



OUTBREAK RESPONSE BRIEFING

Bundibugyo Virus Disease (BDVD)

From discovery science to today's response priorities

Newly Discovered Ebola Virus Associated with Hemorrhagic Fever Outbreak in Uganda*


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1

1

Historical anchor: the 2007 Uganda outbreak

Bundibugyo was recognized as a newly discovered ebolavirus species.



What happened in 2007

- Initial cases appeared in Bundibugyo and Kikyo, western Uganda.
- Outbreak investigation identified a novel ebolavirus species
- Reported outbreak scale: 149 suspected cases and 37 deaths
- Rapid assay development enabled targeted case identification and isolation

Bridge to today: Discovery work becomes preparedness infrastructure: the knowledge, tools, networks, datasets, labs, protocols, trained people, and partnerships created through research should not disappear after a study ends. They should become part of the system that helps a country or region detect, understand, and respond faster to future epidemic

Sources: PLOS Pathogens 2008; CDC/PLOS publication details.

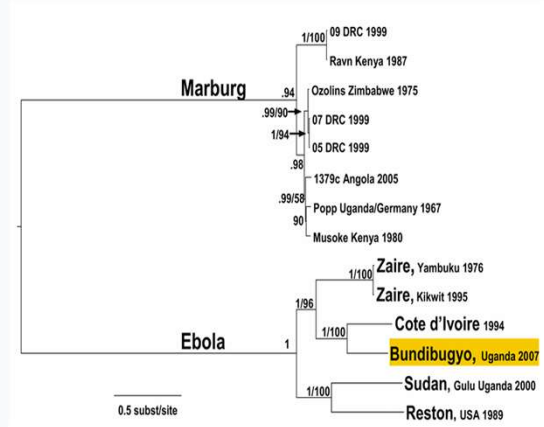
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2

2

Geographic locations of Ebola HF outbreaks and phylogenetic relationships of representative filoviruses



Sources: PLOS Pathogens 2008; CDC/PLOS publication details.

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What the paper discovered

Bundibugyo virus was genetically distinct enough to affect diagnostics and countermeasures.

>30% genome-level difference from other known ebolavirus species

Distinct lineage: closest but still distant to Tai Forest/Côte d'Ivoire ebolavirus.

Known-species molecular assays were not sufficient for identification.

Random-primed sequencing generated >70% of the genome quickly enough to support response.

Implication: outbreak systems need adaptable assay design and genomic surveillance.



Source: Towner et al., PLOS Pathogens, 2008.

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Executive message


The 2007 discovery paper is a practical playbook for the current response.

The key lesson: do not assume known-species tools are enough




DETECT

Use broad filovirus screening + Bundibugyo-specific confirmation




ISOLATE

Move suspected cases rapidly to safe care pathways




TRACE

Monitor contacts for 21 days and map mobility routes



PROTECT

Prioritize IPC and health-worker safety



ENGAGE

Build trust through culturally grounded risk communication


Because Bundibugyo ebolavirus is genetically distinct, outbreak response must use broad detection, Bundibugyo-specific confirmation, sequencing, and countermeasures evaluated for this virus—not tools designed only for other Ebola species..

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5

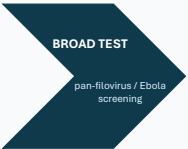
Diagnostic pathway: design for uncertainty

A resilient response starts broad, confirms specifically, then sequences for intelligence.




SUSPECT CASE

clinical screen + exposure history




BROAD TEST

pan-filovirus / Ebola screening




CONFIRM

Bundibugyo-specific PCR



SEQUENCE

lineage, links, mutation



ACT

isolate, trace, target IPC

Initial known-species assays were negative; broad methods and sequencing enabled Bundibugyo-specific testing

Sources: PLOS Pathogens 2008; WHO Disease Outbreak News, 17 May 2026. Draft for outbreak-response briefing | RESERVE UGANDA Update epidemiologic numbers from latest SitRep before presenting 6

6

Then vs now: the same response logic at higher speed

The historical paper is operationally relevant

2007 discovery outbreak		Current outbreak options
Known-species assays missed the novel virus	→	Detection → Broad screening + BDBV-specific confirmation
>70% genome generated rapidly	→	Genomics → Near-real-time sequencing to confirm chains
Western Uganda focus	→	Geography → DRC focus with Uganda importation risk
Species divergence raised concerns	→	Countermeasures → No approved BDBV-specific vaccine/treatment yet
Assay transfer supported isolation	→	Operations → Decentralized testing + IPC + contact tracing


Sources: PLOS Pathogens 2008; WHO Disease Outbreak News, 17 May 2026.

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Epidemiologic risks to emphasize

Transmission control depends on fast case detection, safe care and movement-aware surveillance.



- Cross-border mobility**

Confirmed Kampala cases followed travel from DRC; surveillance must connect borders, transport routes and urban care-seeking.
- Health-facility exposure**

Deaths among health workers signal IPC gaps and risk of amplification in care settings.
- Community deaths**

Safe, dignified burials and community death reporting are central to stopping transmission.

Source: WHO Disease Outbreak News, 17 May 2026.

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Clinical and case-management priorities

Care goals: identify early, isolate safely, support aggressively, discharge with species-specific criteria.

01

Clinical suspicion

Fever, weakness, body pain, vomiting, diarrhea; bleeding may occur but is not always present.

02

Immediate action

Mask and isolate suspected cases; collect samples safely; activate referral and IPC teams.

03

Treatment reality

No approved Bundibugyo-specific treatment; optimize supportive care and research pathways.

04

Discharge logic

Use Bundibugyo-specific negative testing per national/WHO guidance before release or transfer.

Message for responders: early safe care saves lives and reduces onward transmission.

Sources: CDC Health Advisory 2026; WHO Disease Outbreak News, 17 May 2026.

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9

Infection prevention and control: the protection layer

IPC failures can turn health facilities into transmission accelerators.



IPC package to feature

- Triage and isolation at every first-contact facility.
- PPE supplies plus supervised donning/doffing practice.
- Safe sample collection, packaging and transport.
- Decontamination, waste management and safe burial interfaces.
- Health-worker monitoring, exposure documentation and psychosocial support.

Prioritize health-worker safety as a core outbreak metric.

Source: WHO Disease Outbreak News, 17 May 2026.

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10

Surveillance, contact tracing and border health

Make the invisible transmission network visible within 24–48 hours.

Operational must-haves

- Daily 21-day contact follow-up
- Line lists linked to lab results and locations
- Cross-border alerts for exposed travelers
- Rapid escalation for **missed contacts or deaths**

Sources: WHO Disease Outbreak News, 17 May 2026; CDC Ebola clinical guidance.

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11

Vaccines, therapeutics and research gaps

Bundibugyo-specific countermeasures remain a critical preparedness gap.

The paper warned that genetic divergence matters for countermeasure planning.

No approved BDBV-specific vaccine

Avoid assuming Ebola-Zaire vaccines protect against Bundibugyo

No approved BDBV-specific treatment

Supportive care remains central while trial pathways are evaluated

Research during response

Ethics, consent, sample sharing, survivor follow-up and rapid data use

Decision point for leadership: prepare research-enabling protocols now, not after transmission expands

Sources: PLOS Pathogens 2008; WHO Disease Outbreak News, 17 May 2026; CDC HAN 2026.

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12

Priority actions for the ongoing response

A concise checklist for leadership, technical teams and partners.

- | | | |
|----------|---------------------------------------------|------------------------------------------------------|
| 1 | Confirm every suspected case quickly | Broad screen + BDBV-specific PCR + sequencing |
| 2 | Break transmission chains | Isolation, 21-day contact follow-up, movement alerts |
| 3 | Protect health workers | IPC supervision, PPE, exposure management |
| 4 | Win community trust | Local leaders, safe burials, anti-stigma messaging |
| 5 | Prepare countermeasure research | Trial readiness and survivor follow-up protocols |

The faster we convert science into field operations, the smaller the outbreak becomes

Synthesis from PLoS Pathogens 2008, WHO, CDC and current outbreak-response guidance.

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13

References

1. Towner JS, Sealy TK, Khristova ML, Albariño CG, Conlan S, Reeder SA, Quan PL, Lipkin WI, Downing R, Tappero JW, Okware S, Lutwama J, Bakamutumaho B, Kayiwa J, Comer JA, Rollin PE, Ksiazek TG, Nichol ST. Newly discovered ebola virus associated with hemorrhagic fever outbreak in Uganda. *PLoS Pathog.* 2008 Nov;4(11):e1000212. doi: 10.1371/journal.ppat.1000212. Epub 2008 Nov 21. PMID: 19023410; PMCID: PMC2581435.
2. WHO Disease Outbreak News: Epidemic of Ebola disease caused by Bundibugyo virus in DRC and Uganda determined a PHEIC, 17 May 2026.
3. CDC Health Alert Network / Ebola disease caused by Bundibugyo virus, 2026.
4. Virological.org / Pathoplexus genome updates for the May 2026 Bundibugyo outbreak.

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14

14