

## Ebola Virus Disease Fact Sheet

### Background

Ebola Virus Disease (EVD) is a rare but often fatal infectious disease that affects humans and non-human primates (i.e., chimpanzees, gorillas, and monkeys). The Ebola virus is transmitted to people from bats or non-human primates and spreads within human populations by person-to-person transmission. The Ebola virus was first discovered in 1976 in the Democratic Republic of Congo (DRC), near the Ebola River, during the first documented EVD outbreak; and has since caused several outbreaks in Africa.

There are six species of Ebola virus:

- *Zaire ebolavirus*, *Sudan ebolavirus*, *Tai Forest ebolavirus*, and *Bundibugyo ebolavirus* all cause disease in humans.
- *Reston ebolavirus* causes disease in non-human primates and pigs but not humans.
- *Bombali ebolavirus* is an Ebola virus for which it is not clear if it causes disease in animals or humans.

The *Zaire ebolavirus* is the species associated with a large EVD outbreak in the DRC that began in August 2014 and has continued into 2019. It was also associated with the 2014–2016 West African EVD pandemic during which there were more than 28,000 cases and 11,000 deaths.

### Transmission

Ebola virus can be transmitted from animal to animal, animal to human, and human to human. There is some evidence that some bats may be the reservoir hosts for the Ebola virus. Bats may transmit the virus to other animals and humans. Humans may become infected with Ebola virus while hunting or preparing meat from infected animals.

In human populations, the Ebola virus can be transmitted either from a symptomatic person or from the body of a person who died from EVD to other people through contact with blood or body fluids. The Ebola virus is present in high quantity in the blood, body fluids, urine, and feces of symptomatic patients and in deceased individuals. Specific routes for person-to-person transmission include direct contact through broken skin or mucous membranes with:

- Blood or body fluids (urine, saliva, sweat, feces, vomit, breast milk, or semen) from a person who is sick with or has died from EVD
- Objects (such as needles and syringes) contaminated with body fluids or blood from a person sick with or has died from EVD
- Semen from a man who recently recovered from EVD (through oral, vaginal, or anal sex)

- Infected fruit bats or non-human primates (e.g., apes, monkeys, gorillas)

Ebola virus cannot spread from people who are not showing any signs or symptoms of EVD except through sex with an asymptomatic man who recently recovered from EVD.

People who are in direct contact with a person who is ill with or died from EVD are at particular risk for infection; this may include healthcare workers caring for an EVD patient and family and friends of EVD patients.

### **Clinical Signs and Symptoms**

People infected with Ebola virus may show signs of illness between 2 and 21 days after exposure, and usually after 8 to 10 days. The symptoms of EVD include:

- Fever
- Headache
- Muscle Pain
- Fatigue
- Weakness
- Vomiting
- Diarrhea
- Abdominal pain
- Bleeding or bruising that is unexplained (i.e., hemorrhage, usually from gums or other mucous membranes)

The symptoms of EVD are like those of other infectious diseases including malaria, dengue fever, and influenza. Patients with EVD may progress to more severe disease, including shock and death.

### **Diagnosis**

Diagnosis of EVD is difficult early in the course of illness, especially because symptoms may mimic other infectious diseases like influenza or malaria. Thus, it is essential to get a detailed history of travel and exposures to help assess if illness could be due to EVD or other travel-related infectious diseases. Diagnosis of EVD takes into account several factors including confirmation of a person's travel history to an area with known Ebola virus, risk factors for EVD in the 21 days before symptom onset, and laboratory testing results of blood for Ebola virus genetic material. Ebola virus testing is available through the California Department of Public Health (CDPH) and U.S. Centers for Disease Control and Prevention (CDC). Test results may take several days to be finalized, and repeat testing may be needed in some cases.

### **Treatment**

There are currently no U.S. Food and Drug Administration (FDA)-licensed therapies for EVD. Thus, it is essential to provide medical care early in the course of EVD as early supportive therapy improves chances of survival. The supportive therapies include\*:

- Ensuring proper hydration and electrolyte management

- Managing fever, vomiting, and diarrhea
- Offering oxygen support if needed
- Treating any other infections that may arise

\*Visit the [CDC Ebola treatment webpage](https://www.cdc.gov/vhf/ebola/treatment/index.html) for more information (https://www.cdc.gov/vhf/ebola/treatment/index.html).

## Prevention for Travelers

EVD is a very rare disease and is endemic only in certain parts of Africa. Travelers to African regions where Ebola virus is endemic should know that there are ways to protect oneself from becoming sick with EVD.

If you are in an area where there is ongoing transmission of Ebola virus\*:

- Use good hand hygiene with soap and water or an alcohol-based sanitizer
- Avoid contact with the blood and bodily fluids of persons who may be infected with EVD
- Avoid contact with items an EVD patient might have used (e.g., clothes, bedding, medical equipment)
- Avoid funeral or burial rituals of EVD patients that involve handling the body
- Avoid contact with bats and non-human primates; or blood and fluids or raw meat from these animals, or meat from an unknown source
- Avoid contact with semen from a man who has recovered from EVD until he has been cleared of the virus, which may be up to a year or longer
- After returning from an endemic area, self-monitor for signs and symptoms of EVD disease for 21 days and seek prompt medical attention should any signs or symptoms develop

Currently, there is no FDA-licensed Ebola vaccine. An experimental vaccine (rVSV-ZEBOV) was used in clinical trials conducted in Guinea in 2015 and has been deployed during the 2018-2019 outbreak in the DRC.

\*Visit the [CDC Ebola prevention webpage](https://www.cdc.gov/vhf/ebola/prevention/index.html) (https://www.cdc.gov/vhf/ebola/prevention/index.html) and [CDC Ebola in Democratic Republic of the Congo webpage](https://wwwnc.cdc.gov/travel/notices/watch/ebola-democratic-republic-of-the-congo) (https://wwwnc.cdc.gov/travel/notices/watch/ebola-democratic-republic-of-the-congo) for more information.

## Resources

[CDC Ebola \(Ebola Virus Disease\) website](https://www.cdc.gov/vhf/ebola/): https://www.cdc.gov/vhf/ebola/

[WHO Ebola Virus Disease website](http://www.who.int/ebola/en/): http://www.who.int/ebola/en/