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Rift valley fever epidemic in Niger near border with Mali

Rift Valley haemorrhagic fever epizootics in Niger have reportedly led to 90 human cases of the disease and 28 deaths (31% fatality rate) in more than 56 villages as of Oct 5, 2016,¹ mainly in nomadic stockbreeders and traders. Substantial livestock and cattle loss has occurred in the Tchintabaraden health district of Tahoua on the western Niger border with Mali.¹ The effects of this unexpected epidemic is hitting just at a time when the impoverished region is recovering and making efforts to strengthen national epidemic preparedness and emergency response following the huge social and economic losses of the west Africa Ebola epidemic of 2014–16.² Extreme weather and climate changes that favour mosquito breeding, highly adaptable animal and human reservoirs, a complex transmission cycle involving livestock and human beings, proliferation of several species of mosquitoes (*Aedes*, *Culex*, and *Anopheles* spp), and uncontrolled movement of livestock and people increase the risk of an outbreak of Rift Valley haemorrhagic fever.^{1,3}

No effective drugs or vaccine have been developed, and Niger has no national capacity for surveillance in terms of molecular diagnostics testing and confirmatory assays. Previous outbreaks of Rift Valley haemorrhagic fever in west Africa and across other parts of Africa (eg, Senegal, Burkina Faso, Nigeria, Côte d'Ivoire, Sudan, Kenya, Egypt, Uganda, South Africa, Mozambique) have been reported, but few studies have assessed the complications of exposure to the virus in pregnant women.^{1–5} The current high fatality rate in Niger emphasises the urgent need to develop and apply contextually appropriate and efficient integrated vector management (IVM) programmes, livestock sanitation, and movement regulations to reduce infection transmission, widespread sources, and reservoirs.^{1,2,5–7} So far, no cases of Rift Valley fever or

deaths from the disease have been reported in Mali or other neighbouring countries.

An integrated one-health surveillance and emergency response approach, including containment strategies, is needed to avert further deaths from the epidemic currently reported in Niger.^{1,2,8} Coordinated engagement of all stakeholders, including ministries of health, agriculture, forestry and land use, environment, national security, WHO, and humanitarian and non-governmental organisations, are imperative to scale-up containment and recovery.^{1,2,8–10} Implementation of the following integrated approaches and strategies are crucial to close up operational gaps, meet response needs, and promote frontline national emergency response plans to avert further morbidity and fatality.^{1–3,5,8–12}

First, integrated multisectorial emergency response operations targeting public and veterinary health-care-associated influenza-like illnesses or infections (in suspected or confirmed inpatients, and outpatients), early quarantine and decontamination procedures (eg, use of hand disinfectants and regular ward or room cleaning), and best preventive practices in hospitals, mobile laboratories, veterinary and community health centres, and village herd settings are imperative for timely, effective containment of the epidemic.

Second, community social mobilisation, engagement, and health education should be increased, and public health campaigns, food safety measures, and preventive and containment strategies should be put in place in different affected municipalities and neighbouring countries.

Third, strengthening timely, evidence-based risk communication and interventions for at-risk and affected communities is essential in controlling migration and cross-border trading activities, especially during the annual farmers' festival.

Fourth, community alertness and precautionary safety measures and restrictions regarding slaughter settings and meat seller units should be increased, and contact with potentially infected animals, consumption of unpasteurised dairy products, and traditional group food consumption in household or public gatherings should be avoided.

Fifth, the capacity of health professionals and community workers to promptly detect and notify cases of disease in people and syndromic animals should be strengthened, and nomadic and other population-based serological and molecular screening should be applied in the affected villages, neighbouring communities, and across country's borders, in line with WHO's International Health Regulations (2005).

Sixth, access to and use of IVM programmes and other tools should be scaled up to quell mosquito breeding sites, including effective and rational use of insecticide-treated bednets, insect repellent, insecticide vaporisers, and personal protective equipment to prevent mosquito bites outdoors and indoors, wearing of light-coloured long-sleeved clothes, mass disinfection, and decontamination of suspected and stagnant dams and freshwater environments.

Seventh, further operational research in identification and monitoring of fetal malformations, maternal miscarriage, and stillbirths in exposed pregnant women, contact tracing in cases of death, and tracking of nomadic households' slaughters, wildlife management, and trade network mapping are crucial to halt Rift Valley haemorrhagic fever epidemic transmission dynamics.

And finally, investment in the promotion of crucial mobilisation resources for implementation of national and regional one-health surveillance-response approaches and strengthening of operational research and development of new, safe, potent drugs and effective vaccines, are vital, proactive, and resilient long-term solutions to avert the ongoing and future Rift

Valley haemorrhagic fever epidemics in Niger and other endemic countries worldwide.

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Sex-specific maps of HIV epidemics in sub-Saharan Africa

Recently the Joint UN Programme on HIV/AIDS (UNAIDS), the President's Emergency Plan For AIDS Relief (PEPFAR), and WHO expressed interest in using geographical targeting strategies when implementing interventions for reducing HIV transmission in

sub-Saharan Africa.¹ If geographical targeting is used, a disproportionate amount of the resources that are available for prevention will be allocated to geographical locations where HIV prevalence is substantially higher than average. Mathematical models have shown