Understanding Sociocultural Dynamics to Enhance Control of Rift Valley Fever (RVF) Epidemics in Kenya

Case Study

Goats drinking water at a borehole in Dilmanyale village, Kenya.
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During a Rift Valley Fever (RVF) outbreak in 2006–07, Somali pastoralists in north-eastern Kenya experienced high livestock mortality and abortions, especially amongst flocks of sheep, resulting in the loss of approximately 75 per cent of livestock. Members of the community also reported livestock bleeding from the nose and other body orifices. A month later, communities were alarmed when family members and friends started falling ill from an 'unknown illness'. North-eastern Kenya was one of the major hotspots of RVF in 2006–07 and most of the 400 human cases and 90 deaths occurred in this region. This SSHAP Case Study highlights how anthropological assessments can contribute to greater understanding and trust between communities and responders, and thereby improve the response to an epidemic.

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The challenge: food shortage and economic losses

In December 2006, local and international livestock and human health officers were deployed in north-eastern Kenya to curtail the spread of RVF. The outbreak area is remote with poor road access and the average distance to the nearest health facility was 40 km. At the time of the study there was only one hospital, two health centres and five dispensaries in the area. Not only were communities feeling distress over the loss of people and livestock, they were marooned by floods due to heavy rains that had begun in October 2006. Communities also heard on the radio that they were prohibited from selling livestock and consuming meat and milk from their herds and flocks. However, there were no alternative sources of food as mobility was impeded by flooding. Meat and milk consumption thus continued for pragmatic as well as cultural reasons, thereby perpetuating the epidemic. The RVF epidemic was eventually brought under control, but by then the community had borne a significant burden in loss of livestock, loss of lives, and reduced means of livelihood.

> ***"Lay perceptions of illness and treatment play a big role in how disease causation, severity, and treatment strategies are understood, and they should be carefully discerned in the context of a health emergency."***

The assessment

In 2013, as part of the activities of the Dynamic Drivers of Disease in Africa Consortium (DDDAC) – which aimed to advance understanding of the connections between animal-to-human disease transmission and environment in Africa – a team of anthropologists were deployed to investigate local understandings of disease, illness, and RVF risk factors utilising a rapid ethnographic assessment with participatory methods.

Local conceptualisation of illness and treatment

The anthropologists conducted in-depth interviews with those who had contracted RVF or who had cared for someone with RVF. This was done to provide a better understanding of how RVF was experienced as an illness and the meanings assigned to hospital versus home-based care and treatment. Key informant interviews were also conducted with Islamic leaders, animal and human health officials, elders (both men and women) to gain a better perspective on the broader issues around disease and illness in the area.

In addition to gaining a deeper understanding of the lay understanding of disease, death, and role of religion in treating RVF patients, the team also sought to understand how foreign clinicians and researchers were viewed in the context of RVF and the treatment that they were perceived to offer. While most pastoralists in the region attributed the cause of RVF to mosquitoes, a significant number also thought it was the result of either poor sanitation, wind, or supernatural causes. RVF is called *Sandik* (bloody nose) by the Somali pastoralists in this region, and this was the symptom commonly associated with RVF in sheep, alongside fever, emaciation, and bloody diarrhoea.

In humans, the major symptom observed was bleeding from the nose and mouth, and this signalled a need for emergency hospital treatment as many in this state did not recover. Other symptoms such as fever, headache, and vomiting were seen as less severe and were treated at home using over-the-counter analgesics and malaria drugs, as well as raw blood, milk, and honey, and prayers from the Islamic leader. Since most of the seriously ill people who were taken to the hospital subsequently died, it was perceived that hospital care was not as good as home-based care, where most cases recovered. However, community members failed to remember that those who were

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taken to the hospital had severe symptoms, and their prognosis was usually not favourable. Mistrust was also perpetuated because patients were quarantined in hospital and it was felt that clinicians were hiding something from local people.

Pastoralists did not believe that RVF was caused by the consumption of meat and milk from diseased animals. The shared belief in fatalism (that human actions cannot prevent ill health, death or misfortune, and if an individual is meant to die he or she will) compounded the community's low uptake of formal health services, their risk perceptions about food, and their food-related practices in relation to disease transmission.

> ***"Community-led approaches create ownership and are more effective and sustainable than top-down approaches. It is important to engage with communities in an environment of trust, so that they can play a central role in the process and own disease surveillance, control, and treatment."***

Conflict between culture and conventional health care

A 57-year-old man refused to take his 20-year-old son, who had fallen sick with RVF, to the hospital. The young man was feverish, weak, and bleeding from the nose. Around the time he became ill, a growing number of RVF patients had died, most of them in the hospital, and there was a rumour that foreign doctors had been brought in by the government to administer lethal injections to patients to prevent further spread of the disease. It is possible to see how this rumour appeared plausible to the local community as RVF patients were being quarantined and treated in a tent outside the main hospital, and relatives and friends were not allowed to visit them. It was for this reason that the father opted to give his son home remedies:

> *I declined to take him to the hospital because I had heard rumours that the foreign doctors were administering some dangerous medicine to RVF patients and that was why they did not want us to come near our relatives. At home we called a Sheikh who read the Qur'an to him and we cared for him by giving him milk, water, and blood because he was very weak. He recovered but all those who went to the hospital died.*

The study findings showed that the pastoral community wanted to be actively involved in the care of their sick relatives. At home, they were able to be in close proximity with the ill person and provide both home remedies and religious therapy according to their culture. Conversely, in-patients were quarantined and often treated by foreign clinicians. This caused the community to develop mistrust of the formal health-care system, and dissuaded many from taking the sick to hospital, potentially contributing to increased fatalities. In Somali communities, the role of family and religion (as per the Qur'an) in the treatment of illness is a central aspect of health-seeking behaviour, and therefore an important lens to use to understand their framing of disease and health care and to improve the delivery of health interventions.

Building community trust

This rapid ethnographic assessment demonstrated the need to understand how local people perceive disease, especially during an epidemic, in light of the prevailing culture and context. This understanding allows policymakers and practitioners to engage the community in a way that enhances trust and to design disease control strategies that are culturally and contextually relevant. Study findings were presented to national and community-level stakeholders, and discussions were held to help reshape community perceptions of disease risk and health personnel's understanding of the social and cultural dynamics of communities in relation to health and disease, as well as to improve interaction between communities and health personnel during disease outbreaks.

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Lessons learned

A number of key lessons can be extracted from this assessment process:

- Lay perceptions of illness and treatment play a big role in how disease causation, severity, and treatment strategies are understood, and they should be carefully discerned in the context of a health emergency.
- There is a need to work with community leaders/gatekeepers, such as Islamic heads, to develop sensitisation tools, disease control strategies, and treatment dynamics that are adapted to fit the local context.
- Community-led approaches create ownership and are more effective and sustainable than top-down approaches. It is important to engage with communities in an environment of trust, so that they can play a central role in the process and own disease surveillance, control, and treatment.
- Anthropologists can be effectively utilised to investigate lay perspectives on disease aetiology, beliefs around risk factors of disease, and how disease control strategies are viewed and understood.

Further reading

Breiman, R.F.; Minjauw, B.; Sharif, S.K.; Ithondeka, P. and Njenga, M.K. (2010) 'Rift Valley Fever: Scientific Pathways Toward Public Health Prevention and Response', *American Journal of Tropical Medicine and Hygiene* 83.suppl.2: 1–4

Dzingirai, V. (2017) 'Structural Drivers of Vulnerability to Zoonotic Disease in Africa', *Philosophical Transactions of the Royal Society B: Biological Sciences*, 372.1725: 20160169

Freeman, P.; Penney, D.S.; Bettmann, J.E. and Lecy, N. (2013) 'The Intersection of Health Beliefs and Religion Among Somali Refugees: A Qualitative Study', *Journal of Religion and Spirituality in Social Work: Social Thought* 32.1: 1–13

Muga, G.O.; Onyango-Ouma, W.; Sang, R. and Affognon, H. (2015) 'Sociocultural and Economic Dimensions of Rift Valley Fever', *American Journal of Tropical Medicine and Hygiene* 92: 730–38

Munyua, P. *et al*. (2010) 'Rift Valley Fever Outbreak in Livestock in Kenya, 2006–2007', *American Journal of Tropical Medicine and Hygiene* 83.2: 38–64

Ng'ang'a, C.M.; Bukachi, S.A. and Bett, B.K. (2015) 'Lay Perceptions of Risk Factors for Rift Valley Fever in a Pastoral Community in Northeastern Kenya', *BMC Public Health* 16.1

About

The Social Science in Humanitarian Action Platform (SSHAP) aims to establish networks of social scientists with regional and subject expertise to rapidly provide insight, analysis and advice, tailored to demand and in accessible forms, to better design and implement emergency responses. SSHAP is a partnership between the Institute of Development Studies (IDS), the London School of Hygiene and Tropical Medicine (LSHTM), Anthrologica and UNICEF Communication for Development (C4D).

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Credits

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