

Factsheet Ebola Virus Disease (EVD)

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Quick Facts

Ebola Virus Disease (EVD), formerly known as Ebola haemorrhagic fever, is a severe and frequently lethal disease caused by infection with a member of the Ortho ebolavirus genus. The average case fatality rate (CFR) for Ebola disease is approximately 50%, though it has historically ranged from 25% to 90% depending on the outbreak and virus strain. The virus is transmitted to humans from wild animals (zoonosis) and subsequently spreads within the human population through direct contact with blood or other body fluids of infected individuals. As of May 23, 2026, the World Health Organization (WHO) has declared a Public Health Emergency of International Concern (PHEIC) due to an outbreak of the Bundibugyo virus strain affecting the Democratic Republic of the Congo (DRC) and Uganda. As of July 2026, the Ebola outbreak in the Democratic Republic of the Congo (DRC) has resulted in 2,011 confirmed cases and 754 deaths, making it one of the largest Ebola outbreaks ever recorded in the country.



In Uganda, a total of 20 Ebola cases and 2 deaths have been reported, with most cases linked to cross-border transmission from the DRC. Uganda has successfully managed the outbreak through rapid case detection, isolation, and contact tracing, with most patients recovering and no evidence of widespread community transmission.

Introduction

EVD is a rare but severe acute viral illness occurring in humans and other primates. It is caused by viruses belonging to the Filoviridae family (filoviruses). Since its discovery in 1976, EVD has emerged periodically, primarily infecting people in Central and West African countries near tropical rainforests. It is regarded as one of the world's most virulent diseases.

Ebola disease is a rare but serious viral illness that affects humans and is associated with high mortality rates if not detected and managed early. The disease is caused by viruses belonging to the Ortho ebolavirus genus under the Filoviridae family.

There are 3 types of Ortho ebolaviruses that cause illness in people:

- Ebola virus (species Ortho ebolavirus zairense) causes Ebola virus disease.
- Sudan virus (species Ortho ebolavirus sudanense) causes Sudan virus disease.
- Bundibugyo virus (species Ortho ebolavirus bundibugyoense) causes Bundibugyo virus disease.

Three other types of Ortho ebolaviruses have not affected people to date:

- Reston virus (species Ortho ebolavirus restonense) has caused disease in non-human primates like macaques.
- Taï Forest virus (species Ortho ebolavirus taiense) causes Taï Forest virus disease
- Bombali virus (species Ortho ebolavirus bombaliense) was more recently identified in bats.

History and Outbreaks

The history of Ebola Virus Disease (EVD) is a gripping account of the discovery of one of the world's most lethal pathogens, beginning in remote villages and evolving into a global health priority.

The Dual Discovery of 1976

- The virus first announced its presence to the world in 1976 through two simultaneous and terrifying outbreaks in Central Africa.
- Yambuku, DRC (formerly Zaire): The first recognized case of the Zaire strain involved a 44-year-old school instructor who had been

treated for presumptive malaria at the Yambuku Mission Hospital. The disease spread rapidly through the hospital, characterized by sudden high fevers and severe hemorrhaging.

- Nzara, South Sudan: Nearly 800 miles away, another outbreak emerged, this time of the Sudan strain, starting with a worker at a local cotton factory.
- The Naming: To avoid stigmatizing the specific village of Yambuku, researchers named the new agent after the nearby Ebola River. In the indigenous Ngbandi language, the name Legbala (Ebola) ironically means "white water" or "pure water".

A Decades-Long "Silent" Era

Following the initial 1976 and 1979 outbreaks, the virus seemingly vanished from human detection for 15 years. It re-emerged hitting back with renewed force in the mid-1990s:

- The Chimpanzee Link (1994): In the Taï Forest of Côte d'Ivoire, a Swiss ethnologist became the first human infected with the Taï Forest strain after performing a necropsy on a wild chimpanzee.
- The Kikwit Tragedy (1995): A major outbreak in the city of Kikwit, DRC, claimed 250 lives. The index case was a charcoal worker, suggesting the virus was circulating in the nearby forest, likely among bats.
- The 21st Century and the Largest Epidemic
As human populations grew and moved closer to forested areas, outbreaks became more frequent.
- Discovery of New Strains: In 2007, a new species, the Bundibugyo virus, was identified during an outbreak in Uganda that caused 131 cases.
- The West African Crisis (2014–2016): This was the largest EVD epidemic in history, devastating Guinea, Liberia, and Sierra Leone. Unlike previous outbreaks in remote villages, this epidemic reached dense urban centers, resulting in over 28,000 cases and more than 11,000 deaths. It was the first time EVD was declared a Public Health Emergency of International Concern (PHEIC).

- The 2026 Emergency: History continues to unfold as the WHO declared another PHEIC in May 2026 due to a major Bundibugyo strain outbreak in the DRC and Uganda, marking the 17th recorded outbreak in the DRC since the virus was first discovered.

Snippets on the side

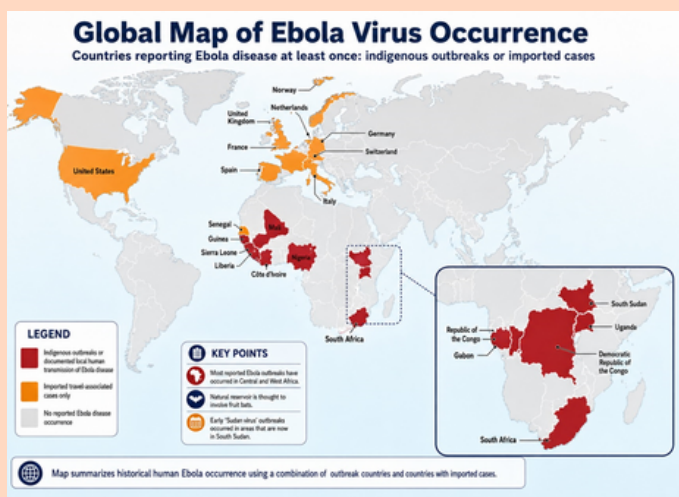
- Laboratory Accidents: The extreme danger of the virus is highlighted by historical accidents. In 1976, an investigator in the UK accidentally pricked his thumb while handling samples and became ill. Later, in 1996 and 2004, lab technicians in Russia tragically died after accidental exposures while working with the virus.
- The First Survivor Record: Dr. Ngoy Mushola provided the very first clinical description of EVD in his log during the 1976 Zaire outbreak, documenting the rapid progression from high fever to death in just three days.

Epidemiology and Causative Agent

- Genus Ebolavirus: Comprises six distinct species, four of which cause disease in humans: Ebola virus (Zaire), Sudan virus, Bundibugyo virus, and Taï Forest virus. The Zaire species is typically associated with the highest lethality.
- Natural Host: Fruit bats of the Pteropodidae family are considered the natural reservoir hosts for Ebola viruses.
- Animal Targets: The virus also causes high mortality among non-human primates such as chimpanzees, gorillas, and monkeys, as well as forest antelopes (duikers).

Mode of Transmission

- Zoonotic Introduction: Infection occurs through close contact with the blood, secretions, organs, or other bodily fluids of infected wild animals found ill or dead.
- Human-to-Human Spread: Spreads via direct contact (through broken skin or mucous membranes) with the blood or body fluids (urine, saliva, sweat, feces, vomit, breast milk, and semen) of an infected person or someone who has died from the disease.
- Indirect Contact: Infection can occur through contact with surfaces or objects (e.g., bedding, needles) contaminated with infectious fluids.
- Viral Persistence: The virus can persist in "immune-privileged sites"—areas shielded from the immune system—such as the testes, interior of the eyes, and the central nervous system. Sexual transmission through the semen of male survivors has been documented up to 15 months after recovery.



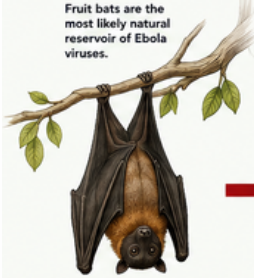
THE CYCLE OF TRANSMISSION OF EBOLA VIRUS

From Natural Reservoir to Human-to-Human Spread

→ Primary transmission
--- Secondary transmission
--- Possible transmission

1 NATURAL RESERVOIR

Fruit bats are the most likely natural reservoir of Ebola viruses.



How the virus circulates in bats:

- Asymptomatic infection
- Long-term persistence
- Shedding in saliva, urine, feces, semen



Ebola virus (Filoviridae family, Ebolavirus genus)

2 ANIMAL HOSTS (Intermediate/Amplifying)

Infection can pass from bats to other wild animals through direct contact or exposure to contaminated materials.



Non-human primates, forest antelopes, porcupines and other wild mammals may become infected.

Routes of spillover to animals



3 HUMAN INVOLVEMENT

Humans are infected through direct contact with infected animals or contaminated environments.



Common risk activities

- Hunting, trapping or handling wild animals
- Butchering or preparing bushmeat
- Contact with blood or body fluids of infected animals
- Contact with contaminated surfaces in forests or caves

Incubation Period in Humans

2 – 21 days (commonly 8 – 10 days)

Early Symptoms

Fever • Headache • Muscle pain • Sore throat

Severe Disease

Internal & external bleeding • Organ failure

Shock • Death

4 HUMAN-TO-HUMAN TRANSMISSION

The virus spreads through direct contact with an infected person's body fluids or contaminated materials.



Body fluids that transmit the virus



How it spreads between people

- Direct contact with body fluids through broken skin or mucous membranes
- Contact with contaminated bedding, clothing, needles or medical equipment
- Safe burial practices are critical – contact with the body of the deceased is a major risk factor
- Close contact in homes, healthcare settings and communities

KEY FACTS

- Ebola is not spread by air like influenza.
- It requires direct contact with body fluids or contaminated materials.
- Early diagnosis, isolation, and supportive care improve survival.

THE CYCLE IN SUMMARY



Avoid contact with bats and wild animals

Do not eat bushmeat

Practice hand hygiene and food safety

Use PPE when caring for patients

Follow safe burial practices

Early detection & isolation save lives

Source: WHO, CDC, FAO, OIE, and scientific literature on Ebola virus disease (2017–2024)

TOGETHER, WE CAN BREAK THE CHAIN OF EBOLA TRANSMISSION.

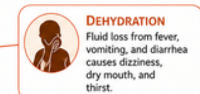
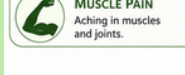
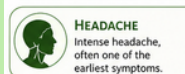
Sign and Symptoms

- Incubation Period:** Typically, 2 to 21 days, with an average of 8 to 10 days. Individuals are not infectious until they develop symptoms.
- Early Symptoms:** Sudden onset of high fever, fatigue, muscle and joint pain, severe headache, and sore throat.
- Progressive Symptoms:** Followed by vomiting, diarrhoea, abdominal pain, rash, and symptoms of impaired kidney and liver function.
- Haemorrhagic Manifestations:** Both internal and external bleeding (e.g., bleeding gums, nosebleeds, bloody stools) can occur late in the disease course.

EBOLA VIRUS DISEASE (EVD)

Clinical Manifestations

- Early / Common Symptoms
- Severe / Late Symptoms



IN SEVERE CASES: BLEEDING MANIFESTATIONS

May include nose or gum bleeding, bruising, or internal bleeding.

Not all patients will have bleeding.



SEVERE DISEASE PROGRESSION

SHOCK / MULTIORGAN FAILURE

Severe fluid loss and inflammation can lead to low blood pressure (shock) and failure of organs such as the liver, kidneys, and lungs.



Most people recover with appropriate supportive care, especially when treatment is started early.

Investigations and Diagnosis

Early clinical diagnosis is challenging as symptoms are nonspecific and overlap with other infectious diseases like malaria, typhoid, and meningitis. Definitive diagnosis is made using:

- RT-PCR (Reverse Transcriptase Polymerase Chain Reaction): The primary method to detect viral RNA in blood or other fluids.
- ELISA: To detect specific antibodies (IgM and IgG) or viral antigens.
- Virus Isolation: By cell culture in high-containment laboratories.
- Rapid Diagnostic Tests (RDTs): Viral antigen detection tests used for quick screening in field settings.

Update on Treatment and Vaccines

- Optimized Supportive Care: The mainstay of treatment involves early intensive supportive care, including intravenous or oral rehydration with electrolytes and maintenance of oxygen and blood pressure.
- Therapeutics: Two monoclonal antibody treatments, REGN-EB3 (Inmazeb) and mAb114 (Ebanga), are FDA-approved for treating EVD caused by the Zaire strain. No approved therapeutics currently exist for the Bundibugyo virus outbreak.
- Vaccines:
 1. rVSV-ZEBOV (ERVEBO): A single-dose FDA-approved vaccine that protects against the Zaire strain.
 2. Ad26.ZEBOV/MVA-BN-Filo (Zabdeno/Mvabea): A two-dose vaccine regimen approved by the EU for the Zaire strain.
 3. No vaccines are currently licensed for the Sudan or Bundibugyo strains.

Preventive Measures

- Avoid Contact: Do not have direct physical contact with Ebola patients or their body fluids.
- Personal Hygiene: Regular hand washing with soap and water or alcohol-based sanitizer.
- Healthcare Precautions: Health workers must apply standard precautions and use rigorous Personal Protective Equipment (PPE), including masks, gowns, goggles, and double gloves.
- Safe Burial: Avoiding traditional funeral rituals that involve handling the deceased body.
- Wildlife Safety: Handle wild animals with gloves and ensure animal products (blood and meat) are thoroughly cooked before consumption.

EVD in the Indian Context

Current Status: No indigenous case of Ebolavirus disease has ever been reported in India.

- Past Incident (2014): A 26-year-old Indian male traveler from Liberia reached Delhi in November 2014. Although he was symptom-free and carried medical clearance, he was isolated in a quarantine center as a precaution. While his blood was clear, the virus continued to test positive in his urine and semen for an extended period, requiring isolation until all body fluids were negative.
- 2026 Surveillance: In view of the evolving situation in the Democratic Republic of the Congo and other affected countries, and in line with WHO's recommendations, Government of India advises all Indian citizens to avoid non-essential travel to the Democratic Republic of Congo, Uganda and South Sudan until further notice. Indian citizens currently residing in or travelling to these countries are advised to strictly follow public health guidance issued by local authorities and maintain heightened precautions.

International and Government of India Efforts

- WHO Response: In May 2026, the WHO Director-General determined the current Bundibugyo outbreak to be a PHEIC, recommending enhanced surveillance at international points of entry.

- Africa CDC: Officially declared the 2026 outbreak a Public Health Emergency of Continental Security (PHECS).

Government of India Initiatives:

- Travel Advisory: On May 23, 2026, the Ministry of Health and Family Welfare advised Indian citizens to avoid non-essential travel to the DRC, Uganda, and South Sudan.
- Point of Entry (PoE) Screening: Instituted mandatory screening and traveller monitoring at airports and seaports to identify individuals arriving with unexplained febrile illness from affected regions.
- Preparedness: The Integrated Disease Surveillance Programme (IDSP) remains on alert for contact tracing and quarantine protocols should a case be identified.

Ebola Virus Current situation-

As of July 2026, the Ebola outbreak

- Democratic Republic of the Congo (DRC) has resulted in 2,011 confirmed cases and 754 deaths, making it one of the largest Ebola outbreaks ever recorded in the country.
- Uganda, a total of 20 Ebola cases and 2 deaths have been reported, with most cases linked to cross-border transmission from the DRC.
- Uganda has successfully managed the outbreak through rapid case detection, isolation, and contact tracing, with most patients recovering and no evidence of widespread community transmission.

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