

ALIMA's response to Ebola Outbreak

Case Situation

The 2014 West Africa Ebola Virus Disease outbreak is by far the largest EVD epidemic ever recorded and potentially one of the most challenging medical emergencies in recent history. From its confirmation in March 2014 in Guinea through July 27th, 2015, 27 749 confirmed, probable and suspected cases of EVD and 11 278 confirmed, probable and suspected deaths have been reported in Guinea, Liberia and Sierra Leone, the three countries most affected (WHO, 27th July 2015). When ALIMA sent its first exploratory mission team in September 2014, the situation in Guinea was of grave concern: the number of confirmed EVD cases had nearly doubled between August (239) and September (397). The two major epicentres were in the Conakry region and the Nzérékoré region. Only two Ebola Treatment Centres (ETCs) in Conakry and Guéckédou, and two transit centres were functioning in the country as of September 2014. The Guinean government's call was clear: a new treatment and transit centre in the worst-hit prefectures were urgently needed. Yet no other entity, be it non-governmental, United Nations or governmental, was planning on opening an additional ETC. Indeed resources available to manage ETC in Guinea were decreasing because months of continuous operation, and the scale of the epidemic in Liberia and Sierra Leone were mobilizing the capacities of other organisations providing isolation and treatment.

Action Proposed

ALIMA's regional response strategy was three-phased in order to impact both on incidence and mortality rates.

- Quick prevention and containment response in South Senegal and South Mali,
- Exploratory mission, quickly followed by transmission control in Forest Guinea with the setting up of quick intervention capacities in coordination with local actors,
- Medical project of Ebola response: opening of an Ebola Treatment Centre in Nzérékoré.

Methodology

- **Mali and Senegal**

In the border districts to Guinea in Mali and Senegal, health systems were supported in order to prepare and prevent the propagation of the epidemic. Given ALIMA's strong regional presence, with operational headquarters in Dakar and operational presence in south Mali since 2011, the intervention was quickly deployed. ALIMA and its Malian partner AMCP began operating in Senegal and Mali in September 2014 supporting capacities of early detection, isolation and reference of EVD cases by setting up isolation units and providing health staff with training for early detection of EVD and patient management in isolation units. Risks of contamination in health structures were also reduced by providing training in hygiene measures and supplying hygiene kits.

- **Guinea**

The overarching goal of our action was to set up an Ebola Treatment Center (ETC) with a capacity of 30 to 40 beds in Nzérékoré, Forest Guinea, with the objective of increasing the regional treatment capacity by 24%. This goal was achieved as planned, with the ETC opening on December 3rd.

- Setting-up a 40-bed ETC in Nzérékoré

Prior to the opening of the ETC on December 2nd, three phases had been implemented in Forested Guinea which consisted in the preparation of the ETC opening, supporting a secure referral ambulance system for suspected cases and support 3 transit centres in Nzérékoré, Lola and Beyla.

ALIMA provided technical support to WFP during the construction of the ETC. ALIMA also supplied materials and equipment to ensure that the ETC would be operational as soon as possible. In addition, national and international staff were recruited and trained at MSF's ETC in Guéckédou, in Donka, and/or at the MSF Ebola training center in Brussels throughout November 2014. The objective was to have a complete team of trained staff ready in time for the opening of the ETC. The ALIMA headquarters team managed to recruit 25 international staff in less than 30 days. One of ALIMA's first quick responses was to support the organization of a dedicated EVD ambulance system to ensure secured transfers to the closest ETC: initially to the Guéckédou MSF-operated ETC (5 to 6 hours drive) and then in late November to the French Red Cross-operated ETC in Macenta (2 hours drive). An operator was trained to act as a relay between the alert system, the ambulance and the referral centers. ALIMA also provided training to ensure safe procedures for caretakers and suspected cases. In addition to this, a local alert telephone number was created, and means of communication (phones, credit) were provided for the alert manager. ALIMA supported the Guinean Red Cross by financing the purchase of gasoline and providing incentives to 15 additional hygienists and 3 drivers.

ALIMA also designed 3 new Ebola kits (pre-referral, ambulance and contact tracing kits) to improve the safety and monitoring of the outbreak from the suspected case's residence to the Transit Center or the Treatment Center. These kits aimed to improve the population's acceptance toward the transfer process and the contact tracing. These kits have been reviewed by the National Coordination Cell to Fight Ebola (CNLEB) in Guinea and distributed at the national level.

Pending the ETC opening in Nzérékoré, ALIMA supported 3 temporary transit centers. This was done to prevent any contamination and to encourage referrals to ETCs where adequate treatment was provided. The Nzérékoré, Lola, and Beyla transit centers were equipped with beds, basic medical and WASH items capacity. Training in IPC and referral protocol was provided. Once the ETC was up and running, these triage centers were dismantled in favor of direct referral.

ALIMA's ETC in Nzérékoré opened on December 3rd. It had an initial capacity of 25 beds in isolation, increased to 40 beds by the end of December. ALIMA engaged in several initiatives to improve the quality of care in the ETC. Continuous training sessions were conducted for nurses and doctors in the ETC on correct procedures in case of staff malaise in the red zone, placing IV in EVD patients, diluting drugs and adopting appropriate dosages, as well as correcting hydro-electrolytic disturbances. A specific focus of the medical team was on documenting and trying to define standard profiles of patients with complications, as well as on reviewing the medical protocols for the management of the disease.

- Training of a 124 person medical and logistical team

ALIMA's team working in the 40-bed ETC was composed of 290 national staff members and 20 international staff members. The staff that entered the confirmed ward and came in contact with patients was composed of 12 doctors, 23 nurses, 17 auxiliary nurses, 10 health promoters, 100 hygienists, 30 washers and 8 pediatric nurses. ALIMA trained 80 national staff members in Nzérékoré prior to the ETC opening. Among the medical team, 2 doctors, 13 nurses, and 12 auxiliary nurses completed this training. In addition, 40 hygienists participated in a dedicated water and sanitation training and 9 psychologists participated in the health promotion training. Over the same period, around 20 people were employed after being trained at the MSF ETC (in Gueckedou or Donka). Furthermore, prior to each expansion of the ETC (30 beds on December 15th, 40 beds on December 22nd), training was provided for all new national staff employed. In total, 49 international staff members have been deployed from November to February 15th. All international staff received training in Brussels, Geneva, or at the Nzérékoré ETC. In addition, all staff, including management and administration staff, received complete training on safe behavior to limit the risk of transmission.

- Laboratory testing 100% of suspected cases for confirmation

A dedicated fully-equipped and secured Ebola laboratory was set up on the ETC premises thanks to support from the University of Louvain (Belgium), the Biological Light Fieldable Laboratory for Emergencies (B-LIFE), and the Belgian First Aid & Support Team (B-FAST). The laboratory was fully operational on December 22nd. Prior to that, samples were sent to the Pasteur Institute lab in Macenta, 2 hours away, and results were obtained within a 24 hour delay. The mobile PCR lab allowed for the testing of every suspected Ebola case and to determine the viral load, key information for the medical team. Conducting PCR tests on site also meant that results were available with only a 3 to 4 hour delay. Moreover, to increase each hospitalized patient's chance of survival, ALIMA also added additional lab exam capacities to provide more data to the medical teams. These included analysis of potassium, sodium, hemoglobin, blood sugar levels, and malaria screenings. This provided critical information that is not usually available in a traditional ETC setting. Access to objective data on the patient's kidney function, for instance, is vital to providing quality medical care and allows medical teams to better adjust rehydration therapy and other aspects of treatment.

- Outreach Activities

Outreach activities were not initially planned for our project. Indeed, the Guinean Red Cross, the MOH, WHO, and later on the Danish Refugee Committee also developed these activities. Yet lack of trust between communities and medical teams became more and more concerning in early January, resulting in significant security incidents against humanitarian workers from other organisations. Major issues identified were the inadequate knowledge of communities regarding ETC activities and the way patients were managed within the ETC. While the ETC was routinely visited by both family members and community representatives, ALIMA decided to step in to address these issues at the village level in coordination with other actors. ALIMA therefore reinforced its external activities focusing on three major themes: reinforcing surveillance and contact tracing, restoring trust between

contacts and their communities, and reinforcing hygiene. In villages hardest hit by Ebola or where resistance is deemed high, ALIMA organized Question and Answer sessions, training sessions, and delivers basic medical and WASH items. These activities aimed to engage the communities and involve them in reclaiming their role in the fight against the epidemic. Outreach activities also contributed to a more accurate contact tracing by the Prefecture's Health Division, European CDC and WHO teams. Obtaining a patient's history of contact is a constant challenge. Closer collaboration between ETC teams and the contact tracing team allowed for better investigation and identification of contacts. Finally, ALIMA provided support to the alert system and the triage system of health structures. ALIMA guaranteed that essential items were available (fuel, ambulances kits, etc.) and double checked with health centers and community health workers that the process of verifying alerts and finding new suspected cases is done thoroughly for every single case. Based on assessments, ALIMA also provided logistical support to ensure triage circuits were up to standards.

- JIKI Clinical Trial

The Nzérékoré ETC was selected as a site for a clinical trial conducted by the Guinean Ministry of Health, the French Public Research Institute Inserm and MSF. The objective of the therapeutical clinical trial (JIKI) was to test the efficiency of the antiviral favipiravir in reducing mortality in individuals infected by the Ebola virus. The medicine, which interferes with the virus's ability to copy itself, seems to have halved mortality — to 15 percent, from 30 percent — in patients with low to moderate levels of Ebola in their blood, researchers have found. However, it had no effect in patients with more virus in their blood.

Results

A 40 bed Ebola Treatment Centre was set up in Forested Guinea in Nzérékoré. 148 suspected EVD patients were taken care of, 78 of which were confirmed Ebola cases. 30 patients were cured out of 78 confirmed cases.

212 national staff were trained in the Nzérékoré ETC. 49 expatriates, including regional staff from NGOs of the network and 32 European staff, were trained at MSF headquarters before their arrival in Guinea to work in the ETC.

3 transit centres were supported (beds, medical supply, WASH items) in the Nzérékoré region in Guinea that allowed transfer of 119 suspected cases to the Guéckédou and Macenta ETCs in November 2014.

1326 health staff in Mali, 241 in Guinea and 296 in Senegal were trained to hygiene measures, early detection of EVD and patient management in isolation units.

In Senegal, 21 individual isolation units were set up.

In Mali, two two-bed units (ZOT) were set up in Kangaba and Ouéléssébougou in the Koulikoro district. 5 beds isolation unit was pre-positioned in Koulikoro, a 12 beds one in Kourémal. A 10 bed ETU was set up at the Kayes regional hospital in Mali.

The results of the JIKI trial were presented to the Conference on Retroviruses and Opportunistic Infection in February 2015 and will soon lead to a scientific publication.

Conclusion

The prefecture of Nzérékoré was declared “quiet” by February 22nd, since no new contacts had been reported in the last 21 days and the prefectures of Lola and Yomou were declared “quiet” by March 15th. ALIMA’S ETC in Nzérékoré will be kept on stand-by until the end of this year and ready to function in less than 24 hours should the epidemic set out again.

The Ebola outbreak had severe consequences on Guinea’s health system, especially as it was already quite fragile before the epidemic. With Ebola, caregivers were the first affected by the epidemic and people no longer go to health centers out of fear of contracting the virus. Consequently, other pathologies have been neglected and could heavily affect populations. Vaccination rates fell, contributing to the current measles outbreak in the Lola and Nzérékoré districts. ALIMA and its partners have been responding to this measles outbreak since March by training health workers to detect and treat simple measles cases, and distributing treatments for simple cases to health workers. ALIMA also trained health workers to identify complicated cases and refer them to the Lola hospital, where ALIMA supports a 4-bed unit to treat complicated cases (equipment, medicine, HR support).

Additional Information

Overall Budget: 6 209 000€

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