



# Strategies to Prevent (STOP) Spillover

## Impact Brief: Liberia

### Lassa Virus Risk Behavior and Exposure Study

Activity 2.2.2.1: Investigate behavior, practices, and exposure to Lassa virus as related to hunting, handling, and consumption of rodents and household and environmental conditions that are risk factors for Lassa virus infection.

### INTRODUCTION

Rodent hunting is a popular activity in Liberia, primarily among young males aged 10 to 20, posing a potential risk of Lassa virus exposure. Exposure to rodents also occurs through the preparation, primarily by young girls and older women, and consumption of rodents by everyone within households. Several other risk factors contribute to the transmission of the virus, including poor household sanitation (courtyards, kitchens, living spaces, and food and water storage), food preparer practices, and farmer practices. Environmental contamination from trash, open defecation, polluted water sources, and limited access to roads, healthcare, and markets increase the risk at the community level.

To address these concerns, the Lassa virus risk behavior and exposure study (work plan activity 2.2.2.1) was designed to provide further data and evidence upon which to design and implement rodent proofing, and social and behavior change (SBC) interventions to address identified risk factors. The qualitative study built upon findings from earlier Outcome Mapping activities and the Liberia rodent summit that brought key stakeholders together to explore specific knowledge, behaviors, practices, and exposures to rodents potentially carrying the Lassa virus. The study aimed to increase understanding of knowledge related to the Lassa virus (including signs, symptoms, causes, and prevention), farming and hunting activities, food and water storage practices, health-seeking behaviors, traditional practices, beliefs, and environmental and sanitation conditions at both household and community levels. The study covered 12 communities across three counties. A total of 48 focus group discussions, 34 key informant interviews, 36 household observations, and 12 community observations were conducted with males and females, different age groups, and geographic locations to identify differential risks.



*Community leaders participating in a group discussion.*

The risk behavior and exposure study results informed the design of targeted interventions to mitigate the risk of Lassa virus transmission in Liberia.

## Expected Outcomes

- Households, shop owners, and farmers store their food and water using techniques that reduce rodent exposure and contamination.
- Reduced contact between humans and rodents.

## Achievements

- **Identification of High-Risk Activities among Community Members:** Study the behaviors and practices of communities, particularly those engaged in hunting, handling, and consuming rodents, has helped to identify high-risk activities that could lead to virus transmission. This information is crucial for designing targeted public health interventions.
- **Understanding Lassa Fever Transmission Pathways:** Research how the virus is transmitted from rodents to humans through direct contact with contaminated food has provided insights into the most common infection pathways in the studied communities.
- **Informed Prevention Strategies:** The study helped the project team develop prevention strategies aimed at promoting safer rodent control practices, raising awareness about the risks of handling and consuming rodents, and encouraging proper food storage and hygiene.
- **Environmental Risk Factors:** By studying household and environmental conditions, researchers identified factors that contribute to the presence of rodents in human habitats. This information is guiding efforts by the project to reduce rodent populations and limit their access to human living spaces.
- **Health Education and SBC Awareness Activity:** Findings from these investigations form the basis of the project's upcoming health education campaign aimed at educating communities about the risks of Lassa virus infection and providing guidance on minimizing those risks.
- **Policy Formulation:** The government and other public health agencies can use the insight gained from these investigations to develop policies and guidelines to mitigate the transmission of the Lassa virus. These might include food handling and storage regulations and guidelines for safe rodent control.
- **Early Detection and Response:** Understand the risk factors that can lead to developing early detection systems for Lassa fever cases. This enables timely medical intervention and the implementation of control measures to prevent outbreaks.
- **Research and Surveillance:** Investigations generate data that can contribute to ongoing research and surveillance efforts. This data is valuable for monitoring trends in Lassa virus transmission, tracking the effectiveness of interventions, and refining strategies over time.

## Next Steps

- The insight gained from the risk behavior study will play a crucial role in shaping the intervention for rodent-proofing and social and behavior change activities (project activity 2.2.2.2), which will initially be implemented in two counties, Nimba and Grand Bassa.
- The final research report will be shared with USAID, One Health Design Research Mentorship Working Group members, and other local One Health stakeholders including the Ministry of Health, National Public Health Institute of Liberia, and the University of Liberia.