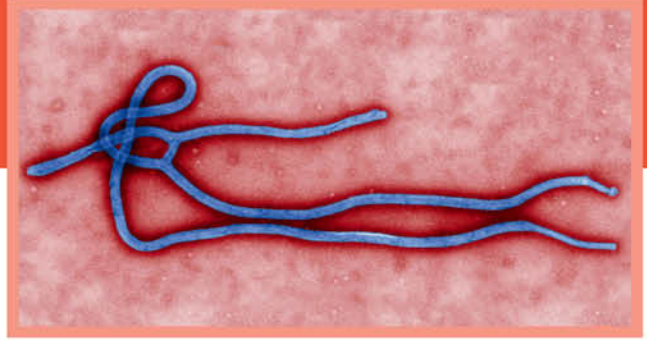
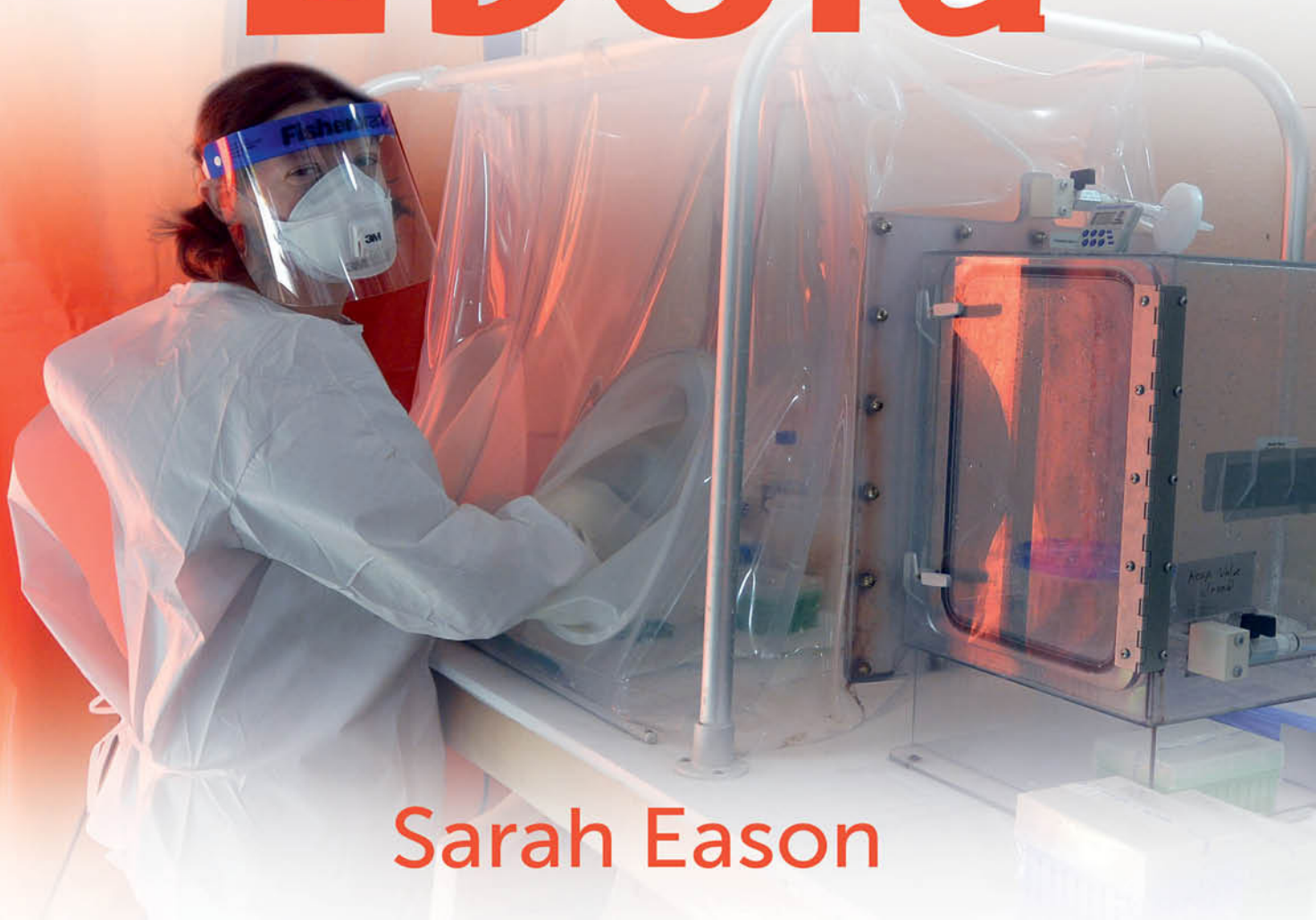


Wars Waged Under the Microscope



The War Against Ebola



Sarah Eason

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The Enemy

Ebola is a rare and deadly disease that is caused by a **virus**. A virus is an extremely tiny organism that is too small to be seen by the unaided human eye. Ebola is most often found in bats and in **primates**—such as chimpanzees, gorillas, monkeys, and humans. The first case of Ebola occurred in 1976 in Africa, and that is where **outbreaks** of the disease have mainly taken place ever since.

The Ebola virus is one of a number of viruses that are known to pass between animal species. The virus is found inside fruit bats, like this one.

A Super Spreader

Many scientists believe that the first outbreak of Ebola in humans was caused by a person coming into contact with an animal, such as a monkey, that had the disease.

Once the virus was inside that person, it quickly spread to other people. The Ebola virus is highly contagious, which means it spreads easily from person to person. Since the first outbreak of Ebola in 1976, there have been thousands of deaths in Africa because of the disease.





To stop the spread of the Ebola virus, it is very important that people wash their hands often. In Mali, Africa, this street sign reminds people to carry out this vital step in the battle against the disease.

Stopping the Spread

Although Ebola has mainly affected countries in Africa, small outbreaks of the disease have taken place in other places, too. These include Russia, the United States, the United Kingdom (UK), Italy, and Spain. However, because scientists quickly became aware how dangerous the disease was, they were able to contain it and the virus did not spread widely in non-African countries. Although there is currently no cure for Ebola, scientists around the world are working hard to find one so they can defeat this deadly killer.

“.....
“The world knows how to fight this disease. It’s not a mystery. We know the science. We know how to prevent it from spreading. We know how to care for those who contract it. We know that if we take the proper steps, we can save lives. But we have to act fast.”

Barack Obama, President of the United States 2009–2017

.....”

The Battle Begins

Ebola was first discovered in 1976 near the Ebola River in West Africa. In the summer, a small hospital in Zaire (now known as the Democratic Republic of the Congo, or DRC), started seeing patients that had bleeding from the eyes, ears, and nose; stomach pains; headaches; and fever. At first, the hospital staff thought it was malaria or another infection they knew. Soon they realized it was a disease like no other they had come across before.

A Mystery Enemy

In the hospital, nearly all the patients who had the mysterious sickness died, and more and more people were getting sick. Eventually, a doctor sent a blood **sample** from one of the sick patients to the Institute of Tropical Medicine (ITM) in Belgium in Europe. There, they discovered the cause of the illness was a new virus. A team of scientists from Belgium flew to Zaire. The team's first job was to find out how the virus was spreading.

When researchers in Belgium received blood samples from sick patients in Zaire, they realized they were dealing with a brand-new and highly dangerous disease.



Tracking the Enemy

By visiting the villages surrounding the hospital in Zaire, the scientists discovered that many of those infected with the new virus had been to the hospital recently. Many had had an injection of some kind with needles that were reused from one patient to another, with up to 600 patients per day being treated with reused needles.

Scientists also realized that a lot of people were becoming infected after burying those who had died from the illness. This led the experts to the understanding that the disease was being passed from person to person through touch and bodily fluids such as saliva and tears. Educating people—including health care workers—about this deadly spread was to be the first step in the battle against Ebola.



Today, hospital staff are trained to carefully **dispose** of used needles. However, reusing needles **contaminated** with Ebola virus likely caused the speedy **transmission** of the disease in Zaire in 1976.

“Protection of healthcare workers is important for two reasons... number one, so they don't get infected and take it home to their families; and number two...so healthcare workers don't just carry the infection from one patient to another.”

David Heymann, professor at the London School of Hygiene and Tropical Medicine

Knowing the Enemy

The African countries where Ebola outbreaks have occurred are often poor and do not have the resources needed to treat the illness and to keep people safe. These resources include medical equipment, but also all-important education.

A Place to Die

One of the biggest problems in tackling early outbreaks of Ebola in Africa was that many people were **suspicious** of the hospitals where people were being treated for the disease. People felt that hospitals were dangerous places where patients went to die, and they did not trust the staff there. As a result, when people became sick with Ebola, rather than going to the hospital, they stayed at home and were cared for by their families. Unfortunately, this led to even more transmissions of the disease. Teaching people to trust the staff in hospitals has been very important in the fight against Ebola.

Specialist teams must remove the bodies of people who have died of Ebola to prevent transmission.



CASE STUDY:

EDUCATING PEOPLE

In 2014, an Ebola outbreak began in Sierra Leone in Africa. To help educate local people about the disease, Médecins Sans Frontières and the **World Health Organization (WHO)** sent experts to the country to explain how Ebola spreads. They also trained more than 300 **volunteers** to track down, trace, and record suspected cases of Ebola.

The volunteers went into **remote** villages and gave people advice on how to control the spread of the disease by not hugging and touching, and by frequent handwashing. One of the most important issues they had to explain was how to safely bury the bodies of people who had died of Ebola.

Scientists had discovered that the Ebola virus lived on a body for days after the person had died, and so could spread to others even after death.

In parts of Africa, family members prepare a body for burial by washing and dressing it. If the person had Ebola, this was very dangerous. People were forced to bury their dead without the rituals, which was very distressing for them.



Volunteers visited villagers to help explain the symptoms, or signs, of Ebola and how important it is for anyone who feels sick to seek medical help immediately.