



Strengthening laboratory data utilisation at Kampala Capital City Authority Regional Public Health Emergency Operation Centre during Ebola Bundibugyo Outbreak, Uganda, June 2026

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Summary

Background: Timely laboratory reporting is essential for situational awareness and decision-making during outbreak response. Following confirmation of the Bundibugyo virus disease outbreak in Uganda in May 2026, the national laboratory pillar monitored daily laboratory situation reports (sitreps) submitted through the Outbreak Investigation System (OIS). However, none of the five Kampala Capital City Authority (KCCA) divisions was submitting laboratory sitreps. We assessed barriers to laboratory sitrep reporting and implemented targeted measures to strengthen reporting, coordination, and laboratory data utilisation within KCCA during the outbreak.

Methods: From 15–19 June 2026, we conducted an operational assessment and provided onsite technical support at the KCCA Regional Public Health Emergency Operations Centre. Meetings with Division Laboratory Focal Persons (DLFPs) were used to identify reporting barriers. In collaboration with the Central Public Health Laboratories information technology team, OIS accounts were created for all five DLFPs, followed by training and mentorship on sitrep reporting. A WhatsApp group was established to support communication and reporting, and advocacy was undertaken for designation of a regional laboratory pillar lead. Sitrep submission was subsequently monitored through July 2026.

Results: Before the intervention, none of the five KCCA divisions submitted laboratory sitreps through OIS. Accounts were subsequently created for all five DLFPs. Following the intervention, sitrep submission increased to two reporting divisions. A draft assignment letter for a regional laboratory pillar lead was submitted to the KCCA Incident Management Team. The proposed lead also received mentorship in laboratory data analysis and presentation and subsequently presented one laboratory update to the national laboratory pillar.

Conclusion: Laboratory sitrep submission increased following targeted technical support, although reporting remained incomplete. Establishing functional reporting access, strengthening mentorship and coordination, and formally designating a regional laboratory pillar lead may help sustain timely laboratory reporting and data use across KCCA divisions during outbreak response.



Background

Uganda confirmed an outbreak of Ebola disease caused by Bundibugyo virus in May 2026 following detection of imported cases from the Democratic Republic of the Congo. The outbreak required rapid activation of surveillance, laboratory testing, case management, contact tracing, and coordination mechanisms to support timely detection and response(1,2).

Laboratory systems are central to outbreak response, providing diagnostic confirmation and information required for surveillance and public health decision-making. During the outbreak, the national laboratory pillar coordinated specimen collection, packaging and transport, referral, diagnostic testing, electronic request and result reporting, capacity building, and daily laboratory situation reporting(3,4).

Timely and complete laboratory reporting supports situational awareness, coordination, and evidence-informed decision-making during public health emergencies. The World Health Organization Integrated Disease Surveillance and Response guidelines emphasize timely reporting, verification, analysis, and use of surveillance information for public health action(5) . However, effective electronic reporting may be constrained by limited access to reporting systems, inadequate training, unclear coordination structures, and workforce limitations(3,5–7).

During national laboratory pillar meetings, it was observed that daily laboratory sitreps were not being submitted from Kampala Capital City Authority through the Outbreak Investigation System. This limited the availability of routine laboratory information for coordination and decision-making. We assessed barriers to laboratory sitrep reporting and implemented targeted measures to strengthen reporting, coordination, and laboratory data utilisation within KCCA during the outbreak.

Methods

Kampala Capital City Authority (KCCA) comprises five administrative divisions: Central, Kawempe, Makindye, Rubaga, and Nakawa. During the Ebola Bundibugyo outbreak, the Kampala Metropolitan Regional Public Health Emergency Operations Centre (EOC) coordinated response activities across these divisions. The EOC's mandate covered surveillance, laboratory reporting, and coordination of public health interventions within all KCCA divisions.

From 15–19 June 2026, we conducted an operational assessment and provided targeted technical support to strengthen laboratory reporting and data utilisation. Entry meetings were held with the Regional Emergency Operations Centre and Division Laboratory Focal Persons (DLFPs) to identify barriers to daily laboratory situation report (sitrep) submission and agree on corrective actions.

In collaboration with the Central Public Health Laboratories information technology team, we implemented interventions to strengthen laboratory reporting: creation of outbreak Investigation System (OIS) accounts and training of all the five DLFPs on



daily sitrep submission. Sitreps captured key laboratory-response information, including alerts, specimens collected, results received, turnaround times, availability of laboratory supplies, challenges, and planned actions. A WhatsApp group was established to strengthen communication and coordination between DLFPs and the proposed regional laboratory pillar lead. We also engaged the KCCA Incident Management Team to advocate for formal designation of a regional laboratory pillar lead and provided mentorship to the proposed lead in laboratory data analysis and presentation.

We compared laboratory sitrep submission before and after the intervention and reviewed feedback from DLFPs and the Regional Emergency Operations Centre to identify persistent reporting barriers. Sitrep submission was monitored through July 2026.

The activity was conducted as part of the Ministry of Health public health emergency response under the national laboratory pillar and was reviewed and approved by the Commissioner of Laboratory Services. Data used for the assessment were aggregated laboratory reporting records without patient identifiers. Confidentiality and data security were maintained throughout.

Results

Entry meetings with the Regional Emergency Operations Centre and Division Laboratory Focal Persons (DLFPs) identified several barriers to laboratory sitrep reporting. Although DLFPs had functional Integrated Request and Results Dispatch System (IRRDS) accounts, none had access to the Outbreak Investigation System (OIS). Other identified barriers included absence of a designated regional laboratory focal person, limited access to internet data bundles, competing responsibilities among DLFPs, reporting requirements for information not routinely available within laboratory records, and duplication of reporting across multiple national systems.

OIS accounts were created for all five DLFPs (5/5; 100%), and all five received training on daily sitrep submission. Reporting initially remained delayed because KCCA divisions were configured under Kampala District in OIS and required re-mapping before division-level reporting could begin. By the third week, two of the five divisions were submitting sitreps, increasing submission from 0/5 (0%) to 2/5 (40%).

A WhatsApp group linking DLFPs and the proposed regional laboratory pillar lead was established to support communication, reminders, and troubleshooting. Feedback from participants indicated improved coordination and more rapid resolution of reporting challenges.

Advocacy for regional laboratory leadership resulted in submission of a draft assignment letter for a regional laboratory pillar lead to the KCCA Incident Management Team. The proposed lead also received mentorship in laboratory data analysis and presentation and subsequently presented one laboratory update to the national laboratory pillar.



Discussion

The findings demonstrate that operational challenges, rather than technical limitations, were the primary barriers to effective laboratory reporting during the KCCA regional Ebola response. Although laboratory focal persons participated in surveillance activities and used other platforms such as Integrated Request and Results Dispatch System (IRRDS), lack of access to the laboratory SitRep system limited their contribution to daily situational reporting. Simple measures, including account creation, user training, and ongoing mentorship, can rapidly improve reporting compliance and data utilization. Increased use of the laboratory SitRep platform following training supports evidence that robust laboratory information systems strengthen situational awareness and emergency response coordination (5). Improved utilization may enhance the timeliness and accuracy of surveillance data, which are essential for evidence-based outbreak response and resource allocation (7).

The absence of a dedicated regional laboratory focal person was a significant gap, affecting coordination and accountability. Similar challenges have been documented in emergency response settings, where clearly defined roles and responsibilities are essential for timely information management and decision-making (6,7). This finding is consistent with evidence from Uganda's PHEOC experience, which emphasizes defined coordination structures and dedicated personnel as critical components of effective emergency response systems (6). Designating a coordinating focal person could strengthen regional laboratory oversight and improve data completeness. Systemic barriers included competing responsibilities, inadequate internet resources, and duplication of reporting across multiple national systems. These factors may contribute to reporting fatigue and compromise data quality and timeliness. Similar findings from outbreak responses in other low- and middle-income countries indicate that multiple reporting platforms and competing responsibilities can reduce data completeness and timeliness (4).

Harmonizing laboratory reporting systems and aligning data requirements with routinely available laboratory records could reduce workload and improve sustainability. These findings also underscore the importance of strengthening laboratory participation in surveillance systems, as recommended by the IDSR framework (3).

Study limitations: This study has several limitations. First, it covered only five divisions within one region over a five-day period, which restricts the generalisability of the findings to other regional Emergency Operations Centres (EOCs) in Uganda. Second, submission was measured as the proportion of divisions submitting sitreps, rather than the completeness or accuracy of the data submitted. A division counted as "submitting" may still have reported inconsistently or with gaps. Third, there was no comparison period or control group, so improvements in reporting cannot be attributed to the intervention with certainty. Fourth, the follow-up period was short, and it is unknown whether the observed 40% submission rate was sustained beyond the immediate support period. These limitations highlight the need for longer-term monitoring, and more rigorous evaluation designs to confirm the effectiveness and sustainability of such interventions.



Conclusion: The creation of OIS user accounts and training of Division Laboratory Focal Persons (DLFPs) improved access to the reporting system and led to submission of daily sitreps by two of five divisions. These findings demonstrate that targeted technical physical support can strengthen laboratory reporting compliance during outbreak response. Sustaining these gains will require formal appointment of a regional laboratory pillar lead, provision of adequate resources, and harmonisation of reporting systems. To strengthen laboratory data reporting within the Kampala Capital City Authority (KCCA) regional Ebola response, it is essential to assign a dedicated regional laboratory focal person who can provide oversight, accountability, and coordination across all divisions. In addition, efforts should be made by the national pillar to harmonise laboratory reporting systems so that duplication is reduced and time spent on multiple platforms is minimised, thereby improving efficiency. Finally, there is a need to review existing systems to ensure that only data routinely available in laboratory records are captured, which will streamline reporting processes and reduce unnecessary workload for Division Laboratory Focal Persons.

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Author contribution: FNM took lead in supporting the response at KCCA with supervision from GS. All authors GS, WA, and EA. read and approved the final bulletin.

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