LESSONS LEARNED

WORLD HOPE INTERNATIONAL

Ebola Response in Sierra Leone
Introduction: Outbreak of Ebola Virus Disease

The outbreak of the Ebola Virus Disease (EVD) in West Africa was the 26th outbreak in history, but the first one to occur in West Africa and by far the most widespread and deadly outbreak of the disease. A one-year-old boy that died in Guinea in December 2013 could be identified as index case to the epidemic, but was not identified as EVD until March 2014. The disease then spread to Liberia and Sierra Leone. As of 30 August 2015, the World Health Organization (WHO) and respective governments have reported a total of 28,109 suspected cases and 11,305 deaths, though the WHO believes that this substantially understates the magnitude of the outbreak.

A complex combination of causes such as rural-to-urban migration and consequently over-populated cities, high rates of human movement across the region, poverty, poor health infrastructure, the consumption of infectious bush meat, cultural practices including the washing and touching of corpses, high popularity of traditional medicines and fear of modern health care providers among other conditions have likely contributed to the unprecedented expanse, duration, and size of the EBOV epidemic in West Africa. A team of international researchers concluded in the journal “PLOS Neglected Tropical Diseases” in June 2015. The outbreak of the epidemic in Sierra Leone began slowly in May 2014, but cases then increased exponentially, especially in the last trimester of the 2014. Following the rapid increase of cases, President Ernest B. Koroma declared the State of Public Emergency on 31 July 2014 which enacted a series of emergency regulations. Mid-August 2015, Sierra Leone experienced an entire week without any new cases, but a new death was reported early September. As of 1 September 2015, 8,699 cases have been confirmed of whom 3,587 deceased.

About World Hope International

World Hope International (WHI) is a Christian relief and development non-governmental organization (NGO) working with vulnerable and exploited communities to alleviate poverty, suffering and injustice. WHI is an equal opportunity employer and has been working in Sierra Leone in various sectors since 1999 to date. Sectors of intervention includes drilling of wells, agriculture, education, WASH sector, rural community development, anti-human trafficking, health, nutrition and recently emergency Ebola response.
The role of WHI in the Ebola Response

WHI has been actively supporting the Sierra Leonean government in the Ebola Response in different areas since the beginning of the outbreak:

a. Health Response

**Community Care Centers (please see case study 1)**

The concept of the Community Care Centers (CCC), small facilities to isolate probable cases is to bring the service closer to the communities where people showing the signs and symptoms of Ebola can be quickly moved so that they do not further transmit the virus within their households and communities. These CCCs provide basic supportive and palliative care for the patients in an environment accessible to members of their family and their respective communities. In conjunction with the District Health Management Team (DHMT) and UNICEF, WHI participated in intensive trainings for 240 health workers in Infection Prevention Control (IPC), maintained ongoing support and training in IPC, provided nutrition, trained and supported child advocates, and supported DHMT in the daily running and monitoring of the staff in 15 CCCs in Bombali District on a frequent basis for a period of nine months.

**Hospital improvements**

Funded by DFID, WHI developed and later implemented concepts to restructure and improve Kamakwie Wesleyan Hospital and the maternity ward of Makeni Regional Government Hospital as well as their water and sanitation facilities to ensure IPC procedures can be followed effectively.

**Distribution of medical supplies, equipment and medication**

In the course of the Ebola outbreak, WHI received eleven containers with medical supplies, equipment and medication that were distributed to both private and government health units, including hospitals, clinics and PHUs.

b. Social Mobilization

**Community sensitization and engagement**

Under the Social Mobilization Pillar of the District Ebola Response Centre (DERC) of Bombali, with funding from Unicef and IOM, WHI has taken the lead in conducting awareness and sensitization campaigns throughout the district to educate more than 177,000 citizens in 1,699 communities on the transmission of EVD and basic hygiene measures, to encourage the utilization of the CCCs, to engage communities and key personalities in the response, to help reintegrate survivors and meet their social needs.

**Cultural liaisons (please see case study 3)**

The importance of dignified burial traditional practices and farewell ceremonies for the dead was long overlooked and caused people to perform these practices secretly; fuelling the spread of the virus through touching and/or washing of corpses. WHI developed a concept to involve 130 heads of secret cultural societies in performing safe, dignify burial practices with both cultural rites of the deceased and in adherence within the IPC protocols for Ebola. Under the District Burial Team and with funding from IOM and USAID/OFDA, WHI sensitized, trained and engaged burial teams in all 13 chiefdoms of Bombali.
The role of WHI in the Ebola Response

c. Water Wells for Ebola facilities
With support from DEERF, WHI provided water wells to 25 health care units, including CCCs, Ebola holding and treatment centers across Sierra Leone. WHI was also involved in providing water sources to high risk villages under quarantine that need continuous access to water for proper sanitation facilities.

Water tower at Paramedical holding center in Makeni

d. Care for quarantined people
Retrofitting of a holding center (please see case study 4)
WHI designed and implemented the retrofitting of Makeni Paramedical School to a holding center for Suspected Ebola Cases with correct IPC measures which allowed staff to provide safe care and minimize spread of disease. Later WHI transformed this same setting into a Guest Quarantine Facility when need decreased for holding center after ETU opened. High-risk Ebola contacts were separated from low-risk contacts for the duration of their 21-day quarantine which broke the transmission of the disease in several communities. WHI supervised the works to ensure that constructions met site management and clinical care management requirements. WHI also cared for the well-being of their quarantined guests during their stay at Paramedical holding center, providing clothes, food and other support to 110 guests.

Food supply to quarantined homes
WHI was involved in the provision of supplementary food to quarantined homes and holding centers supporting a total of 2,290 people. The Makeni City Council was also supported twice to provide food to holding centers in Makeni.

e. Border transmission prevention workshops
WHI held a series of workshops in Bombali and Koinadugu District along the border of the Republic of Guinea for 367 Sierra Leonean and Guinean border officials and local leaders to sensitize them on the transmission of EVD, to develop strategies to identify and prevent sick travellers from crossing the borders and thus control the transmission of the disease. WHI also provided hand-washing stations, infrared thermometers and cleaning supplies as part of the training.

f. Aftercare for survivors and Ebola affected children
Survivor’s clinic
To meet the physical needs of Ebola survivors of whom many even months after their discharge still suffer from body aches, eye problems, general weakness etc. WHI, in collaboration with DHMT and WHO, is managing a survivor’s clinic in Makeni for all 417 Ebola survivors residing in Bombali District. A mobile clinic that examines survivors in remote and hard-to-reach areas is also part of the project.

Support for Ebola affected children
Through various projects, WHI provided repeated psychosocial care, school and food supplies as well as clothes to 240 Ebola affected children and orphans in Bombali and Western Urban District to enable these children to overcome their trauma, to reintegrate into their communities and to prevent their school dropout.

Distribution of school supplies to Ebola orphans
CASE STUDIES

Heads of cultural women societies in the selection process for the cultural liaisons
Case study 1: Community Care Centers in Bombali District

Objectives

- to quickly isolate probable cases from their households to not further transmit the disease
- to make swift referrals of positive patients to ETC to enhance the chances of survival of the patients to quickly scale up treatment and isolation facilities as ETCs reached their capacities
- to decentralize specialized health care units to rural community settings
- to provide basic curative and palliative care for sick patients whilst they are awaiting their result of the Ebola diagnostic test
- to increase sensitization for signs and symptoms of the disease as well as preventive measures
- to involve community members in the fight to eradicate Ebola
- to build community trust in the health care system

Approach

During the construction process of the CCC sites, WHI participated in the training of all 240 staff at the CCCs in IPC measures. WHI then trained intensively one health specialist as mentor for each CCC who resided in the CCC 24/7 for two weeks to reinforce all infection prevention and control measures. WHI closely supported and continued mentoring staff on the ground by frequent visits several times a week and ensured a smooth flow of supplies, e.g. food items, salaries for support staff, medicine, medical and protective equipment to the CCCs. WHI was also responsible for decontaminating the CCCs after the end of usage as Ebola units and monitored the decommissioning process.

Achievements

WHI has staff specially trained in IPC and Disaster Management and with experience to train workers with limited training and medical background in rural settings. This uniquely qualified WHI to provide the IPC training quickly, thoroughly and successful. Through an intensive mentorship program, WHI continued the training of 240 health workers in IPC who then operated the CCCs in Bombali on a daily basis and triaged successfully several thousand patients in nine months. WHI maintained ongoing support, monitoring and trainings to the staff in 15 CCCs on a very frequent basis. Our biggest success is that none of the health workers in the CCC project were infected with EVD despite having over 100 positive patients throughout the 15 CCCs.
Case study 1: Community Care Centers in Bombali District

Lessons learned and recommendations

- CCC was a new concept – very detailed and difficult to implement quickly. It took too long to implement for what was needed, the footprint should have been smaller with detail to IPC.
- Although each chiefdom was equipped with at least one CCC, remote and low resource areas remained undersupplied. CCCs seemed to be placed in some cases more politically than population supported. Patients in these areas needed to cover long distances to reach the CCC and some acute outbreaks were far off from any CCC, ETC or other isolation unit. Smaller and mobile CCCs that can be moved quickly as it was done in the case of the outbreak in Rosanda village, where a two-tent unit was run by four nurses during the duration of the quarantine, should be considered for future outbreaks of infectious diseases.
- The CCC sites could all be found in wide open spaces with no shade which led to extremely high temperatures in the patient tents; gravel on the ground that absorbed the sunlight contributed to heating up the place and added to dehydrating patients with fever. Patients were reluctant to stay in the designated areas due to the lack of shade and extreme heat. It was very difficult to wear the appropriate gear in these settings as well. Selecting and area with shade and the enabling of air flow should be considered in the planning of such sites, especially in the African context.
- No ambulances were available for the CCC project to pick up suspected cases from their homes. In the absence of public transport, sick and weak patients either continued to stay at home or had to walk far distances. Ambulances driving patients not only to the treatment centers, but also to the CCCs and back to their home if negative for Ebola were needed.
- The CCCs were not considered in the alert system. Often, when patients showed up at the CCC, alert was called and instead of waiting for the result of the blood test, the patient was transported to the ETC. This sent mixed messages to the patient and community who wanted to remain local instead of going far away. This needed more education to the whole system, as the alert system seemed to not know what to do with the CCCs.
- Poor infrastructure in roads and communication networks led to major problems which affected the smooth running of the centers. Some sites, for instance, were located outside network coverage and communication was slow, spotty and incomplete. Cases were difficult to manage in these areas.
- Although community members were involved in running the CCCs, cultural authorities were often bypassed in decision-making processes which led to resistance and a lack of cooperation with the newly brought in CCC staff. Respecting sociocultural norms and structures is crucial in an epidemic like the Ebola outbreak despite the emergency.
- Except for three CCCs, all other centers were gradually demolished by May after EVD cases dropped considerably without being considered to be used for other purposes or integrated into the health care system for broader treatment of illnesses and to capacitate community treatment.
- The communication flow had gaps, especially with regards to policy changes, leading to misunderstandings. A good top-down communication flow and a feedback cycle is crucial for the effectiveness of response measures in an epidemic.

Best practice

- CCCs were built in every chiefdom and close to the communities, which increased awareness of the epidemic and enabled sensitization for Ebola preventive measures.
- Training community members as cleaners during the CCC project leaves the communities with long term experts in hygiene and sanitation.
- The concept of the CCCs as rapid response to an emergency with risk different zones – green and red; dry and wet – and was well thought through to control patient flow and apply IPC procedures efficiently.
- Training professional and experienced health care workers such as CHOs and nurses as mentors on IPC procedures who then stayed on the ground with CCC staff for the first two weeks after opening the centers allowed repeated, intensive training sessions and supervision on IPC. The mentors monitored their team closely in their work and gave immediate feedback which led to rapid improvements of skills among all the CCC staff. The intensive supervision and quality assessment of each CCC continued with several visits per week. Up to the closing of the CCCs, no staff member in Bombali was infected with EVD.
Case study 2: Discharge patient project

In cooperation with DERC and with funding from DEERF, WHI started a discharge patient project for Ebola survivors, negative Ebola cases and quarantined people in December 2014 to transport these patients back to their communities after their stay at either the ETC or holding center in Makeni. Many patients were still weak, reliant on help from outside and in the absence of regular running means of transport, especially to remote and hard to reach areas, there was a great need to bring discharged patients back to their homes.

Objectives
- to provide a safe mean of transport for discharged patients
- to re-insert Ebola survivors and negative cases back to their communities with psychosocial support to avoid stigmatization
- to remove fears that the discharged person might still be contagious
- to educate communities on key Ebola messages and remove rumours and misinformation
- to sensitize communities on the special needs of the survivors to build trust in modern medicine and the health workers of the Ebola Response

Approach
A counsellor of the DERC psychosocial pillar met ahead with the patient to prepare him/her for the journey. Accompanied by the counsellor and a WHI driver, the patient was transported in an official WHI ambulance with a green cross to his/her community, where the counsellor explained the reason of return of the patient and answered questions of the community. The counsellor handed over the responsibility to care for the patient to the family, but checked on him/her a week after the discharge.

Achievements
More than 600 patients, including many minors, were accompanied home after being discharged from an Ebola treatment or holding unit.

Lessons learned and recommendations
In a setting like Sierra Leone with a bad infrastructure, irregular transport and insufficient communication, the discharge project should have started much earlier to ease the reintegration for the patients and to contribute to sensitizing communities on preventing the transmission of the disease.

Best practice
One of WHI’s drivers is an Ebola survivor and accompanied the majority of the patients home. His involvement in the discharge process was crucial, as he was not only a strong encouragement and a ray of hope for the patients, but also a convincing ambassador of valuable information to the communities. For several months, any ambulance symbolized for many Sierra Leoneans the departure of their loved ones that would never come back; they feared them and tried to escape. Using ambulances with green crosses to transport patients back home compared to the Red Cross ambulances that picked up the sick, helped to restore trust in the health care system and those who work within that system.
Case study 3: Cultural liaisons in Bombali District

Objectives
- to enhance confidence within the population that cultural traditions and safety precautions are not in conflict with each other
- to allocate the responsibility for EVD prevention sensitization to every level of society
- to address other problems arising in communities in the Post-Ebola phase
- to closely connect traditional healing practices with modern medicine
- to build long-term relationships with leaders of secret societies in recognizing the positive ways tradition could be used to have empowered rapid response teams dealing with death and infection control at grass level

Approach
The project took place in different phases, starting at getting local leaders on board and subsequently breaking it down to involving every member of society. Building relationships with local leaders, including Paramount chiefs, section and town chiefs
1. selecting equal shares of both male and female leaders of 24 different secret societies from the whole district and introducing them to the idea of joint efforts in combating the EVD
2. training a total of 130 representatives of the secret societies in performing safe, dignified burial in becoming active social mobilizers to break the transmission chain of Ebola and in monitoring the daily activities of traditional healers /secret societies, and their neighbourhoods for sick people to refer them early to medical facilities
3. introducing the trained cultural burial teams to their communities, and handing them over to their Paramount chiefs; certification as proof of authorization in starting to perform their new duty with supervision from the District burial team from the DERC
4. engaging communities with increased sensitization on non-complacency to maintaining a resilient zero EVD nationwide.
5. strengthening and expanding community task forces to incorporate all key stakeholders to ensure all border entry points are fortified
6. outsourcing of all responsibilities to the communities, supporting Income generating activities for self-reliance and sustainability.

Achievements
Out of 2,193 safe burials conducted jointly by the DERC burial teams and cultural liaisons, 400 have been given safe, dignified ceremonial burial rites by cultural liaisons since May 2015. It says a lot that from April to mid-September 2015, Bombali District did not have any cases of Ebola for more than 150 days.

Established social mobilization structures are in place: 188 trained social mobilizers and the cultural liaisons are working with communities on prevention and keeping them alert to remove complacency. 159 of these social mobilizers are based in rural communities. Additionally, 750 Community Health Workers (CHW) that cover every hard-to-reach community of the district have been sensitized and trained on health and hygiene, ready to be capacitated.
Case study 3: Cultural liaisons in Bombali District

Lessons learned and recommendations

- By far the most important lesson learned within the epidemic is that every member of society needs to be involved in its eradication. If a group of society does not understand the sense of prohibitions and precautions which limit one or several of their core values and traditions, they will, if at all, obey only reluctantly. By allowing them to experience the consequences of their wrong behaviour in a secure framework, offering them an alternative course of action, giving them responsibilities to fight the disease in their own group and most importantly, by acknowledging the positive impact traditions may have, much more compliance can be expected - this was the hypothesis at the start of this project. In the course of this project, it could be proven that a voluntary behaviour change is more likely to happen if these conditions are established. If implemented earlier, these dangerous cultural practices could have been controlled earlier and potentially have saved the lives of Sierra Leoneans.
- Sierra Leoneans listened to Ebola messages brought to them by unknown social mobilizers or others involved in the fight against the disease, but often lacked to put those into practice. Behaviour change could be observed more radically when these messages were brought to communities by their own people.
- The introduction and fusion of the initial burial teams and the cultural liaisons was in some cases not done before the cultural liaisons started their operations and led to some misunderstandings. A proper introduction of the roles of each group should be done before the work in the field starts.
- Getting used to the donning and doffing in PPE requires repeated, supervised trainings and immediate feedback on the procedure. Time-wise, the trainings did not allow extensive practical training in this area which should be increased for future projects.
- First-hand experiences, e.g., putting on PPE, led to a stronger identification with the health workers and necessary IPC measures among the participants of the training as well as to the development of own safety measures. One team for instance created temporary community mortuaries to lock up corpses safely whilst waiting for the arrival of the burial team.
- Large gaps in the communication network, leaving whole areas without cell phone reception, delayed the transmission of alerts considerably. Respecting local hierarchies and involving key personalities of every level of society in the project ensured the communication of Ebola safety messages to every local dialect.
- At the project start, little was known about the secret societies and their dynamics, this is why WHI had aimed to have equal shares of men and women in each team. Its application was, however, not possible as men were overrepresented in the societies. Recognizing male dominance in the societies, the burial teams consisted of 79 men and 51 women in the end.
- One burial team per chiefdom was a good start for the project, but taking the immobility of the members of the cultural liaisons in consideration, especially in hard-to-reach areas, requires more teams per chiefdom or means of transport for its members.
- An incentive to recognize their efforts was paid to every member of the cultural liaisons for the duration of several months. The payment is fading out now, raising doubts whether the teams will continue to perform safe burials. To prevent this from happening and to generate income for team members, WHI is keeping close relationships with the teams, offering grants to them to start a business and training them on business management skills. WHI is also aiming to empower them to become professional, independent community burial teams, another possible source of income.

Best practice

- Together with its partners, visitors from other districts and representatives of the cultural liaisons, WHI organized a conference to share best practice examples and experiences of this project. The conference spiked interest among authorities from neighbouring districts who are now planning to apply the method. Some secret societies are not bound to chiefdom or district boundaries, but go beyond. By involving members of every society and linking them with each other, the content of the training spread much further than expected. In the presence of witnesses, the ownership of the fight against Ebola was officially handed over to the cultural liaisons and the communities which created a group dynamic among those involved and led to a high commitment to ensure everyone complied with the rules.
- Pairing cultural liaisons with DERC burial teams ensures a period of mentorship in acquiring professionalism and readiness for independence.
- Many ceremonial leaders, performing farewell rituals, wore their traditional outfit underneath personal protective equipment (PPE), combining traditions with necessary safety measures. Seeing their own people dressing up in PPE reduced fears among community members.

Conference on cultural liaisons in Makeni
Case study 4: Guest quarantine

Objectives

• to lessen the spread of the disease by separating high-risk from low-risk contacts
• to have a close eye on the high-risk contacts and to refer them quickly to an ETC immediately if symptoms appear to increase their chances of survival and to keep the other guests safe

Approach

Paramedical School in Makeni was retrofitted to serve as a Guest Quarantine Center, suitable to follow IPC procedures and to monitor the guest’s health conditions closely. High-risk contacts under quarantine were asked for their consent to be separated for the safety of other members of the household and brought to the holding center, where they spent the remaining days of their quarantine. The guests were offered services such as twice daily medical monitoring, psychosocial counselling, leisure activities, excellent and sufficient food cooked in local tradition on site, and were immediately transported to an ETC when they showed any symptoms of EVD.

Achievements

110 guests were cared for at the holding center during the duration of their quarantine, leading to an effectively much lower transmission chain.

Lessons learned and recommendations

• Separating high-risk contacts from low-risk contacts at an early stage of the incubation period when possible cases have not yet developed any symptoms keeps more people safe and leads to less spread of the disease.
• Extracting high-risk contacts from their quarantined home is not an emergency and should not be treated as one; on the contrary, the separation of high-risk and low-risk family members should be done with care, dignity and compassion.
• Existing facilities like schools can easily be adapted once a model has been developed.
• Instead of having several groups in charge to run the facility, one should manage it while others come in to support the managing group for better coordination.

Best practice

• A combination of reliable information how to stay safe, counselling, good care, respectful interaction with the patients, opportunities to stay in touch with friends and family as well as some welcome distractions made the guests complete their quarantine voluntarily and without force.
• Establishing a visitors’ area that enabled visitors to stay in touch with their loved ones and to observe the care the guests received contributed to restore trust in the health care workers.

During the outbreak of EVD in Rosanda village in Bombali, several chains of infections followed the index case, making containment difficult. To break the transmission chain, Paramedical School was refitted to an isolation unit to host high-risk contacts during their quarantine. This allowed separation of high-risk contacts who often lived in very congested households from those that were lower risk and allowed the halt of the spread of that transmission chain. For a period of two months, WHI coordinated the running of the center with support of many partners and in conjunction with DHMT.
Conclusion

Without trying to simplify the complexity of factors that contributed to the scope of the Ebola epidemic in West Africa and the many measures that need to be taken to address those multiple lapses, we conclude from our comprehensive experience gained during the outbreak in Sierra Leone that good road infrastructure and communication networks are key to enabling sustainable development throughout sectors such as health care and education.

The quick transmission of reliable and comprehensive information is essential and without a comprehensive communication network, all other improvements will be minimized. The disease will continue to pop up and isolation, contact tracing, and exit strategy will be compromised as a result of an incomplete network. There are still areas within Sierra Leone that are days away from any communication network; areas of Koinadugu, for instance, require up to two days walking to reach the closest network.

Additionally, the poor road network throughout the country negates many positive strides in other areas. Improvements in PHUs are marginalized, as there are major problems in delivering goods and transporting patients due to bad roads. Maintaining vehicles is a challenge and the many imported vehicles as a result of this response are already breaking down and becoming relics because of the bad roads.

Substantially improving the infrastructure of both road and communication networks could not only help to halt the disease, but allow us to prevent outbreaks of other infectious diseases that are also on the ground, e.g. measles, typhoid, cholera and polio, in addition to supporting the development of crucial systems, e.g. health care and education system.

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Checking of body temperature of WHI Salifu Samura after a border training