

72

[Frontiers of Freedom](#)

Securing the Blessings of Liberty

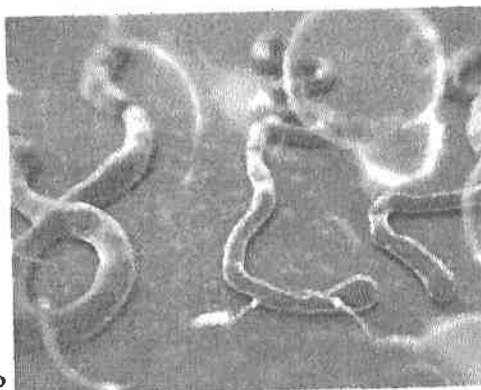
- [Home](#)
- [Freedom Centers](#)
- [About](#)
- [Library](#)
- [Join](#)
- [Donate](#)

[Automotive Freedom](#) [Constitutional Freedom](#) [Defending Freedom](#) [Economic Freedom](#) [Energy Freedom](#) [Entrepreneurial Freedom](#) [Fishing Freedom](#) [Food Freedom](#) [Internet Freedom](#)

You are here: [Home](#) / [Uncategorized](#) / [The Ebola Health Crisis](#)

The Ebola Health Crisis

December 9, 2014 By [Frontiers of Freedom](#) [Leave a Comment](#)



by Peter Bernard, MD, MPH, FACP

As the world knows, there has been an outbreak of Ebola virus centered in the area of West Africa. This infection has caused worldwide concern and a major epidemic is anticipated. This is thought to be the largest outbreak of Ebola virus in the history of the world. Already up to 10,000 lives have been lost. This infection is capable of passing from person to person through direct contact and through various body fluids.

It was on September 30, 2014 that the first Ebola infection that was diagnosed in the United States was reported. That particular patient, a Mr. Thomas Eric Duncan (diagnosed in Dallas, Texas on September 30, 2014). Unfortunately Mr. Duncan could not be saved and died at Texas Health Presbyterian Hospital. There have been other confirmed patients who returned to the United States from West Africa and were treated at Emory University Hospital in Atlanta. They were treated and released virus free. There have been over 5,000 Ebola false alarms following the death of Mr. Duncan. Many patients will report symptoms such as fever and end up in emergency rooms throughout the United States.

In this report, I will summarize what is known about the current Ebola outbreak. It is thought to be widespread and intense in West Africa. The most frequent occurrence is Guinea, Sierra Leone, Liberia. The majority of the infections have been reported in these countries numbering well over 8,000 cases.

An additional 21 cases were reported in Nigeria and Senegal and 70 cases were reported in the Democratic Republic of the Congo. Patients who are at greatest risk are those with close physical contact with an infected person like family members. Healthcare workers are at great risk as well.

WHAT IS THE EBOLA VIRUS?

The Ebola virus is a ribonucleic acid (RNA) virus that infects various wild animals like fruit bats, gorillas, monkeys, and chimpanzees. Of course, it also known to infect human beings. Contact with an infected animal's blood or body fluids is thought to be the source of the infectious disease. The first outbreaks of Ebola began in 1976 in the Democratic Republic of Congo on the Ebola River and hence the name, but also noted in Sudan with later outbreaks in Uganda. One important fact is that it is not just casually contact acquired. It is thought not to be airborne. Ebola virus is passed from person to person via body fluids. At this time, it is not anticipated that the virus could be transmitted through sneezing or coughing and because of this, a viral illness such as influenza is much more likely to be transmitted as well as tuberculosis, which is known to be transmitted through coughing and sneezing. The Ebola virus can live on surfaces that are soiled with blood or other body fluids. However, bleach will easily kill the Ebola virus. From a differential diagnosis and medical point of view, it is important to know that the symptoms of early infection of Ebola virus may appear to be that of flu-like illness. That includes fever, headache, body aches, cough, various gastrointestinal pain and discomfort as well as vomiting and severe diarrhea. Early on, it is difficult to diagnose Ebola viral disease. The Ebola virus incubation period which just means the time from exposure to actually becoming ill is anywhere from 2-21 days, so-called incubation period. Most individuals who have been infected with Ebola virus will develop early symptoms 8-9 days after exposure to the virus. Conclusive diagnosis can be made through antibody studies against Ebola. The reason that this disease is feared to such an extent is because it is one of the hemorrhagic fevers, which includes Marburg disease as well. Later symptoms of Ebola appear quickly within a few days after onset of early symptoms. There is internal and external bleeding. The patient's eyes become erythematous and the patient vomits blood and has bloody diarrhea. Actual antiviral treatment is not available, however, what is important is supportive care. In other words, patients have to be given fluids, oxygen, and their blood pressure needs to be maintained as they become septic. In terms of the current outbreak, it is estimated that Ebola viral infection is often fatal to at least 70% of individuals who have been infected. Unfortunately, many of the healthcare providers and doctors have died after having contracted Ebola viral disease in Sierra Leone and in Liberia. At this time, there is no vaccine to prevent Ebola. However, there is urgent work and research that is being undertaken currently. The National Institutes of Health have been working on vaccines.

More than a dozen drugs are being studied for treating Ebola and other filoviruses. None have been formally approved. The outbreak of Ebola recently has prompted an aggressive, early and experimental use of some drugs on a few patients outside of Africa. In West Africa, the best treatment currently available consists of symptomatic therapy and treatment of secondary infections.

The Ebola virus, which is a filovirus, attaches to a cell membrane. The virus enters the host's cell and releases the viral genome into the cell. There are enzymes within the cell that help to replicate the virus. Once it has been replicated, it is able to bud or be released from the cell.

The various drugs that have been used and have been investigated fall into five categories. One targets the virus before it enters the cell. A drug called ZMAPP is made up of a cocktail of three monoclonal antibodies which target the virus. This is still unavailable as of this writing. Another one has an equal mixture of three antibodies, which attack the virus envelope and then the third is a Y-shaped antibody designed to interfere with the Ebola virus.

Another approach against the Ebola virus is one that interferes with viral reproduction. This may occur with degrading the viral RNA and preventing the Ebola from replicating or an agent that disrupts the enzymes that the virus uses to make copies of itself. Another one maybe an anti-cancer drug that in the laboratory inhibits viral replication. Another agent is a molecule that binds to viral RNA blocking gene function and yet another would be disruption of the formation of viral proteins in an infected cell. A third approach is blocking the ability of the virus to leave the host cell. A fourth approach are drugs that enhance the human immune response or in other words, the patient's own immune system is stimulated and these proteins regulate the interferon's, which boost the antiviral defenses in the host cells. Another form of treatment strategy would be convalescent serum, which probably contains antibodies that check the virus as part of the treatment strategy. Some of these ideas are used in treatment of other well-known diseases such as multiple sclerosis. One can also use modified adenovirus to deliver interferon-producing genes to host cells. One possible outcome of this frenzy in discovering treatments for the Ebola would be to produce treatments for targeting other viruses such as influenza, adenovirus, West Nile virus, and herpes.

There are a number of public health approaches that have been recommended. These include common sense approaches. Recently five U.S. airports have been selected to screen some people who are traveling and who may have been exposed to the Ebola virus. The government has announced plans to step up the screening of travelers.

Other approaches have been considered as well, which would include limiting the number of people coming from the endemic areas of West Africa. This raises some difficult questions politically as well as some issues regarding public health. Limiting the number of fliers coming into the United States from at least those countries from West Africa would also decrease the chances of importing the Ebola virus. However, it certainly would not be fail-safe and one can anticipate that some of the passengers would land in the United States nevertheless because of the frequency of travel to other countries prior to arriving in the United States. It is anticipated that in the United States, there will not be an epidemic as noted in West Africa and this is primarily because of the expert evaluation, assessment and treatment facilities that are available. The advanced healthcare system of the United States guarantees an evaluation and treatment that is unique. However, when patients arrive from other countries with disease that is not in its early phase, then potential serious complications may ensue. In retrospect, the current outbreak of Ebola has to some extent been controlled. The current response to containing and treating the Ebola virus has been intensified and more vigorous response is underway. The United States has sent military and is building 17 treatment centers that will be able to hold 100 people each. There is a shortage of hospital beds in Liberia and Sierra Leone. According to the World Health Organization, these two countries have 924 beds between them, but they need 4,078 beds. Coordinated response is being developed in these countries in West Africa. Public health approach and careful analysis of each death and each infection is underway. Epidemiologic studies are underway. Study of the burials and case finding as well as contact tracing will depend on behavioral changes in the communities. It is to be hoped that there is progress in bringing Ebola under control. The current method of isolating patients and doing the contact tracing of peoples, who may be exposed, lowers the rate of new infections and will ultimately cause the epidemic to burn itself out. It is hoped that the epidemic of Ebola viral infection does not continue to spread and that hopefully, new treatments will be available and vaccines will be developed shortly. These vaccines then will have

to be distributed widely at the source of the infection. Our abilities to fight infections in the past, even of the scale of the Ebola virus, has been noted and it is anticipated that this epidemic will also be contained, treated and ultimately eradicated.

Share this:

Filed Under: [Uncategorized](#) Tagged With: [Ebola](#)

You must [log in](#) to post a comment.



For information on the 2014 Reagan Gala, featuring actor Gary Sinise, click here:

[2014 Reagan Gala with Gary Sinise](#)

Subscribe to our Newsletter

[Subscribing I accept the privacy rules of this site](#)

Subscribe

This Week's Poll?

Do the "secret wait lists" at government-run VA hospitals show that government run healthcare will always effectively have "death panels" or mechanisms which arbitrarily deny healthcare to those who need it?"