AfricaCDC
Centres for Disease Control and Prevention

Safeguarding Africa's Health

BUNDIBUGYO VIRUS DISEASE

OVERVIEW

Bundibugyo ebolavirus (BDBV) is a member of the Filoviridae family, genus Orthoebolavirus, which comprises filamentous, enveloped RNA viruses responsible for severe viral hemorrhagic fevers. First identified in 2007 during an outbreak in Bundibugyo District, western Uganda, BDBV represents one of the four ebolavirus species known to cause human disease, alongside Zaire, Sudan, and Taï Forest ebolaviruses.

The case fatality rate for Bundibugyo ebolavirus ranges from approximately 25% to 36%, significantly lower than that of Zaire ebolavirus (60–90%). However, CFR varies across outbreaks depending on the timeliness of detection and isolation, access to supportive care (e.g., hydration, intensive monitoring), strength of health systems and outbreak response, and community engagement and adherence to control measures. Even with a comparatively lower CFR, BDBV outbreaks can exert a substantial burden on health systems and communities.

Although BDBV is generally associated with a lower-case fatality rate compared to Zaire ebolavirus, it remains a highly pathogenic agent capable of causing large-scale outbreaks with significant morbidity and mortality. Its epidemiological and clinical features underscore its classification as a WHO priority pathogen, given its epidemic potential and limited countermeasures.

CURRENT EPIDEMIOLOGY

An outbreak of Bundibugyo Ebola virus disease has been reported in Ituri Province in the eastern DRC, with epidemiological investigations indicating that the outbreak likely originated in the mining-intensive Mongbwalu Health Zone. The area is characterized by intense population mobility, informal artisanal mining, overcrowded living conditions, weak health infrastructure, insecurity linked to armed group activity, and extensive cross-border interactions, all of which create favorable conditions for rapid disease amplification and regional spread. Cases subsequently migrated to Rwampara Health Zone and Bunia Health Zone as symptomatic individuals sought medical care, increasing the risk of urban transmission and healthcare-associated spread. Ituri Province shares porous borders with Uganda and South Sudan, while Bunia lies along a major regional trade and transport corridor linking eastern DRC to neighboring countries.

These geographic, economic, and sociopolitical dynamics significantly heighten the risk of cross-border transmission and regional dissemination of the virus. As of 20 May 2026, surveillance data indicate 543 suspected cases, including 33 laboratory-confirmed cases and 136 deaths were recorded in DRC, while Uganda has reported two laboratory-confirmed imported cases linked to recent travel from eastern DRC. [1]However, these figures likely underestimate the true scale of transmission, delayed reporting, limited laboratory confirmation capacity, insecurity, and gaps in community-based

[1]https://www.afro.who.int/countries/democratic-republic-of-congo/publication/ebola-bundibugyo-virus-disease-outbreak-democratic-republic-congo-uganda-weekly-external-situation

surveillance. Epidemiological investigations suggest widespread community transmission across multiple health zones in Ituri Province, with concentration in mining and transport corridors characterized by intense population movement and frequent cross-border mobility.

MODE OF TRANSMISSION

BDBV is a zoonotic pathogen, with strong evidence implicating fruit bats (family Pteropodidae) as its primary natural reservoir. Spillover events are thought to occur through human interaction with infected wildlife, particularly bats and non-human primates.

» Animal-to-human transmission

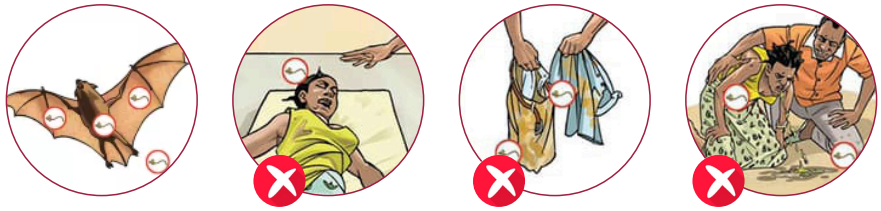
Occurs through direct contact with infected animals' blood, tissues, or bodily fluids during hunting, slaughtering, or consumption of bushmeat.

» Human-to-human transmission

Primarily via direct contact with infectious bodily fluids, including blood, vomit, feces, urine, saliva, breast milk, and semen. Transmission may also occur through:

» Contaminated fomites (e.g., bedding, medical equipment)
» Unsafe healthcare practices (e.g., reuse of needles)
» Traditional burial rituals involving contact with the deceased

Transmission risk increases significantly during advanced stages of illness, when viral loads are highest, and remains elevated in post-mortem handling of bodies.



CLINICAL PRESENTATION

The clinical course of Ebola Virus Disease (EVD) caused by BDBV typically progresses through distinct phases following an incubation period of 2–21 days (most commonly 6–10 days). Importantly, individuals are not infectious during the incubation period.

Early phase (non-specific symptoms): Acute onset of fever and chills, severe headache and malaise, myalgia and arthralgia, and sore throat and anorexia. This phase often resembles the symptoms of endemic febrile illnesses such as malaria or typhoid, complicating early detection.

Gastrointestinal and systemic phase (days 3–7): Persistent nausea, vomiting, and profuse diarrhea (often leading to dehydration), abdominal pain, conjunctival injection (red eyes), maculopapular rash, and evidence of hepatic and renal dysfunction.

Hemorrhagic manifestations: Although not universal, bleeding may occur in some patients: epistaxis, gingival bleeding, hematemesis or melena, hematuria, and oozing from puncture or injection sites.
Late-stage disease: Hypovolemic shock, multi-organ failure, neurological impairment, and death in severe cases without adequate supportive care.

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DIAGNOSIS (LABORATORY)

Accurate and timely laboratory diagnosis is essential for outbreak control and case management.

Diagnostic approaches

» **Reverse transcription polymerase chain reaction (RT-PCR):**
The gold standard for early detection, capable of identifying viral RNA in blood or oral swabs during the acute phase.

» **Serological methods:**
Antigen detection assays and IgM/IgG ELISA (useful in later stages or for retrospective diagnosis)

All specimens suspected of containing ebolaviruses must be handled under Biosafety Level 4 (BSL-4) conditions due to the high risk of laboratory-acquired infection.

TREATMENT AND MEDICAL MANAGEMENT

Currently, there is no specific antiviral therapy licensed exclusively for BDBV, making supportive care the cornerstone of treatment.

Key management strategies

» **Fluid and electrolyte replacement:** Aggressive rehydration to counteract losses from vomiting and diarrhea
» **Hemodynamic support:** Maintenance of blood pressure and oxygenation
» **Management of complications:** Blood transfusions or clotting support for hemorrhage and treatment of co-infections (e.g., malaria, bacterial infections).

Therapeutics

» Monoclonal antibodies (e.g., Inmazeb™, Ansuvimab) are approved for Zaire ebolavirus; their effectiveness against BDBV remains under investigation.
» Experimental antivirals such as remdesivir may be used under compassionate or research protocols.

Vaccines

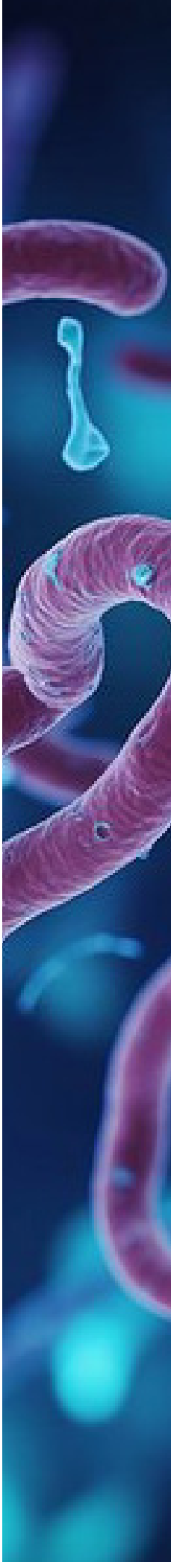
» The rVSV-ZEBOV (Ervebo®) vaccine targets Zaire ebolavirus and does not provide confirmed protection against BDBV.
» Research into multivalent or broadly protective vaccines is ongoing.

INFECTION PREVENTION AND CONTROL

Effective outbreak containment relies on integrated infection prevention and control (IPC) strategies.

Core measures

» Rapid identification and isolation of suspected cases
» Implementation of strict barrier nursing practices, including:



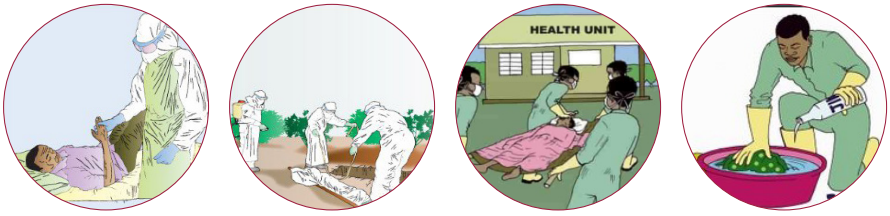
    - » Gloves, gowns, face shields
    - » Respiratory protection (N95 or higher)
- » Environmental decontamination of surfaces and equipment.

Community-level interventions

- » Public education on avoiding contact with potentially infected animals
- » Adoption of safe and dignified burial practices
- » Engagement of community leaders to improve compliance

Survivor considerations

- » Persistent viral RNA in semen necessitates safe sex practices or abstinence until two negative PCR tests are confirmed.



KEY MESSAGES FOR HEALTHCARE WORKERS

- » Absence of bleeding does not exclude EVD; early symptoms are often non-hemorrhagic.
- » Travel and exposure history are essential for risk assessment.
- » Strict adherence to IPC protocols is non-negotiable to prevent healthcare-associated transmission.
- » Immediate notification of public health authorities is critical for rapid response and containment.

KEY MESSAGES FOR THE GENERAL COMMUNITY

Effective outbreak prevention depends heavily on informed and engaged communities. The general community should implement the following:

1. Recognize Early Symptoms and Seek Care Immediately

- » Ebola may start like common illnesses (fever, headache, fatigue).
- » Do not wait for bleeding; early treatment improves survival.
- » Seek care promptly at a health facility if symptoms appear.

2. Avoid Direct Contact with Bodily Fluids

- » Do not touch blood, vomit, urine, feces, or other fluids of sick individuals.
- » Avoid handling personal items (clothes, bedding) of infected persons without protection.

3. Practice Safe Caregiving

- » If caring for a sick person, use protective barriers (gloves, plastic coverings).
- » Wash hands frequently with soap or chlorine solutions.

4. Report Suspected Cases Early

- » Inform local health authorities immediately if someone shows symptoms or has been exposed.
- » Early reporting helps protect families and communities.

5. Avoid Contact with Dead Bodies

- » Traditional burial practices involving touching the body can spread Ebola.

» Follow safe and dignified burial guidelines led by trained teams.

6. Reduce Risk from Animals

» Avoid contact with dead or sick animals, especially bats and primates.
» Do not consume bushmeat from unknown sources.

7. Support Survivors and Reduce Stigma

» Survivors are not a threat when medically cleared.
» Stigma discourages people from seeking care and undermines outbreak control.

8. Follow Public Health Guidance

» Trust and follow instructions from health authorities.
» Participate in surveillance, contact tracing, and community awareness efforts.

AFRICA CDC RESPONSE

Africa CDC declared the outbreak a Public Health Emergency of Continental Security (PHECS) and developed the continental preparedness and response plan. Africa CDC deployed rapid response teams to Ituri, strengthening surveillance and supporting infection prevention and control (IPC) measures across affected health zones. Currently, Africa CDC is working to strengthen the response efforts in all the response pillars, including coordination, surveillance, RCCE, laboratory vaccination, case management, IPC, research, continuity of essential services and logistics.