

## What's the latest with Lassa?

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Lassa fever is a viral haemorrhagic fever (VHF) caused by an arenavirus and is endemic in West Africa with the peak number of patients seen between December and February. This coincides with the dry season, a time when people use stored grain for food and unwillingly offer a food source for the natural host of the Lassa fever virus, the multi-mammate rat. Infection of this species is avirulent and excretion of the virus in the urine and faeces of rats contaminating food and water is the source of transmission to humans. Person-to-person transmission in health care facilities is common in endemic countries such as Sierra Leone and Nigeria. This necessitates high-level personal protective equipment (PPE) when Lassa fever is suspected both in the endemic region and here in the UK.

2016 was an interesting year for Lassa fever due to several discoveries, including the increased capacity to detect and study the Lassa fever virus in West Africa, an unintentional beneficial consequence of the Ebola epidemic.

The first new finding was that in the last dry season (2015-6), some of the highest numbers of Lassa fever patients were seen in West Africa with new regions reporting cases, including Borno state in northeast Nigeria, where none had been reported since 1969. This trend has continued with the total number of patients in Nigeria continuing to climb.

The second finding of note is that Canadian researchers documented an annual seroconversion rate for Lassa fever of 6% in Mali with a high proportion of these in pre-teen children (52% of 23 children developed antibodies to Lassa fever over a year).

Ascertainment bias due to heightened vigilance for viral haemorrhagic fevers and improved diagnostics could account for this finding. An alternative explanation proposed by researchers in West Africa postulated that the El Niño phenomenon could have contributed to an increased crop yield swelling populations of the multi-mammate rat. The increased transmission of Lassa Fever had international impact. The first case of symptomatic Lassa fever person to person transmission in Germany in 2017 occurred between a deceased undiagnosed man infecting the undertaker who prepared his body.

Finally, new insights into potential transmission mechanisms were generated from Kenema General Hospital, Sierra Leone. Researchers from Sierra Leone, UK, USA and Germany suggest that almost 20% of patients were infected by other infected individuals rather than by the multi-mammate rat.

They further demonstrated, using mathematical modelling, that a small number of people cause a high proportion of infections, and termed these individuals “superspreaders”.

So far this year Lassa fever has been confirmed across five West African countries; Nigeria, Benin, Sierra Leone, Togo and Burkina Faso. We hope that this widespread detection is down simply to enhanced surveillance. We also hope that this enhanced surveillance, along with the national and international outbreak support networks established during the Ebola epidemic, will allow rapid control of this high-mortality viral infection. New and emerging research tools including molecular epidemiology and mathematical modelling should provide novel insights into the spread of Lassa fever and therefore help control infection. In the meantime, we will strive to be ready to respond to potential patients in the UK with appropriate personal protective equipment and safe specimen management to protect healthcare staff and, with well-rehearsed protocols, will aim to provide high-quality clinical care to patients with suspected or confirmed infection.

**[For more information on Lassa Fever, click here to check our Best Practice topic.](#)**

#### About the author

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