workers: Head-start or false start towards health for all. *Social Science and Medicine, 25*(5), 443–459.
4. Gilson, L., Walt, G., Heggenhougen, K., et al. (1989). National community health worker programs: How can they be strengthened? *Journal of Public Health Policy, 10*(4), 518–532.

5. Haines, A., Sanders, D., Lehmann, U., et al. (2007). Achieving child survival goals: Potential contribution of community health workers. *Lancet, 369*(9579), 2121–2131.
6. World Health Organization. (2006). *Treat, train, retain: AIDS and health workforce plan: Report on the consultation on AIDS and human resources for health*. Geneva: World Health Organization.
7. World Health Organization. (2009). *WHO/UNICEF Joint statement; Home visits for the new born child: A strategy to improve survival*. Geneva: World Health Organization.
8. Kidane, G., & Morrow, R. H. (2000). Teaching mothers to provide home treatment of malaria in Tigray, Ethiopia: A randomised trial. *Lancet, 356*(9229), 550–555.
9. Sazawal, S., & Black, R. E. (2003). Effect of pneumonia case management on mortality in neonates, infants, and preschool children: A meta-analysis of community-based trials. *The Lancet infectious diseases, 3*(9), 547–556.
10. Winch, P. J., Gilroy, K. E., Wolfheim, C., et al. (2005). Intervention models for the management of children with signs of pneumonia or malaria by community health workers. *Health Policy Plan, 20*(4), 199–212.
11. Bang, A. T., Bang, R. A., Baitule, S. B., Reddy, M. H., & Deshmukh, M. D. (1999). Effect of home-based neonatal care and management of sepsis on neonatal mortality: Field trial in rural India. *Lancet, 354*(9194), 1955–1961.
12. Bang, A. T., Reddy, H. M., Deshmukh, M. D., Baitule, S. B., & Bang, R. A. (2005). Neonatal and infant mortality in the ten years (1993 to 2003) of the Gadchiroli field trial: Effect of home-based neonatal care. *Journal of Perinatology, 25*(Suppl 1), S92–107.
13. Baqui, A. H., El-Arifeen, S., Darmstadt, G. L., et al. (2008). Effect of community-based newborn-care intervention package implemented through two service-delivery strategies in Sylhet district, Bangladesh: a cluster-randomised controlled trial. *Lancet, 371*(9628), 1936–1944.
14. Bhutta, Z. A., Soofi, S., Cousens, S., et al. (2011). Improvement of perinatal and newborn care in rural Pakistan through community-based strategies: A cluster-randomised effectiveness trial. *Lancet, 377*(9763), 403–412.
15. Cairncross, S., Braide, E. I., & Bugri, S. Z. (1996). Community participation in the eradication of guinea worm disease. *Acta Tropica, 61*(2), 121–136.
16. Oum, S., Chandramohan, D., & Cairncross, S. (2005). Community-based surveillance: A pilot study from rural Cambodia. *Tropical medicine & international health, 10*(7), 689–697.
17. Lewin, S., Munabi-Babigumira, S., Glenton, C., et al. (2010). Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. Cochrane Database Systematic Reviews (3), CD004015.
18. Kironde, S., & Bajunirwe, F. (2002). Lay workers in directly observed treatment (DOT) programmes for tuberculosis in high burden settings: Should they be paid? A review of behavioural perspectives. *African Health Science, 2*(2), 73–78.
19. Kironde, S., & Klaasen, S. (2002). What motivates lay volunteers in high burden but resource-limited tuberculosis control programmes? Perceptions from the Northern Cape province, South Africa. *The International Journal of Tuberculosis and Lung Disease, 6*(2), 104–110.
20. Schneider, H., Hlophe, H., & Van Rensburg, D. (2008). Community health workers and the response to HIV/AIDS in South Africa: Tensions and prospects. *Health Policy Plan, 23*(3), 179–187.
21. Rahman, S. M., Ali, N. A., Jennings, L., et al. (2010). Factors affecting recruitment and retention of community health workers in a newborn care intervention in Bangladesh. *Human Resources for Health, 8*, 12.
22. Suri, A., Gan, K., & Carpenter, S. (2007). Voices from the field: Perspectives from community health workers on health care delivery in rural KwaZulu-Natal, South Africa. *Journal of Infectious Diseases, 196*(Suppl 3), S505–S511.
23. Perez, F., Ba, H., Dastagire, S. G., & Altmann, M. (2009). The role of community health workers in improving child health programmes in Mali. *BMC International Health and Human Rights, 9*, 28.
24. Maes, E. F., & Zimicki, S. (2000). *An evaluation of community-based surveillance in the Northern Region of Ghana*. UNICEF: UNICEF Evaluation Report.
25. Ghana Health Service. (2009). *GHS annual report*. Accra: Ghana Health Service.
26. Nyonator, F. K., Awoonor-Williams, J. K., Phillips, J. F., Jones, T. C., & Miller, R. A. (2005). The Ghana community-based health planning and services initiative for scaling up service delivery innovation. *Health Policy Plan, 20*(1), 25–34.
27. Bugri, S. Z., A. V. L., Marfo, W. A., Dason, B., & Tinorgah, A. I. (1992). *Guinea worm volunteers in Northern Region of Ghana, present performance and future role*. Tamale, Ghana: Guinea Worm Eradication Programme.
28. Mkandawire, W. C., & Muula, A. S. (2005). Motivation of community care givers in a peri-urban area of Blantyre, Malawi. *African Journal of Health Science, 12*(1–2), 21–25.
29. Akintola, O. (2011). What motivates people to volunteer? the case of volunteer AIDS caregivers in faith-based organizations in KwaZulu-Natal, South Africa. *Health Policy Plan, 26*(1), 53–62.
30. Jack, B. A., Kirton, J. A., Birakurataki, J., & Merriman, A. (2011). The personal value of being a palliative care Community Volunteer Worker iniative Uganda: A qualitative study. *Palliative Medicine* [Epub ahead of print].
31. Ghebreyesus, T. A., Witten, K. H., Getachew, A., et al. (2000). The community-based malaria control programme in Tigray, northern Ethiopia. A review of programme set-up, activities, outcomes and impact. *Parassitologia, 42*(3–4), 255–290.
32. Zachariah, R., Teck, R., Buhendwa, L., et al. (2006). How can the community contribute in the fight against HIV/AIDS and tuberculosis? An example from a rural district in Malawi. *Transactions of the Royal Society of Tropical Medicine and Hygiene, 100*(2), 167–175.
33. Jalal, S. (2011). The lady health worker program in Pakistan–a commentary. *European Journal of Public Health, 21*(2), 143–144.
34. World Health Organization. (1989). Strengthening the performance of community health workers in primary health care: Report of a WHO study group. World Health Organization Technical Report. Geneva: World Health Organization.
35. Lehmann, U., Sanders, D. (2007). Community health workers: What do we know about them? Geneva: WHO, Evidence and Information for Policy, Department of Human Resources for Health.
36. Alfaro-Trujillo, B., Valles-Medina, A. M., & Vargas-Ojeda, A. C. (2011). Profiles, perceptions and motivations of community health workers of NGOs in a border City of US-Mexico. *Journal of Community Health, 37*(3), 583–590.
37. Frey, B. S., & Jegen, R. (2001). Motivation crowding theory. *Journal of Economic Surveys, 15*(5), 589–611.
38. Heyman, J., & Ariely, D. (2004). Effort for payment: A tale of two markets. *Psychological Science, 15*(11), 787–793.
39. Glenton, C., Scheel, I. B., Pradhan, S., Lewin, S., Hodgins, S., & Shrestha, V. (2010). The female community health volunteer programme in Nepal: Decision makers' perceptions of volunteerism, payment and other incentives. *Social Science and Medicine, 70*(12), 1920–1927.