



Ebola Outbreak in Democratic Republic of Congo: Lessons Learned, or Ignored?

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ABSTRACT

Infectious diseases became an increasing public health threat as humans transitioned from nomadic hunter-gatherer societies to stable, agrarian communities. It is accurate to say the international community was not optimally prepared for the 2014–2015 Ebola virus disease (EVD) outbreak in West Africa, which eventually spread and caused secondary cases in the United States. From that experience, much was learned about the management of an EVD outbreak, from prevention and treatment, to the need for a “whole of society” response. However, it is clear from the evidence that much still needs to be done to improve preparedness for Ebola and other emerging infectious diseases in the region. The current outbreak in the Democratic Republic of Congo both mirrors these challenges and demonstrates new ones reflected in violence, hampering efforts to prevent spread of EVD within and beyond the country. The journal *Disaster Medicine and Public Health Preparedness* (DMPHP) is taking a forward-looking approach, establishing a task force of editors to quickly review and approve manuscripts relating to EVD for immediate electronic publication and open access. The intent is to make emerging information available to front-line responders and policy decision-makers as quickly as possible.

Key Words: cultural norms, Ebola virus disease, multidisciplinary

Infectious diseases became an increasing public health threat as humans transitioned from nomadic hunter-gatherer societies to stable, agrarian communities.¹ The scourge of plague, or “black death” in the 14th century changed the course of humanity and history.² Recently, the 100th anniversary of the great influenza pandemic, or “Spanish flu,” was a stark reminder of the rapidity and devastation that infectious diseases can impact upon our world. Since then, significant efforts to mitigate and prepare for infectious disease outbreaks have focused on seasonal and pandemic influenza.³ The International Health Regulations (2005) now provide a mandate for resource-rich countries to assist resource-poor countries in strengthening disease surveillance and response capabilities.⁴ In 2014, the United States played a lead role in establishing the Global Health Security Agenda, taking the next step toward mitigating the spread of infectious diseases.⁵

It is accurate to say the international community was not optimally prepared for the 2014–2015 Ebola virus disease (EVD) outbreak in West Africa,^{6,7} which eventually spread and caused secondary cases in the United States. There has been criticism that the delayed international response resulted in an increased loss of lives and suffering.⁸ From that experience, much was

learned about the management of an EVD outbreak, from prevention and treatment, to the need for a “whole of society” response.⁹ However, it is clear from the evidence that much still needs to be done to improve preparedness for Ebola and other emerging infectious diseases in the region.^{10,11} It could be said that, when armed soldiers are keeping ill people in their neighborhood, as we saw in Monrovia, Liberia, it is no longer just a Ministry of Health problem. A “whole of society” approach is necessary, including government, military, and private sectors. When infrastructure is threatened, health response needs to be integrated with security, logistics, and communication efforts, under national command and control. The current outbreak in the Democratic Republic of Congo (DRC) both mirrors these challenges and demonstrates new ones reflected in violence, hampering efforts to prevent spread of EVD within and beyond the country.

During the 2014–2015 epidemic, the journal *Disaster Medicine and Public Health Preparedness* (DMPHP) took a forward-looking approach, establishing a task force of editors to quickly review and approve manuscripts relating to EVD for immediate electronic publication and open access.¹² The intent was to make emerging information available to front-line responders and policy decision-makers as quickly as possible. The decision

of DMPHP leadership to repeat this for the current outbreak in DRC may also provide critical data to improve the outcomes from this ongoing crisis.

One characteristic of a severe disease outbreak, much like any disaster, is the cross-disciplinary nature of an effective response. It is a **Public Health** Emergency of International Concern (PHEIC). Control requires the whole of government and the entire health-care team, that is, clinicians and researchers, epidemiologists, physicians, nurses, microbiologists, immunologists, and others, plus experts in One Health, anthropology, culture, social sciences, legal, political, logistics, security, and communications; a truly diverse multidisciplinary team.¹³ We learned in West Africa how important cultural norms, such as burial practices, were to containment of EVD. We saw the impact of fear on seeking medical care. And, we gained an appreciation for the importance of the messaging why certain behaviors were necessary or destructive. For example, customary burial practices exposed family members to bodily fluids which were still infectious, continuing the spread of disease. Risk communication was critical in reducing this risk. Cross-cultural, multidisciplinary, and trans-disciplinary decision-making skills are crucial to operational survival. Unfortunately, these skill-sets remain new to the bulk of health-care responders.

Since 2015, we have new vaccines for the prevention of EVD.^{14,15} Techniques for contact tracing have been improved. New treatment regimens are being tried. There will be a tremendous amount of new data to support or contradict our hypotheses. The security situation in DRC is significantly more challenging, with armed militias threatening health-care workers. There are complex socio-political factors impacting an effective response. We need to capture all the data to inform our response to the next, and there will be a next, PHEIC.

In this Special Issue, we hope to bring this diverse expertise and experience together. While case rates in the DRC have fallen since the PHEIC determination, multiple factors confound continued progress, and a larger international response is expected.¹⁶ The format of initially using electronic publication with open access, is to provide vital information to anyone who may need it as quickly as possible. We want this to make a difference, and reduce the loss of life and suffering. If you, or a colleague, has a perspective about how we can achieve this end state, please draft a manuscript and submit it to DMPHP. We, the editors for this Special Issue, will do our best to expeditiously review, recommend revisions, and approve those manuscripts. Together we can make a difference!

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Conflict of Interest

The authors have no conflicts of interest to declare.

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