

## **Improving infection prevention and control during Lassa fever outbreaks through behaviour change: An analysis of healthcare worker infections in Nigeria using NCDC situation reports**

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### **Introduction**

Lassa fever (LF) is a viral hemorrhagic illness endemic in Nigeria, with seasonal peaks during the dry season. Despite investments in national guidelines and strengthened infection prevention and control (IPC) measures, healthcare worker (HCW) infections remain a recurrent issue during outbreaks. These infections hinder care delivery, reduce public trust, and reflect structural gaps in IPC implementation, although the guidelines mandate screening areas, immediate isolation, unidirectional flow systems, and barrier nursing protocols, PPE use, hand hygiene, and disinfectants. Persistent HCW infections underscore the need to address HCW behavior in addition to enforcing IPC guidelines. This study examines the association between HCW infections, case fatality rates (CFR), and the overall LF burden to better understand factors influencing outbreak severity and health system weaknesses.

### **Methods**

Weekly Situation Reports (SitReps) from the Nigeria Centre for Disease Control (NCDC), covering April 2024 to April 2025, were reviewed. The study examined the relationship between HCW infections (HCI) and epidemiological indicators

such as CFR, suspected and confirmed cases, and deaths. Data were analyzed by epidemiological week (EPI\_WEEK) using chi-square and logistic linear regression.

### **Results**

Chi-square tests showed a significant association between HCI as an outcome variable and EPI\_WEEK, CFR\_WEEK, and CFR\_WEEK ( $p = .03$ ). In addition, the multivariate logistic regression analysis revealed significant association across these variables ( $p = .002$ ). These findings highlight the association of HCW infections and epidemiological patterns and outcomes of LF response, with emphasis on enhanced, IPC-focused strategies.

### **Conclusion**

The study highlights a significant need for tailored IPC interventions using behavior change strategies. Applying an intervention mapping approach to address healthcare workers' behavior and promote strict adherence to IPC guidelines is essential. This approach is vital to protect health workers during and outside of outbreaks, ensure health system resilience, and improve overall outbreak response outcomes.