

Briefing Note – 19 January 2016

# NIGERIA

## Lassa fever outbreak



Need for international assistance	Not required	Low	Moderate	Significant	Major
		X			
Expected impact	Very low	Low	Moderate	Significant	Major
			X		

### Crisis overview

A suspected outbreak of Lassa viral hemorrhagic fever was announced in Nigeria on 8 January (AFP 13/01/2016). The Lassa virus is carried by the multimammate rat and can be transmitted to humans through physical contact with soiled objects; eating contaminated food; or person to person transmission. On 14 January, Nigeria's Centre for Disease Control reported at least 140 suspected cases and 30 laboratory confirmed cases. 53 deaths have so far been confirmed in 14 states, indicating a case fatality rate (CFR) of 37.9% (NCDC 14/01/2016).

Affected states	No. of confirmed cases	No. of suspected cases	No. of Death
Niger.	1	48	16
FCT (Abuja)	1	2	2
Nassarawa	2	6	1
Taraba	4	17	7
Plateau	1	4	1
Bauchi	6	26	7
Kano	2	14	9
Rivers	3	6	3
Edo	6	6	4
Ondo	2	4	3
Delta	0	1	0
Oyo	2	4	0
Sokoto	0	1	0
<b>Total</b>	<b>30</b>	<b>140</b>	<b>53</b>

### Key findings

#### Anticipated scope and scale

Lassa fever outbreak is a yearly occurrence during the dry season in Nigeria but this year's outbreak is more widespread with 10 states, 140 suspected and 30 confirmed cases. The case fatality rate (CFR) is significantly high at 37.9% of all cases (53 officially reported deaths).

#### Priorities for humanitarian intervention

- **Outbreak investigation** including surveillance and contact tracing.
- **Infection prevention control** measures to reduce the risk of person-to-person transmission during treatment and laboratory testing.
- **Community sensitisation**, including health education and social mobilisation.

#### Humanitarian constraints

The lack of available information on the needs of the affected states and the conflicting information regarding the number of cases and the fatality of the current outbreak is a challenge towards an effective response.

#### Limitations

There are conflicting information regarding the number of cases and the number of deaths in most of the affected states. It is unclear where the epidemic started.

There is limited information on sectoral needs as a result of the outbreak.

There is a lack of information on the access to affected areas and on the aid provided. Limited information is also available on the international response.

## Crisis impact

A suspected outbreak of Lassa viral hemorrhagic fever was announced on 8 January (AFP 13/01/2016). On 14 January, Nigeria's Centre for Disease Control reported at least 140 suspected cases, of which 30 were laboratory confirmed. 53 deaths have so far been confirmed in 14 states, indicating a case fatality rate (CFR) of 37.9% (NCDC 14/01/2016).

So far, most of the affected states are in the central and northern parts of the country (Bauchi, Nasarawa, Federal Government of Abuja (FCT), Niger, Taraba, Kano, Plateau), while the remaining three are in the south (Rivers, Edo and Ondo) (AFP 08/01/2016; All Africa 17/01/2016). More cases have been reported in Lagos, Imo, Ekiti and Gombe, but they have not been officially confirmed. See map.

The death toll is expected to rise. Health authorities have stated that the outbreak is under control, however there are fears that the scale of the outbreak is being downplayed (AFP 15/01/2016).

The origin of the outbreak is not clear: some sources report the first case in November 2015 in the northeastern state of Bauchi, others in August 2015 in the village Foka in the Niger state, and others in Taraba state (AFP 15/01/2016; AFP 13/01/2016; All Africa 17/01/2016; AFP 15/01/2016).

### Vulnerable groups affected

The communities of the Northern states, particularly Bauchi, Niger and Kano states, as there are concerns regarding the effectiveness of their notification system (AFP 08/01/2016; local media 18/01/2016). Persons at greatest risk are those living in rural areas where *Mastomys* rodents are found, especially in areas of poor sanitation or crowded living conditions (IFRC 04/02/2012).

Health workers are at risk if proper barrier nursing and infection control practices are not maintained (IFRC 04/02/2012). In the outbreak of 2012, three doctors and four nurses were reported to be among the fatalities (WHO 22/03/2012). On 15 January, a doctor was reported dead in Rivers state (local media 15/01/2016).

Pregnant women, nursing mothers and their babies are at a higher risk of dying of lassa (local media 07/01/2016). Death rates for women in the third trimester of pregnancy are very high (local media 10/01/2016).

## Aggravating factors

### Population density

The disease may be more difficult to trace in densely population areas, as it may spread through person to person transmission and, if rodents are present, the number of cases may increase more rapidly. The national population density stands at 195 people/km<sup>2</sup> in 2014. Most of the densely populated states are in the south. This includes Lagos state, the most densely populated state with 2,607 people/ km<sup>2</sup> as of 2013. Imo counts 758 people/km<sup>2</sup>. Kano at 442 people/km<sup>2</sup> is the most densely populated state in the north. All three have reported cases of Lassa fever (Demographic and Health Survey 2013).

### Displacement

Some of the states affected by the outbreak hosts big numbers of IDP population, who due to their living conditions may be vulnerable. As of December 2015, IDPs were hosted in Abuja, Bauchi, Kano, Nasarawa, Plateau, Taraba and Gombe states (IOM 12/2015).

### Cultural beliefs

The Lassa response took time because residents in the north states, did not report deaths due to cultural and religious beliefs (AFP 15/01/2016).

### Health system capacity

The speed of spread and the lack of capacity in most states to contain the disease hampers the response. Most health facilities in rural areas lack proper equipment for diagnosing the disease (All Africa 17/01/2016).

Concern was expressed about disease notification systems, particularly in Niger state, where unusual deaths in August were not reported for up to four months (AFP 08/01/2016). Case reporting was also delayed in Bauchi and Kano states (local media 18/01/2016)

There are reports of health workers refusing to treat a suspected case at the Lagos State University Teaching Hospital in Ikeja (All Africa 17/01/2016).

### Political stability and security

The Northeastern states of Borno, Yobe and Adamawa are facing the Boko Haram Crisis. The three states host 2.15 million IDPs and reported needs in the health sector as well as access problems are significant. On 13 January, Borno state declared the health institutions on red alert in order to prevent the spreading of the outbreak in the state and among the IDPs population (local media 14/01/2016; 13/01/2016).

## Contextual information

### Transmission

Lassa fever is an acute viral hemorrhagic illness originating in West Africa. The Lassa virus is carried in the urine and faeces of the multimammate rat. The virus can be transmitted to humans through physical contact with soiled objects or eating contaminated food, or through exposure to open cuts or sores. It can also be spread through inhalation of air contaminated with infected urine or faeces, which can occur during cleaning (CDC 2014).

Person-to-person transmission may occur after exposure to the virus in the blood, tissue, secretions, or excretions of a Lassa virus-infected person, but casual contact, such as skin-to-skin without exchange of body fluids, does not spread the virus (CDC 2014).

If there is a lack of proper personal protective equipment (PPE) during treatment or if contaminated medical equipment, such as reused needles, are present, then there is a high risk of person-to-person transmission in a healthcare setting (CDC 2014).

### Symptoms

Clinical diagnosis is often difficult because the symptoms of Lassa fever are varied and nonspecific. Signs and symptoms develop 6-21 weeks after the patient comes into contact with the virus. Mild symptoms include; slight fever, general malaise and weakness, and headache (WHO 2015; CDC 2014). For around 80% of cases symptoms are mild and undiagnosed, even though they are capable of transmitting the infection. However, 20% of cases experience more serious symptoms including bleeding (from the gums, eyes, or nose, as examples), respiratory distress, repeated vomiting, facial swelling, pain in the chest, back, and abdomen, and shock (CDC 2014). Overall case fatality is 1%, but it is at 15%-20% among hospitalised patients. The CFR can increase to 50% during epidemics (CDC 2014; WHO 2015).

Neurological problems have also been described, including hearing loss, tremors, and encephalitis. Death may occur within two weeks of symptom onset due to multi-organ failure. Deafness is the most common complication. It occurs to some degree in 25–33% of both mild and severe infections and is often permanent, though hearing partially returns after 1-3 months for 50% of cases. Spontaneous abortion is another serious complication, with an estimated 95% mortality in fetuses of infected pregnant women (CDC 2014; WHO 2015).

### Treatment

The antiviral drug ribavirin is reported to be an effective treatment if given early in the course of clinical illness, but there is no evidence that it can be used as a post-exposure prophylactic treatment. Early supportive care with rehydration and symptomatic treatment has also been seen to improve survival (WHO 2015).

There is currently no vaccine to protect against Lassa fever.

### Previous outbreaks

The last Lassa outbreak in Nigeria began in December 2011, and was confirmed in early 2012. By 22 June 2012, 623 suspected cases, including 143 confirmed cases and 93 deaths, had been recorded in 23 of the 36 states (IFRC 31/06/2015).

### Risk factors

Exposure to the multimammate rat is the key risk factor.

If protective measures and proper sterilization methods are not used, hospital staff face negligible risks (CDC 2014).

## Key characteristics of population and area

**Demographic profile:** Population of Nigeria: 177.5 million (World Bank 2014). 43.01% under 15 (World Bank 2014). 47% urban (World Bank 2014).

**Nutrition:** GAM: 18.1%; overweight: 4.9% (UNICEF 2013); 48.5% of women have anaemia (UNICEF 2013).

**Health:** Under-five mortality: 117/1,000 live births (UNICEF 2013); maternal mortality 560/100,000 live births (UNICEF 2013).

**WASH:** Access to improved drinking water sources: 61% in 2011 (USAID 06/2015); access to improved sanitation: 31% in 2011 (USAID 06/2015). In 2015, 25% of the population is practicing open defecation, with the percentage in rural areas reaching 34% (WHO/UNICEF JMP 06/2015).

**Literacy:** 50.6% (World Bank 2011).

## Response capacity

### Local and national response capacity

The Federal Ministry of Health has not declared a national emergency or required external aid (local media 19/01/2016). The Federal Government is to inaugurate a National Lassa Fever Action Committee in view of the outbreak of Lassa fever recorded in the country (local media 18/01/2016).

The Federal and State governments are responding to the outbreak by enhancing the disease surveillance for early detection, reinforcing treatment of patients, and conducting awareness campaigns among the affected population. Surveillance officers from Nigeria Centre for Disease Control have been deployed to priority states to support outbreak investigation and reporting (NCDC 14/01/2016). The contacts of the patients are being traced. Drugs and other materials have been prepositioned (local media 16/01/2016).

Isolation centres have been prepared in LASUTH and 26 general hospitals in Lagos state (local media 16/01/2016)

The deceased are being buried after consultations with the family or being kept in isolation (local media 16/01/2016).

The Disease Surveillance and Notification Officers (DSNOs) in all the LGAs in Lagos state have been sensitised on Lassa fever to enhance early detection and prompt reporting of cases. Creation of awareness on Lassa fever by the health educators in the 57 LGAs/LCDAs (local media 16/01/2016). Authorities in Lagos have alerted residents on the need to observe proper hygiene to curb the spread of the disease (AFP 08/01/2016).

The government in Rivers state has set up a special centre to manage new cases of the disease (local news 16/01/2016).

The population of the affected states is advised by authorities to avoid contact with rats, ensure proper collection and disposal of waste, cover all food and water properly, block all rat hideouts, store food items in rodent-proof containers, avoid ingestion of foods and drinks contaminated by the saliva, urine and faeces of infected rats and avoid catching and preparing infected rats as food (local media 16/01/2016; local media 16/01/2016).

### International response capacity

As part of the efforts to tackle cases of Lassa fever in the country, a partnership is secured with international organizations or institutions (local media 08/01/2016).

## Population coping mechanisms

Residents of the Plateau and Bauchi states, especially in the affected areas, are taking steps in clearing refuse dumps to decongest them of rats' invasion; to sanitize the areas and curb the spread of the disease (local media 16/01/2016).

## Information gaps and needs

There are conflicting information regarding the number of cases and the number of deaths in most of the affected states. It is unclear where the epidemic started.

There are limited information on sectoral needs as a result of the outbreak.

Epidemiological link between the outbreaks of the different states has so far not been established (Outbreak News 16/01/2016).

There is a lack of information on the access to affected areas and on the aid provided. Limited information are also available on the international response.

## Lessons learned

- The 2012 outbreak was reported to be contained effectively, but poor local laboratory capacity, inadequate protective materials, fear among health workers, and inadequate emergency preparedness were key challenges to the response (International Journal of Infectious Diseases, 19/07/2013).
- Inadequate protection material is especially important as person-to-person transmission is common in health care settings where PPE is not available or not used, as well as when in contaminated medical equipment is reused. The failure to ensure these standards of infection prevention was attributed to the death of at least six health workers in the 2012 outbreak and fuels fear among health workers. Additional PPE items should be provide to health care and laboratory workers (CDC 2014).
- Community hygiene programmes can be effective. Discouraging rodents from entering households, improving storage of grain and other foodstuffs in anti-rodent containers, encouraging the disposal of waste far from residential areas, maintaining clean households and keeping cats can help reduce the risk of transmission (WHO 2015).

Map of affected area

Nigeria: Lassa Fever - Total number of deaths, suspected & confirmed cases (as of 14 Jan 2016)

