ISDS 2019 Conference Abstracts

Improving Integrated Disease Surveillance and Response Capacity in Guinea, 2015-2018

Jennifer Hemingway-Foday, Ousmane Souare, Eileen Reynolds, Boubacar Dialio, Marlyatou Bah, Almamy Karamokoba Kaba, Moussa Kone, Telly Dialio, Nouhan Camara, Mohammed Kante, Siba Guliavogul, Massaran Kante, Pia Macdonald

RTI International, United States

Objecive

The objective is to discuss capacity building for Integrated Disease Surveillance and Response in Guinea and synthesize lessons learned for implementing the Global Health Security Agenda in similar settings.

Introduction

The 2014-2016 Ebola outbreak in Guinea revealed systematic weaknesses in the existing disease surveillance system. The lack of public health workers adequately trained in Integrated Disease Surveillance and Response (IDSR) contributed to underreporting of cases and problems with data completeness, accuracy, and reliability. These data quality issues resulted in difficulty assessing the epidemic's scale and distribution and hindered the control effort [1,2]. In 2015, the Guinean Ministry of Health (MoH) recognized the importance of the IDSR framework as a tool for improving disease surveillance and emphasized IDSR strengthening as a priority activity in the post-Ebola transition [3]. To support this strategic objective, we engaged with the MoH, CDC, and key surveillance partners to strengthen surveillance capacity through a national initiative to improve IDSR tools, including assistance with developing Guinea-specific IDSR technical guidelines, simplified and standardized case notification forms, and supportive job aids to facilitate appropriate IDSR implementation by health workers at all levels of the system.

Methods

The Ebola outbreak highlighted the need for streamlined and standardized case reporting tools that promote accurate application of standard case definitions, adherence to IDSR technical guidelines, and integration of data from clinical and laboratory sources [1]. We partnered with the MoH and CDC to update case notification forms and create job aids for improved IDSR implementation at all health levels. Using a One Health approach, we helped organize and facilitate a series of workshops between the MoH, Ministries of Agriculture and Environment, CDC, national laboratory, and other surveillance partners to review and update the Guinea-specific IDSR priority diseases. This resulted in the identification of 14 priority diseases and events, which are the focus of weekly epidemiological surveillance. By bringing together the Ministries of Health, Agriculture, and Environment, the workshops resulted in improved tools for zoonotic disease detection, reporting, and responses. This included agreement on 3 new zoonotic diseases (anthrax, brucellosis, and rabies) for weekly reporting, as well as recommendations for enhancing surveillance of zoonotic diseases already included in weekly surveillance, such as influenza and Ebola.

To further promote collaboration, we helped establish a technical working group and implemented a series of workshops for the Ministries and surveillance partners to review and revise case notification forms for the 14 priority diseases and events. Within the MoH, we also solicited feedback from health workers at the national, regional, and district levels to identify needs throughout the health system. As a result, each form now has an agreed-upon data collection structure that is consistent with IDSR guidelines. Standardized sections were applied across forms for case identification, notification, hospitalization, actions taken, and feedback tracking. The standardization improves data consistency across forms and establishes familiarity with common data elements, which leads to more complete data capture. Additionally, each form promotes accurate case classification by collecting disease-specific information on risk factors, signs and symptoms, and laboratory analysis and results. The revised forms also use a logical data collection flow that follows the patient’s information from the site of identification, to higher levels of care (if required), laboratory, and the national level, thus improving data integration and completeness. The forms have been incorporated into the national DHIS2 electronic surveillance system, which allows data entry at the district, regional, national, and laboratory level and supports rapid and complete reporting.

Results

The development of revised case notification forms demonstrates an effective, collaborative, One Health approach to IDSR. All three ministries participated in the development and revision of the forms and subsequently, approved and adopted the forms for surveillance of priority diseases. This One Health approach has provided the Government of Guinea with a framework for identifying and strengthening surveillance of its five zoonotic diseases of greatest public health concern, which enables measurement of progress towards achieving the objectives of the GHSA Zoonotic Disease Action Package.

We collaborated with the MoH to launch nationwide training of trainers for the new case notification forms, including the use of DHIS2 to manage, report, analyze, and present data. The training of trainers produced a cadre of 55 trainers, representing the participating ministries, national laboratory, and key surveillance partners such as WHO. By the end of 2018, IDSR training will cover health workers at all levels of the system in all 38 of Guinea's health districts.

Incorporating DHIS2 as a platform for managing case data further demonstrates Guinea's capacity to conduct event-based surveillance and track the 14 priority diseases and events in real-time, an essential indicator of the GHSA Real-time Surveillance Action Package.

Conclusions

Guinea's IDSR strengthening activities are an important step towards achieving the GHSA objective of establishing a functional public health surveillance system capable of detecting events of significance for public health, animal health, and health security. The updated case notification forms, coupled with the use of DHIS2 for real-time reporting, provide critical tools to promote more complete, accurate, and timely data; however, successful implementation will rely on effectively training health workers throughout the system and providing on-going supportive supervision. The multi-sectoral approach to developing IDSR tools helped establish a foundation for future collaboration across ministries using a One Health approach to strengthen Guinea's national health surveillance system. While the IDSR activities have focused heavily on building capacity for human disease surveillance, it is critical that similar attention is given to animal health. The MoH and surveillance partners should continue to work with the Ministries of Agriculture and Environment to build surveillance capacity for detecting and controlling zoonotic threats while they are still in animal populations and to develop compatible human and animal surveillance data fields for more efficient, integrated data systems.

Acknowledgements

This work is supported by funding provided by the Centers for Disease Control and Prevention Cooperative Agreement 1U19GH001591-01.

References

1. McNamara LA, Schafer IJ, Nolen LD, Gorina Y, Redd JT, et al. 2016. Ebola surveillance – Guinea, Liberia, and Sierra Leone. *MMWR Suppl*. 65(3), 35-43. doi:https://doi.org/10.15585/mmwr.su6503a6. PubMed
2. Bell BP, Damon IK, Jernigan DB, et al. 2016. Overview, Control Strategies, and Lessons Learned in the CDC Response to the 2014–2016 Ebola Epidemic. *MMWR Suppl*. 65(Suppl-3), 4-11. doi:https://doi.org/10.15585/mmwr.su6503a2. PubMed
3. Ministere de la Santé-République de Guinée, Direction Nationale de la Prevention et Santé Communautaire, Division Prevention et Lutte Contre la Maladie. Plan de Renforcement de la Surveillance des Maladies à Potentiel Epidémique en Guinée (2015-2017), August 2015.