Progress and challenges of Lassa fever control in Nigeria

2019 marks 50 years since Lassa fever was first identified in Nigeria, but this year is already proving one of the most challenging. Paul Adepoju reports.

For the **sequencing results** see http://virological.org/t/2019-lassa-virus-sequencing-in-nigeria/287

As of March 3, Nigeria has confirmed 420 cases of Lassa fever and 93 deaths in 2019, suggesting the 2018 record of the most cases reported in a single year will be surpassed. The Nigeria Centre for Disease Control (NCDC) has said that these statistics should not mask the progress made in the control of Lassa fever in the world's worst hit country. The NCDC has noted a downward trend in new cases and the number of new cases being reported are lower compared with the same period during the 2018 outbreak. Its Director General Chikwe Ihekweazu told *The Lancet Infectious Diseases* that improvements had been made. "After the 2018 outbreak, the NCDC convened a review meeting with all states, understood what worked and didn't. We developed a preparedness plan out of this that guided our 2019 response. This year, we have seen a decline in the case fatality ratio compared to 2018".

He added that treatment centres and laboratories are better equipped; treatment and diagnosis supplies have been provided to 21 states as part of preparedness activities, and Nigeria has also developed a national Lassa fever research plan while leading global discussions around clinical trials for Lassa fever vaccines.

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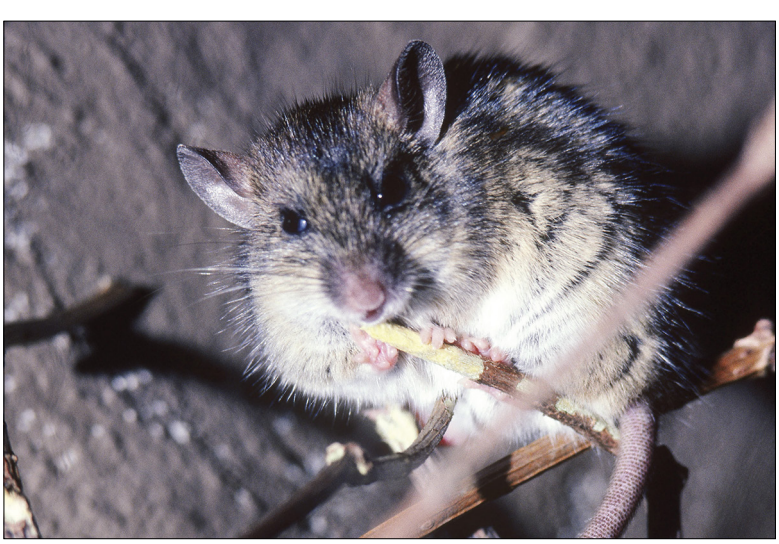
As is the case for many viral haemorrhagic fevers, health-care workers have been disproportionately affected. 15 have already tested positive for Lassa fever in 2019, including one who died in Enugu, southern Nigeria. Lassa fever expert Oyewale Tomori (formerly of Redeemer's University, Ogun State, Nigeria) described the infection of health-care workers as "shameful" at a recent Lassa fever conference in Abuja, Nigeria. Ihekweazu admitted that more efforts were needed, saying that "we still have our work cut out for us—especially in improving general awareness about the disease among the public, infection prevention control practice among health workers, and working with counterpart ministries to improve environmental sanitation".



Lassa virus is spread by the multimammate rat (*Mastomys natalensis*)

While some experts suspected that human-to-human transmission was the underlying reason for the surge in cases, preliminary results of sequencing efforts in Nigeria suggest that the viruses are not directly linked, suggesting that the cases are arising from spillover from rodent reservoirs rather than extensive human-to-human transmission. Rodent control will be essential to stopping the outbreak.

Once patients are infected, identifying them early is essential. Treatment with ribavirin, although non-specific for Lassa, can help, but it is only effective for early stage disease. Hilde de Clerk, emerging infections adviser for Médecins Sans Frontières, explained: "we need to know more about where the diseases are coming from, and those at the early stages of infection that we are currently missing at the hospital. We should be targeting villages and communities that are hit".

de Clerck said that Médecins Sans Frontières is trying to build capacity so that hospital staff training can continue when the donors have left. "Even if we leave, their human resources will remain."

Even so, the increasing reliance on donors worries local public health experts. Patients can currently receive drugs for free at treatment centres, but de Clerck is concerned that this approach is not sustainable: "access should become easier, and the drugs should be affordable". Foreign donors and supporting agencies also pay for expensive assays and the provision of protective equipment. "We cannot build an entire Lassa fever control strategy on donor funds, it is not sustainable. We need to start spending our own money because, eventually, donor funds will run out", Tomori said.

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