

Ebola in Sierra Leone: a call for action

An outbreak of Ebola began in December, 2013, in Guinea. As of June 24, 2014, 600 clinical cases (441 confirmed) and 338 deaths had been reported across Guinea, Sierra Leone, and Liberia.^{1,2} As noted in a recent Editorial in *The Lancet* (June 7, p 1946),³ containment of this epidemic will require regionally-supported and globally-supported public health and medical responses. As researchers working in Sierra Leone, we have several suggestions for priority actions.

First, access to diagnostic techniques should increase. Most febrile illnesses in Sierra Leone are treated at home on the basis of presumptive self-diagnosis and without clinical consultation.⁴ Many cases meeting the case definition for suspected Ebola might be going undetected and unreported because ill people and their families are opting for self-treatment with over-the-counter drugs or traditional medicine. At present, there is little incentive for patients to seek professional diagnosis of suspected Ebola. Laboratory testing can be expensive (especially when a panel of tests is required for differential diagnosis), is unlikely to change the course of treatment, and might stigmatise an infected patient and their family. Even if a patient wanted to be tested for Ebola, few (if any) laboratories in the region have the capacity to safely test a biosafety level 4 pathogen. Several laboratory facilities in the region carry out surveillance for pathogens with epidemic potential, but Ebola is not routinely part of these testing protocols.

Second, infectious disease surveillance systems should be strengthened by adopting new data-sharing technologies. Our laboratory and others in the region have shown that routine syndromic surveillance systems can be designed to rely on mobile phones which have become ubiquitous in west Africa. Open-source software programmes that receive

and send bulk SMS messages can be used for communication with populations and peripheral health centres. Digitalised maps can be created with available satellite images, and distinctions between residential and unoccupied buildings can be added to an open-source geographic information system (GIS) to improve the accuracy of case mapping. Emerging technologies can help early warning systems, outbreak response, and communication between health-care providers, wildlife and veterinary professionals, local and national health authorities, and international health agencies.

Third, support for clinical care providers should be expanded. For example, our city (Bo, Sierra Leone) has less than 15 physicians for a population of more than 150 000 people. In the rest of Sierra Leone and in neighbouring countries, such as Guinea and Liberia, the number of physicians per person is similarly low. The relatively few physicians, nurses, and health-care providers attending to these underserved populations often have poor access to basic personal protective equipment, and might therefore be understandably unwilling to provide direct care for patients suspected to have Ebola. There is an urgent need to provide reliable and constant access to personal protective equipment in health-care centres across the region.

Fourth, we need to improve communication with the population when developing and implementing public health responses to outbreaks. Restrictions on border crossings and sales of bushmeat were implemented early in the containment effort but did not account for the importance of these activities to the local livelihoods. Travel bans were likely ineffective in stopping cross-border journeys on secondary roads, and bushmeat could (and can) still be found in local markets and villages, even if demand has decreased. What is certain is that these policies (and the ways that they were communicated) raised anxiety and,

in some places, fuelled rumours that led to counter-productive behaviours. Improved communication by health officials with the media, community leaders, health professionals, and the general public is necessary to reduce misinformation and improve compliance with prevention and control measures that have been proven effective.

The ongoing west African Ebola outbreak serves as a call to ensure access to needed diagnostic technologies and health-care resources, to accelerate the implementation of smartphone-based health applications in developing countries, and to improve regional and global surveillance and health communication.

We declare no competing interests.

Rashid Ansumana, Jesse Bonwitt, David A Stenger, *Kathryn H Jacobsen
kjacobse@gmu.edu

Mercy Hospital Research Laboratory, Bo, Sierra Leone (RA, JB, DAS, KHJ); US Naval Laboratory, Washington, DC, USA (DAS); and George Mason University, Global and Community Health, Fairfax, VA 22030, USA (KHJ)

- 1 US Centers for Disease Control and Prevention (CDC). Outbreak of Ebola in Guinea, Liberia, and Sierra Leone. Update, 24 June 2014. <http://www.cdc.gov/vhf/ebola/outbreaks/guinea/> (accessed July 2, 2014).
- 2 WHO. Ebola virus disease, West Africa. Update 24 June 2014. http://www.who.int/csr/don/2014_06_24_ebola/en (accessed July 2, 2014).
- 3 The Lancet. Ebola in west Africa: gaining community trust and confidence. *Lancet* 2014; **383**: 1946.
- 4 Ansumana R, Jacobsen KH, Gbakima AA, et al. Presumptive self-diagnosis of malaria and other febrile illnesses in Sierra Leone. *Pan Afr Med J* 2013; **15**: 34.

International comparisons of acute myocardial infarction

Sheng-Chia Chung and colleagues (April 12, p 1305)¹ claim they found clinically important differences between short-term survival in national outcome registries in Sweden and the UK between 2004 and 2010, which might help to improve health systems



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