

This Month's Topic:  
**Ebola Virus Disease (EVD)**

**T**he 2014 Ebola epidemic is the largest in history, affecting multiple countries in West Africa. The Ebola virus has claimed more than 4,000 lives during the current epidemic in West Africa, the largest outbreak since the virus was discovered nearly 40 years ago.

### What is Ebola?

Ebola, previously known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Ebola virus strains. Ebola can cause disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees).

The virus, which is thought to have originated in fruit bats, was first detected in 1976 in an outbreak near the Ebola River in what is now the Democratic Republic of Congo.

The natural reservoir host of Ebola virus remains unknown. However, on the basis of evidence and the nature of similar viruses, researchers believe that the virus is animal-borne and that bats are the most likely reservoir. Four of the five virus strains occur in an animal host native to Africa.

Ebola hemorrhagic fever is a disease caused by one of five different Ebola viruses. Four of the strains can cause severe illness in humans and animals. The fifth, Reston virus, has caused illness in some animals, but not in humans.

### Signs and Symptoms of Ebola

Symptoms of Ebola include:

- Fever
- Severe headache
- Muscle pain
- Weakness
- Diarrhea
- Vomiting
- Abdominal (stomach) pain
- Unexplained hemorrhage (bleeding or bruising)

Symptoms may appear anywhere from 2 to 21 days after exposure to Ebola, but the average is 8 to 10 days.

Recovery from Ebola depends on good supportive clinical care and the patient's immune response. People who recover from Ebola infection develop antibodies that last for at least 10 years.

### How Ebola spreads?

People are infected when they have direct contact through broken skin, or the mouth and nose, with the blood, vomit, feces or bodily fluids of someone with Ebola.

The virus can be present in urine and semen too.

Infection may also occur through direct contact with contaminated bedding, clothing and surfaces - but only through broken skin.

It is still unclear how long the virus exists on surfaces but there is some evidence to suggest it can last up to six days. Bleach and chlorine can kill Ebola.

The disease is not airborne, like flu. Very close direct contact with an infected person is required for the virus to be passed to another person.

### Alisto Engineering Safety Statistics 2014

Motor Vehicle Accidents/ Total Miles Driven	Lost Work Days/ Total Work Days	Occupational Injuries and Illnesses
01/01/14–09/30/14	01/01/14–09/30/14	01/01/14–09/30/14
1/245,825 miles	0* day/188 days	2*

*\* From BC Environmental Insurance*

### \*Incident Report

What was the latest reported incident?

*Car accident. The other driver ran a stop sign and hit an Alisto vehicle.*

What is Alisto doing to increase driver awareness?

*Alisto field employees recently completed a defensive driving safety training.*

### Newsletter Highlight

*"Don't come to work sick...please!*

*If you think you might be sick, especially with the flu, please take time off to rest so that you don't pass the illness on to co-workers. Communicate with those affected by your absence and trust that co-workers will cover you while you are out! With flu season starting, prevention is the key.*

- *Get a flu shot to help prevent getting sick in the first place*
- *Cover any coughs or sneezes*
- *Wash your hands frequently to help prevent spreading any germs*
- *If you absolutely have to come into the office, avoid contact with others as much as possible*

*When you come to work sick, you are not just affecting yourself but all of those around you. By taking time to heal, you protect your co-workers from suffering the same fate. Help support a healthy workplace by staying home when sick!"*

**Nancy Valero**  
Chief Financial Officer  
Alisto Engineering Group, Inc.

## How Ebola is treated?

There is no proven cure for Ebola.

Severely ill patients need to be rehydrated quickly using intravenous fluids. They should be isolated from other people and given intensive care by medical experts.

Potential vaccines are being tested. If the trials are successful they would be used to protect healthcare workers first.

Experimental drugs such as ZMapp have also been used, but their effectiveness has not been proved.

Blood products from survivors are also being tried as a potential therapy.

It is not known which factors allow some people to recover while most succumb but experts say early treatment is key.

## How do I protect myself against Ebola?

If you must travel to an area affected by the 2014 Ebola outbreak, protect yourself by doing the following:

- Wash hands frequently or use an alcohol-based hand sanitizer.
- Avoid contact with blood and body fluids of any person, particularly someone who is sick.
- Do not handle items that may have come in contact with an infected person's blood or body fluids.
- Do not touch the body of someone who has died from Ebola.
- Do not touch bats and nonhuman primates or their blood and fluids and do not touch or eat raw meat prepared from these animals.
- Avoid facilities in West Africa where Ebola patients are being treated. The U.S. Embassy or consulate is often able to provide advice on medical facilities.
- Seek medical care immediately if you develop fever, headache, muscle pain, diarrhea, vomiting, stomach pain, or unexplained bruising or bleeding.
- Limit your contact with other people until and when you go to the doctor. Do not travel anywhere else besides a healthcare facility.

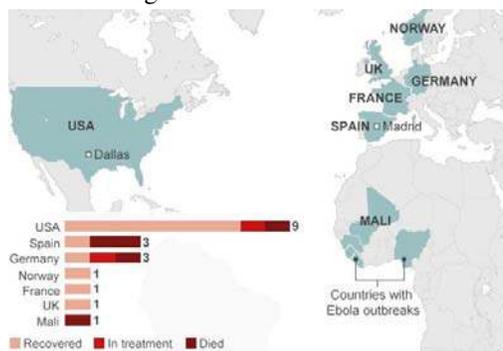
## Vaccine Trials

Currently, there is no FDA-approved Ebola vaccine available to individuals nor is there an Ebola vaccine that the FDA or the CDC considers "safe" as of October 2014. However, there is a lot of activity going on related to the development of a safe and effective Ebola vaccine.

The World Health Organization has announced that millions of doses of experimental Ebola vaccines will be produced by the end of 2015.

However, the WHO cautioned that vaccines would not be a "magic bullet" for ending the outbreak. There is no proven cure or vaccine for Ebola.

In response to the largest epidemic of the disease in history, the WHO is accelerating the process of vaccine development. It normally takes years to produce and test a vaccine, but drug manufacturers are now working on a scale of weeks.



Ebola Cases outside of Africa (as of 10/30/14)

### Image Credit

<http://www.cdc.gov/vhf/ebola/>

<http://www.bbc.com/news/world-africa-28755033>

## Ebola Statistics (as of 11/02/14)

**13,042** Total Cases

**7,991** Laboratory-Confirmed Cases

**4,818** Total Deaths

**70%** Fatality Rate

**2 to 21 days** Incubation Period

**1.7** people infected by each Ebola sufferer in Liberia

*The figure of 1.7 means that, on average, every 10 people infected with Ebola in Liberia will have passed the disease on to 17 others. This figure is known as a basic reproduction number. The number fluctuates as scientists keep monitoring new cases.*

*By comparison, measles - a highly contagious disease - can have a reproduction number of between 12 and 17.*

**19,980** burial kits needed

*The bodies of Ebola victims remain infectious after death. Safe burials are key to checking the spread of the disease.*

**\$61.48** cost of a full protective suit

*The suit must be worn by medical personnel to protect against infection. It includes a protective mask, goggles, apron, gloves and rubber boots.*

**90 days** without sex for Ebola survivors

*The Ebola virus can remain present in semen for a long time. Experts say it is best for men who are recovering from the disease to avoid sex altogether - or make sure they use a condom - for 90 days.*

**1 in 50** Liberian health workers infected

*Ebola is transmitted through patients' body fluids, leaving health workers particularly vulnerable to the disease.*

### References

1. <http://www.cdc.gov/vhf/ebola/>
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