THE 2014 EBOLA VIRUS DISEASE OUTBREAK: LESSONS LEARNT AND WAY FORWARD

Report of the Secretariat

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BACKGROUND

1. The 2014 Ebola virus disease (EVD) epidemic in West Africa started in Guinea in March 2014, and then spread to Liberia and Sierra Leone. Retrospective investigations and case-finding conducted by WHO, showed that the first probable case occurred in late December 2013, three months before its notification. Later, cases were notified in Mali, Nigeria, Senegal, Spain, the United Kingdom and the United States of America. The epidemic was declared as a public health event of international concern by the Director General of the World Health Organization (WHO) in August 2014.

2. The rapid spread of the disease is attributed to late detection, its introduction in densely-populated urban areas, weak health systems, delayed implementation of cross-border measures, and unsafe cultural and burial practices. Additionally, health workers in the affected countries lacked previous experience with EVD. However, thanks to preparedness and sensitization which led to early detection of the disease, the EVD epidemic was successfully controlled in subsequently affected countries, namely: Mali, Nigeria, Senegal and the Democratic Republic of Congo where the outbreak was unrelated to the West African epidemic.

3. The current epidemic is very severe compared to the 20 previous outbreaks recorded in Central Africa. As of 18 October 2015, a total of 28 476 EVD cases and 11 298 deaths were reported, including 1049 cases and 535 deaths among health care workers from six West African countries, namely: Guinea, Liberia, Mali, Nigeria, Senegal and Sierra Leone.

4. The initial national and international response to the epidemic was inappropriate and not up to scale. WHO has progressively played a key leadership role in coordinating the epidemic response, mobilizing international response, and developing and supporting the implementation of relevant health response strategies required to control the EVD epidemic. More than 3800 experts, including 1250 from the WHO African Region, have been deployed. Experts from other WHO regions, WHO headquarters, the US CDC, United Nations agencies, ECOWAS, the African Union, MSF and other NGOs have also been deployed to provide technical support to the epidemic response. A total of 49 Ebola treatment units and 25 mobile laboratories have been set up in Guinea, Liberia and Sierra Leone.

5. Given the magnitude of the outbreak and the involvement of non-health sectors, centralized coordination was requested by ECOWAS Ministers of health. This role, which was initially performed by the Sub-regional Ebola Coordinating Centre (SEOCC) in Guinea, was later transferred to the UN Mission for Ebola Emergency Response (UNMEER) headquartered in Ghana.

6. Since the 64th Regional Committee meeting in November 2014, some high-level encounters have been organized such as the 136th Executive Board meeting, the African Union Assembly, and health systems strengthening missions. A scientific and technical advisory committee on Ebola experimental interventions was established. Vaccines and curative drug trials are ongoing, as well as missions carried out by preparedness support teams in high-risk countries. Cross-border collaboration has been enhanced and political commitment manifested through the

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3 Consolidated Ebola virus disease preparedness checklist, WHO publication, January 2015.
Mano River Union\(^5\) Heads of State and Government decision to move towards zero cases in 60 days, starting from 15 February 2015. The result of these actions has been a decline in the disease since January 2015. On 3 September 2015, WHO declared the end of the third wave of the Ebola outbreak in Liberia.

7. Since August 2015, the Ebola response has moved to Phase 3, focusing on breaking every chain of Ebola virus transmission and starting recovery work to achieve and sustain a ‘resilient zero’. Phase 3 of the response builds on the rapid scale-up of treatment beds, safe and dignified burial teams, and behaviour change capacities achieved in Phase 1 (August–December 2014); and on the enhanced capacities for case finding, contact tracing, and community engagement developed in Phase 2 (January to July 2015).

8. Strong national leadership, functional partner coordination mechanisms, strong community engagement and the successful implementation of comprehensive public health interventions greatly and timeously contributed in stemming the spread of the Ebola outbreak.

9. South-South and South-North cooperation and sub-regional coordination boosted the capacity of the affected countries to respond to the outbreak. In a spirit of solidarity, many African countries provided support to the affected countries in many areas, including epidemiology and laboratory capacity.

10. WHO, in collaboration with partners and Ministries of Health, continues to support research and development (R&D) on new diagnostics, experimental treatments and vaccines for EVD. In August 2015, two candidate vaccines against EVD completed phases 1 and 2 clinical trials and were in phase 3 trials in the three EVD-affected countries. Interim analysis of the Phase 3 results of one candidate vaccine showed 100% efficacy in Guinea. Consequently, the ring vaccination strategy using this vaccine is being extended to Sierra Leone to help end the outbreak. Furthermore, given the successful use of immune serum therapy against some diseases and its potential in EVD management, Guinea, Liberia and Sierra Leone were supported to implement this treatment option.

11. Since October 2014, WHO has provided technical support to non-affected countries in an effort to strengthen EVD preparedness, focusing on 14 priority countries identified as being potentially at high risk. It has done so through country support visits by preparedness-strengthening teams (PSTs) which help identify and prioritize gaps and needs, and to provide technical guidance and tools. From October 2014 to September 2015, WHO executed over 285 field deployments to the priority countries to assist with the implementation of national preparedness plans. Dedicated EVD preparedness officers have been deployed to support 12 countries to implement country preparedness plans.

12. An independent evaluation of EVD response activities gave rise to the report of the Ebola Interim Assessment Panel. The Panel made recommendations to both WHO and Member States, stating that the WHO Secretariat required significant transformation and that Member States, at the highest political level, should provide the Organization with the required political and financial support. The report highlighted not only the organizational failings but also the shortcomings in the implementation of the IHR (2005). It made recommendations under the following three headings: the International Health Regulations (2005); WHO’s health emergency response capacity; and WHO’s role and cooperation with the wider health and humanitarian systems. \(^6\)

\(^5\) Mano River Union Summit: Final Communiqué of the summit


13. In response to the WHO reform on outbreaks and health emergencies, WHO AFRO recently established the new Health Security and Emergencies (HSE) cluster that will coordinate outbreaks and health emergencies and support Member States by providing a more accurate and timely response to health threats. Furthermore, coordination mechanisms are being implemented to ensure better linkages between disease-focused programmes, the Health Security and Emergencies agenda, and core health systems functions at country level.

14. In light of the above, this document summarizes issues and challenges identified during the management of the epidemic and proposes actions that will guide the management of current and future epidemics in the Region.

ISSUES AND CHALLENGES

15. **Low community ownership and leadership:** Few community leaders were identified, sensitized and briefed on the messages to be conveyed to the population. This resulted in patients being hidden at home, secret burial of bodies and low community participation, especially during the early stages of response. These practices fuelled the spread of the disease. Inaccurate messages disseminated through the various mass media led to misunderstanding and inappropriate practices within the communities. These messages engendered fear among affected persons who sometimes reacted by staying away from health facilities.

16. **Negative impact of cultural beliefs and practices:** In the early stages of the outbreak, the usual prevention and control measures for EVD epidemics, based on the prevention of further human-to-human transmission, were frustrated by prevailing cultural practices. Strongly-held beliefs and practices within the affected communities, regarding care for the sick and handling of the dead, undermined the infection control measures. Denial and false rumours contributed to rejection and, sometimes, violence against deployed health workers on the field.

17. **Complexity of the urban setting:** Furthermore, the epidemic spread to urban areas, creating additional challenges in terms of the social confinement of suspected cases within the community and at home, considering that the people concerned were very mobile. Unfortunately, there were no facilities for isolating infected cases at the beginning. Consequently, the situation was highly challenging, such that it took much longer to break the chains of transmission.

18. **Weak and inadequate health systems:** Guinea, Liberia and Sierra Leone had weak health systems and a shortage of human resources. Early in the epidemic, many health-care workers became infected and died due to poor infection prevention and control practices. This further compounded the situation. Furthermore, lack of trained staff in EVD diagnosis and management, as well as weak response capacities prior to the epidemic led to delays in case detection and notification and thus fuelled the rapid spread of the disease. This pattern of weak and unprepared health systems reflects the situation in many countries of the Region.

19. **Poor implementation of the Integrated Disease Surveillance and Response (IDSR) and international health regulations (IHR):** Trained human resources, logistics and standard operating procedures (SOPs) are sometimes not available. In addition, electronic surveillance is not well developed in the Region. Consequently, the early warning system and joint cross-border activities are not operational. Cross-border movements are still restricted in some countries, regardless of IHR recommendations. These factors could delay detection, notification and, subsequently, prevention or control of major public health events.
20. **Lack of Emergency Operations Centres (EOC):** This lack of central oversight teams leads to poor coordination, incoherence and non-prioritization of the response activities of partners and national counterparts. Furthermore, late and inaccurate situation reports led to delays in common data analysis and a lack of evidence for decision-making purposes.

21. **Limited resources, international commitment and engagement:** There is still a dearth of epidemic management resources due to poor resource mobilization. Long-standing limited financial support to the affected Member States and to the WHO African region had spawned major health system and resource constraints that undermined the organisational readiness to marshal the resources needed to organize a response commensurate with the scale of the outbreak. The African Public Health Emergency Fund is poorly resourced by Member States and efforts at the international levels have not yielded all the necessary resources. International commitment and deployment of skilled human resources, logistical support, expansion of Ebola treatment centres and mobile laboratories were not adequately funded at the beginning of the outbreak. The closure of borders and limitations on travel and trade were major obstacles to IHR 2005 implementation.

22. **Insufficient compliance with prevention measures:** Poor entry and exit screening capacities in the affected countries as well as the inability to identify infected people during the disease incubation period fuelled the spread of the epidemic. Considering that none of the countries in the African Region has yet met the IHR core capacity requirements, there is still a risk that the current EVD epidemic could spread to other countries within and beyond Africa, so long as cases continue to exist in any country.

23. **High case fatality rate (CFR):** During this outbreak, the CFR varied significantly between treatment centres, being high in some and low in others. The reasons for this are not clear, but could relate to delayed access to health facilities, delays in case confirmation and management, the expertise of the staff in treatment centres and differences in treatment protocols.

24. Despite the challenge of community resistance in some areas, recent improvements in community engagement in Guinea and Sierra Leone have enhanced the follow-up of contacts and the identification of cases and chains of transmission. Accordingly, Sierra Leone and Guinea did not record any new confirmed case of Ebola virus disease (EVD) in the week ending 4 October 2015. This was the first time that a complete epidemiological week had elapsed with zero confirmed cases since March 2014. The end of the outbreak will be declared on 7 November 2015 if no new case is reported. Unfortunately, in week 42, ending on 18 October 2015, Guinea reported three new confirmed cases. This sharp decline has been achieved thanks to the continued efforts and commitments of governments, supported by WHO and partners, as well as increased community engagement to get to zero cases.

25. Considering the above issues, challenges and lessons learnt, the following actions are proposed.

**ACTIONS PROPOSED**

**Member States**

26. **Strengthen community ownership and leadership:** Countries should work with partners to increase the participation of community leaders in EVD response. They should also involve anthropologists as they will provide greater insight into community beliefs, culture, perceptions, opinions and desires regarding EVD. Affected countries should ensure that culturally-sensitive...
and technically-relevant messages are disseminated to the population, especially in areas where resistance is still prevalent.

27. **Strengthen efforts towards achievement of zero cases**: Countries should deploy their skilled health workers, mobilize experienced expertise from other countries and coordinate resources and logistics. The reinforcement of actions to sustain community engagement and cross-border initiatives as well as sustained subregional coordination and collaboration will accelerate progress towards the achievement of zero cases.

28. **Accelerate health systems strengthening and recovery**: Countries should reinforce the coordination of staff, logistics, supplies, equipment and related infrastructure, and also ensure the recovery and sustainable strengthening of health systems. This should start as soon as possible and result in short and long-term action plans, focused on improving community access to basic health systems, preparedness and response, and improving health services quality.

29. **Build resilient health systems and services**: Countries should develop national health policies and plans which address health systems’ vulnerabilities. Such plans should include key priorities for early recovery such as community engagement, provision of packages of essential services, capacity to deliver and provide access to services, and preparedness for future health shocks. Furthermore, due consideration should be given to patients and health workers’ safety, recognition of health workers’ sacrifices and staff protection through health insurance schemes; improved surveillance and response; improved interaction between health districts and their communities; and the establishment of mechanisms that enable health services to provide an effective response to unexpected or unknown health events.

30. **Reinforce preparedness systems**: Countries should build immediate and long-term preparedness systems by promoting risk assessment, mapping of epidemic-prone zones, developing and implementing preparedness plans, and training human resources in the prevention and management of emerging and re-emerging diseases and multisectoral approaches.

31. **Reinforce the implementation of IDSR and IHR**: This includes strengthening surveillance capacity, data and information flows between the local, national and international levels to guarantee an effective response to epidemics. It also implies greater accountability on the part of Member States to ensure timely declaration of outbreaks to WHO. Member States should implement IDSR using innovative technologies such as eSurveillance, epidemic intelligence and EOC. High-risk countries should establish EOCs to be ready to respond in case of an outbreak. Financing health security through IHR should be the primary responsibility of Member States supported by partners.

32. **Improve compliance with prevention measures**: Countries should reinforce cross-border collaboration through a functional information exchange system and joint cross-border activities. This will accelerate control of the current EVD epidemic, prevent its spread to other countries and contribute to the achievement of zero cases. Furthermore, Member States should avoid ineffective border closures that undermine trade, population movements as well as social and economic activities. Rather, they should use the present cross-border mechanism to prevent and detect future outbreaks.

33. **Improve efforts to reduce case fatality rates**: All stakeholders must enhance the quality of their different interventions in order to ensure timely detection and management of all cases. Mechanisms must be set up by all affected countries for effective contact tracing as well as infection prevention and control.
34. Ensure internal documentation of the response to the EVD outbreak so as to be better prepared for large-scale emergencies.

35. *Reinforce WHO leadership and technical coordination of the response to epidemics, and of research and development:* WHO should also continue its role of coordinating EVD research on vaccines and drug development and further initiate and support studies on the social and economic impact of the Ebola virus epidemic.

36. *Scale up resource mobilization efforts:* In collaboration with partners, WHO should continue to advocate for the mobilization of financial resources mainly through contributions to the African Public Health Emergency Fund and the newly-formed global emergency fund.

37. *Contribute to global emergency reform:* WHO should work on reforming and strengthening the emergency and outbreak response teams in order to ensure effective coordination and response to future outbreaks in the Region. It should link the interventions with the recommended emergency response framework.

38. Set up a regional emergency workforce with the necessary skill mix for rapid response to outbreaks and emergencies.

39. The Regional Committee is requested to examine this report and adopt the actions proposed.