Lassa fever sentinel surveillance system evaluation - Kenema district, Sierra Leone, October 2016-September, 2017

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Presentation outline

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Introduction

• Lassa fever (LF)- an acute viral hemorrhagic infection
  – endemic in West Africa

• In Sierra Leone,
  – LF is endemic in Kenema district
  – ~40 cases reported yearly

• Control of LF is dependent on
  – presence of a robust surveillance system
  – to detect and confirm the diagnosis before instituting treatment

• LF sentinel surveillance system (LFSSS)
  – introduced in Kenema district >3 decades ago
  – has never been evaluated to determine its effectiveness in
    guiding LF control efforts

• Thus we set out to:
  – describe and assess the performance of the LFSSS on key attributes
Objectives

• To describe the structure of the LFSSS
• To assess the performance of the LFSSS on key attributes,
  – simplicity,
  – stability,
  – acceptability,
  – positive predictive value
• To determine the usefulness of the LFSSS
Map of Sierra Leone showing study Areas

Study areas
Selected
purposively
(LF High
Endemic)
• We Evaluated LFSSS data, October 2016 to September 2017 in Kenema district
• Developed semi-structured questionnaires based on the CDC guidelines for surveillance system evaluations
• Interviewed 21 key informants:
  – 3 district surveillance officers
  – 3 LF-based laboratorians,
  – 6 clinicians, & 9 community members
• Reviewed
  – case forms, surveillance reports, & the LF database at the district
  – to determine the PVP, timeliness, & data quality
• Performed content analysis of the qualitative data to determine
  – simplicity, acceptability, stability, & usefulness
Results 1/3

Flow chart of patients’ referral system and data flows within the Lassa fever Surveillance System in Kenema District

Suspected case at health facility

District surveillance and Lassa outreach team immediately notified

Patient arrives at holding centre within 24 hours

Blood sample sent to Lassa Laboratory

Specimen Referral

Lab. publish result within 4 hours

Physician shares result with clinical staff

Positive case collected from referring facility; admitted to Lassa ward within 24 hours

Blood sample sent to Lassa Laboratory

Lab. publish result within 4 hours

Physician shares result with clinical staff

Case is then admitted to Lassa ward

DSOs notified about positive case

Feedback to referring facility

Contacts line listed

Laboratory result, case Outcome & outreach data shared with Data Manager
Results 2/3

• 15 to 18 of 21 (71 – 86%) respondents found the LFSSS simple, acceptable, and stable.

• 18 of 21 (86%) respondents found the system not useful because the case definition detected cases too late to save lives.

• Data discrepancy between the health facilities and district based records was 72%.

• PVP was 9.5% as only 23 of the 243 detected by the LFSSS had a positive laboratory confirmation.
• Median time between the dates of onset of symptoms and diagnosis
  • was six days (range 1-22 days)
  • against within seven days standard required to increase chance of survival
Discussion/Conclusions

• Even though more than 2/3 of the respondents found the LFSSS to be simple, acceptable and stable, it was not useful in guiding control efforts because the case definition was not sensitive to guide control measures
Recommendations

MOH and Partners to;

• Consider modification of the current case definition to make it more sensitive

• organize regular inservice trainings for health care workers on LF case management

• initiate processes to improve data quality and to harmonize data management among Lassa fever unit and DHMT
Public health action

• Mobilized resources through collaboration with partners

• Trained and provided job aides to health care providers in affected communities

• Held community stakeholders meeting in Panguma and emphasized the importance of early health care seeking behaviour
Acknowledgments

• Ministry of Health and Sanitation (MoHS)

• District Health Management Teams (DHMT)

• CDC – SL & Atlanta

• AFENET

• eHealth Africa

• SL FETP team – Mentors, Resident Advisor, & Admin staff