

Time to put Ebola in context

Viruses that cause haemorrhagic fevers have been popularized by the media as fierce predators that threaten to devastate global populations. Professor Melissa Leach says there is much to learn from combining local and scientific knowledge in dealing with these deadly pathogens.

Q: What was the international perspective on Ebola in the early 1990s?

A: During the early- to mid-1990s, Ebola virus was portrayed as a global threat, a fierce predator emerging from tropical areas in Africa and spreading rapidly to the rest of the mobile and interconnected world. Therefore, cases of infection with Ebola virus required rapid international notification and response. Films and books, such as *The coming plague* by Laurie Garrett, *The hot zone* by Richard Preston and the movie *Outbreak* starring Dustin Hoffman, all created fear about Ebola haemorrhagic fever in western populations.

Interestingly, some of these versions portrayed the Ebola virus as if it were an active agent going out on the attack, transmissible through air or touch, with no treatment available until a “high tech” scientist discovers a vaccine or other cure – otherwise everyone died. One of the key elements in these stories is the sense of scientific heroism, of individuals committed to discover, identify and conquer this virus. Panic, violence and competition are often portrayed as the common human responses to outbreaks of viral diseases. I’ve been told by staff at WHO that the perception that the 1995 outbreak in the Democratic Republic of the Congo “was going to spread to the rest of the world” was one of the factors that built political momentum leading to the revision of the International Health Regulations in 2005.

Q: What is the perception of Ebola now?

A: Ebola fever is now seen as a deadly local disease requiring a universal kind of “rapid response,” based on standard public health strategies to halt transmission and control outbreaks at the source.

Q: Why does Ebola attract so much attention when Lassa fever kills more people?

A: Ebola and Lassa fever are part of a larger group of viral haemorrhagic fevers and are the two most important ones epidemiologically in the tropical African context. In the case of Ebola haemorrhagic fever, we are dealing with a very fierce, rapidly lethal filoviral disease



Courtesy of Professor Melissa Leach

Professor Melissa Leach

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that causes death in 50–90% of clinically diagnosed cases. So far there is no antiviral or vaccine available against Ebola haemorrhagic fever – it is a disease with no cure. But when we look at African outbreaks, we notice that, despite their increasing frequency, the overall numbers of deaths are relatively small. The dramatic fear and perception of the global spread of Ebola virus has motivated international and some national health and government officials to develop policies based on this vision. Meanwhile, media coverage has increased public interest and support for tackling this disease. In this respect, Ebola haemorrhagic fever is kind of an “exceptional” or “master status” disease.

Lassa fever is another haemorrhagic disease, but much more endemic across many areas in western Africa. Infection occurs through direct exposure to excreta of infected rats, or less often, person-to-person via body fluids. The case fatality rate of Lassa fever is only around 1%, but the disease claims more lives than Ebola fever because its incidence is much higher. It is estimated that there are 300 000 infections and 5 000 deaths per year.

Q: What sort of dilemmas do these kinds of diseases pose?

A: This contrast has led some commentators to suggest that Ebola fever is perhaps “much ado about nothing.” It

is locally devastating but has little international importance. Lassa fever, on the other hand, seems to be an unheralded problem. The number of deaths and of infected cases is high and disproportional with the disease’s international profile and the scale of western media attention. Lassa fever requires more sustained engagement of health teams and measures to deal with its more endemic character.

Q: There is evidence that Ebola fever has been around for hundreds of years in some communities. What kind of local traditions have been used in response to haemorrhagic fever outbreaks?

A: Local people living in disease-affected areas are often portrayed by the media as ignorant, mired in misguided tradition and dangerous cultural practices. There is certainly danger in some of these practices, such as remaining close to the sick family member to nurse him/her; touching the dead at funerals; and applying traditional healers’ treatments including cutting a patient’s skin with unsterilized knives and applying blood to the skin.

In Sierra Leone, medical staff I interviewed had lamented community traditions that encourage the eating of rats, particularly at festivals, where this happens on a large scale and has been linked as a major cause of Lassa outbreaks.

There is also the belief that miscarriages (due to Lassa fever) are caused by witchcraft, which may lead to delays in presentation for treatment. However, there are also beneficial practices in the local culture and context: local populations have the knowledge, cultural logic and practices that arguably can and should be integrated into responses.

Q: What are some examples of beneficial practices?

A: An example of a local approach to these diseases comes from the work of anthropologist Barry Hewlett, who learned how the Acholi people in Uganda deal with *gemo* (a word that means epidemic illness). Social protocols for prevention and control include isolating the patient in a house at least 100 metres from other houses; having a survivor of the epidemic feed and care for the patient; identifying houses with ill patients with two long poles of elephant grass; limiting general movement, advising people to stay within their household and not move between villages; and, finally, keeping patients who no longer have symptoms in isolation for one full lunar cycle before allowing them to move about freely in the village.

Q: What are the implications if international teams do not take local cultural beliefs into consideration?

A: Top-down, standardized responses and control measures have sometimes proved to be unsustainable, facing resistance from local populations. They may provoke local fears or feelings of injustice if people are restricted from moving or if they cannot bury their dead according to custom. An example of this occurred in 2001 in Gabon, where Euro-

pean and American medical teams met armed resistance from local populations and had to leave. This was because villagers remembered the control measures they had used for an earlier outbreak in 1995–96 as deeply offensive. Particularly troublesome was the prevention of customary burial practices. Sick and dead people were hidden behind tarpaulins in isolation units, which led people to suspect that their relative's body parts were being stolen. This interplayed with a broader distrust of international teams "parachuted" in from outside. To avoid such situations in future, we need to build inclusive, participatory approaches that combine local and scientific knowledge.

Q: Do you know of any outbreaks where traditional practices have been successfully integrated with scientifically based approaches?

A: One example is the 1999–2000 Ebola fever outbreak in Uganda, in which the Acholi cultural model and practices were incorporated; another was the outbreak in the Democratic Republic of the Congo in 2001. But more generally, policy seems to have shifted among many agencies and WHO, for example, now routinely tries to incorporate local cultural practices into all outbreak responses.

Q: What are some of the longer-term drivers of these diseases?

A: We need to piece together many different causes and effects, but some relate to long-term environmental and socio-ecological dynamics. Deforestation through agriculture and logging, and the consumption and trade of bushmeat, can contribute to haemorrhagic fevers by bringing populations closer to their

forest animal viral reservoirs and secondary vectors. Climate change plays a role, influencing dynamics on the forest frontier. Poverty and inequality, sometimes enhanced by conflict, also cause problems such as declining health systems and overcrowded hospitals. Poor hospitals are well recognized to be key amplifiers of Ebola infection, while overcrowded and poorly-constructed settlements associated with impoverished and conflict-affected communities provide ideal conditions for exposure to Lassa fever.

Q: How can we use the innate fear of Ebola in a positive way to develop an effective response to other diseases?

A: Ebola haemorrhagic fever is sensationalized because it is very scary. But there are ways in which we can harness the resources and experiences to address other health priorities, such as insisting on safe practices when handling body fluids for prevention of infectious diseases in general. We also must be careful that a disease outbreak doesn't distract from providing an integrated response to health problems. People who live in the areas that suddenly attract attention from the international community owing to an Ebola fever outbreak may have been dealing with HIV infection, malaria, diarrhoea and other health problems that are regarded as far more important to them in a day-to-day sense.

Professor Melissa Leach was interviewed as a guest speaker of the World Health Organization's global health history seminar series. Access the seminars online at: http://www.who.int/global_health_histories/seminars/en/ ■