



# Strategies to Prevent (STOP) Spillover

## Impact Brief – Liberia

### Applying science to understand Lassa virus distribution in the rodent reservoir host

Activity 1.2.6.1: Conduct research to assess the extent of Lassa virus infection prevalence in rodents and humans.

Activity 1.2.6.2: Conduct research to understand the movement of the rodent reservoir hosts of Lassa fever.

### INTRODUCTION

In Liberia, Lassa fever cases have predominantly been reported within the “Lassa belt” (Bong, Lofa, and Nimba counties). A distribution model using Lassa case locations and environmental conditions (precipitation, vegetation cover, and mean and maximum temperatures) predicted the presence of the virus outside the “Lassa belt” (Fichet-Calvet, 2009), and recent outbreaks in Grand Bassa, Margibi, Montserrado, and Grand Kru Counties have confirmed this. Based on these results, we hypothesize that the true distribution of Lassa fever in Liberia extends well beyond the Lassa belt. To test this hypothesis, we are working with the MOH, NPHIL, the MOA, and local communities to collect and test samples from *Mastomys natalensis* and other rodents for the presence of Lassa virus RNA (an indication of infection) in and outside the Lassa belt in Liberia.



Recording data



Taking rodent samples



The activity is conducted in eight (8) communities in specific regions within Nimba (Behplay, Blegay Pa), Bong (Yolota, Camp II, Bong mines), and Grand Bassa (Naglay Town, Compound 3, Barclayville) Counties.



Research technicians, OH-DWG members, and two STOP Spillover staff from Sierra Leone were trained in rodent trapping, doffing and donning personal protective equipment (PPE), sample collection and packaging, and data recording.

## Expected Outcomes

- Government understanding and documentation of the true distribution of Lassa virus in the reservoir host to understand the risk to humans and to inform future research, policy, and public health measures.
- A better understanding of movement patterns by *Mastomys natalensis* to inform effective rodent control strategies.

## ACTIVITY AT A GLANCE

- 100 rodents captured and sampled
- 304 samples collected
- Mus were mostly captured followed by *Mastomys* sp.
- 92% rodents captured in homes
- 83% captured rodents were adults
- 73% captured rodents were female



Rodent trapping team



Photos courtesy of STOP Spillover Liberia team

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