



Short Communication

Regional signals preceding the 2026 Bundibugyo virus disease outbreak

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ABSTRACT

Objective: The May 2026 Bundibugyo virus disease outbreak in the Democratic Republic of the Congo (DRC) was declared a Public Health Emergency of International Concern after substantial undetected community transmission. We describe regional surveillance signals reported by the Biothreats Emergence, Analysis, and Communications Network (BEACON), our open-access event-based surveillance program, in the weeks preceding outbreak declaration.

Methods: We reviewed BEACON reports of viral hemorrhagic fever (VHF)-compatible illness clusters detected in the transboundary DRC-Uganda-Burundi-South Sudan region during March–April 2026, before the May 15 laboratory confirmation of Bundibugyo virus (BDBV).

Results: BEACON detected four temporally proximal viral hemorrhagic fever (VHF) compatible illness signals: (i) March 9, North Kivu Province—suspected Ebola case under investigation with unresolved laboratory results; (ii) March 10, Kasai Province—fatal hemorrhagic illness with secondary cases and negative Ebola polymerase chain reaction; (iii) March 30, Burundi—35 cases of undiagnosed cluster near the DRC border with five deaths, negative testing for major filoviruses and >200 pathogens, pending metagenomic sequencing; and (iv) April 22, South Sudan—three suspected VHF cases with negative initial testing. All four signals shared a similar diagnostic phenotype: VHF-compatible presentation, mobilization of investigation teams, negative initial testing, and no publicly reported confirmed etiology. None were formally reported to have been resolved.

Conclusion: Our detection of four unresolved VHF like signals preceding the confirmed BDBV outbreak highlights possible gaps in follow-up mechanisms for cases negative for common pathogens. In light of confirmed BDBV circulation and Africa Centers for Disease Control's identification of 10 countries at high risk for spread, these preceding signals warrant urgent retrospective investigation.

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When the World Health Organization (WHO) declared the Bundibugyo virus (BDBV) disease outbreak in the Democratic Republic of the Congo (DRC) and Uganda a Public Health Emergency of International Concern on May 17, 2026, the epidemiology was already telling us that we were late [1,2]. Eight of the first 13 samples submitted to the Institut National de Recherche Biomédicale (INRB) returned positive for the Bundibugyo virus. By June 17, 896 confirmed cases and 234 confirmed deaths have been reported in DRC's Ituri, North Kivu, and South Kivu provinces, with spread to multiple urban centers. Uganda has 19 confirmed cases and two deaths, of which 15 cases have direct epidemiologic links to the DRC [3]. There remains uncertainty about the true number of infec-

tions and how far the virus has spread. Health care worker deaths in clinical contexts consistent with viral hemorrhagic fever (VHF) had been reported in multiple sites at first declaration of the outbreak. The official investigation was anchored, in retrospect, to the death of a nurse in Bunia on April 24, 2026 and funeral-related exposures that followed. Recent data show the outbreak began well before this date.

Evidence of prolonged pre-notification transmission

Several features of case ascertainment to date suggest that what we are now witnessing is not the early shoulder of an emerging outbreak but the surfacing of one that had been propagating for some time. The geographic dispersion of cases across multiple health zones and into urban centers, the absence of clear epidemi-

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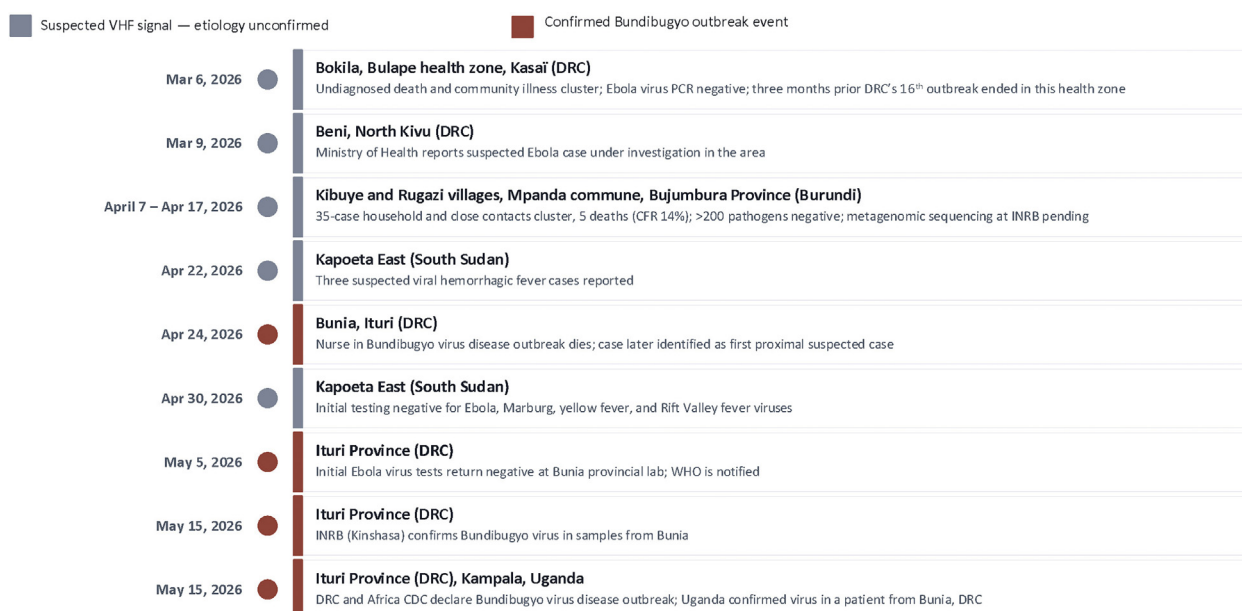


Figure 1. Timeline of BEACON-reported viral hemorrhagic fever like disease events preceding the outbreak declaration of the 2026 Bundibugyo virus disease outbreak in Democratic Republic of Congo.

ologic links between many early confirmed cases, the laboratory-confirmation of cases in areas of conflict which surveillance teams currently have limited access, and a high initial test positivity rate to date all point to substantial undetected community transmission preceding the May 14 laboratory confirmation. In addition, recent phylogenetic analysis of sequences from confirmed patients in this outbreak also support that transmission has been ongoing for at least a month and a half [4]. For many of these reasons, the Africa Centers for Disease Control (CDC) has placed 10 additional countries at high risk for regional spread: South Sudan, Rwanda, Kenya, Zambia, the Central African Republic, Tanzania, Ethiopia, Angola, the Republic of the Congo, and Burundi [5].

Initial samples collected on May 5 returned negative on routine Ebola testing because the standard Ebola Xpert test assay used at the Provincial Public Health Laboratory in Bunia does not detect BDBV [1]. Bundibugyo virus disease, like other filovirus diseases, may present indistinguishably from many regional febrile illnesses in its early phases. If the outbreak had been moving through eastern DRC for weeks or longer before laboratory confirmation, we should ask whether any signals reached the surveillance ecosystem during that period. At [Biothreats Emergence, Analysis, and Communications Network \(BEACON\)](#), an open-access, event-based surveillance program [6], we reported four such events in the region in the weeks preceding the Ituri outbreak declaration (Figure 1). We summarize them here not to assert that they are necessarily part of the current Bundibugyo outbreak but to highlight the recent frequency of VHF signals with negative testing noted in the area. We also hope this leads to further inquiry into earlier outbreaks.

Similar signals in the region

We define signals as any information shared on disease events by multiple local media sources, regional or provincial public authorities, or national agencies.

On March 9, 2026, BEACON issued a request for information on a suspected Ebola virus disease case under field investigation in the Beni health zone of North Kivu Province, DRC [7]. The DRC Ministry of Health formally acknowledged the case that evening in their epidemiological situation update. Patient demo-

graphics, clinical course, and laboratory results were never publicly resolved.

On March 10, BEACON issued a request for information after a patient died on March 6 in the Bokila village of an illness characterized by severe headache, vomiting, diarrhea, and hematemesis; several community members reportedly also had similar symptoms. The incident occurred in the Bulape health zone of Kasai Province about 3 months after the conclusion of the country's 16th declared Ebola outbreak in that area [8]. The local health facility requested basic personal protective equipment to manage suspected cases. By March 19, BEACON received unofficial reports that the index patient's Ebola polymerase chain reaction was negative; no public results were issued for additional VHF assays, and follow-up information on the other symptomatic individuals did not, to the best of our knowledge, enter the public record [9].

On March 30, 2026, an undiagnosed illness cluster was reported in the Kibuye and Rugazi villages of Mpanda commune, Bujumbura Province, Burundi, near the border with the DRC, which eventually affected 35 individuals among members of the same household and their close contacts, with five deaths (case fatality rate 14%) [10]. Clinical presentation included fever, vomiting, diarrhea, hematuria, jaundice, anemia, and, in severe cases, neurologic involvement and respiratory distress. With support from the WHO, United Nations Children's Fund (UNICEF), and Africa CDC, the Burundi Ministry of Public Health led an investigation that ruled out Ebola virus, Marburg virus, yellow fever virus, Rift Valley fever virus, and Crimean-Congo hemorrhagic fever virus; subsequent testing for more than 200 pathogens was negative, and patient samples were sent to the INRB in the DRC for metagenomic sequencing, with results pending [11]. No additional cases were detected beyond the initial cluster.

On April 22, 2026—2 days before the death of the nurse in Bunia that would later anchor the Ituri investigation—WHO South Sudan announced three suspected VHF cases in Lotimor, Kapoeta East County, Eastern Equatoria State [12]. On April 30, Africa CDC reported that initial testing at the National Public Health Laboratory in Juba had returned negative for Ebola virus, Marburg virus, yellow fever virus, and Rift Valley fever virus [13]. No further etiology has been publicly established.

What we can and cannot conclude

Although all of the previously described events were temporally proximal, four of them, including the current outbreak, occurred within a broader transboundary mobility network linking eastern DRC, including Ituri and North Kivu, with neighboring South Sudan and Burundi. The affected regions of eastern DRC during the current outbreak are already burdened by conflict, population displacement, cross-border movement, and increasing endemic infectious disease threats. These factors and fragmentation have likely made epidemiologic investigation and laboratory surveillance difficult. The March event in Kasai is geographically distant from these signals.

In many cases, these types of events are generally attributable to more common endemic diseases which can present like VHF. What makes these signals unique is that they shared a similar diagnostic phenotype: a small number of clinical cases, consistent with VHF resulting in mobilization of investigation teams; various degrees of pathogen-specific testing; and no publicly reported confirmed etiology. We believe they deserve a deeper investigation in relation to the current event and as independent events carrying a potential risk of their own. These events also highlight that similar to the current outbreak; the region often sees clusters of cases which remain undiagnosed, making what happened at the beginning of the current Bundibugyo outbreak an anomaly only in the fact that cases continued to grow. Although there may be more information available about the other signals discussed here with public health authorities, no publicly available resolution was shared. In light of the current outbreak, such information would be valuable for regional risk assessment.

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Ethical approval

Ethical approval was not required for this study because it is based entirely on publicly available data and does not involve human participants, identifiable personal data, or animal subjects.

Declaration of competing interest

The authors have no competing interests to declare.

CRediT authorship contribution statement

Nahid Bhadelia: Conceptualization, Data curation, Formal analysis, Methodology, Visualization, Writing – original draft, Writing – review & editing. **Isaac Gikandi:** Data curation, Formal analysis. **Britta Lassmann:** Conceptualization, Formal analysis, Writing – review & editing.

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