

# Fighting the deadly disease of Ebola

By Scientific American, adapted by Newsela staff

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Health workers wearing protective gear wait to carry the body of a person suspected to have died from Ebola, in Monrovia, Liberia, Monday Oct. 13, 2014.

Past outbreaks of Ebola happened in areas of Central Africa that are difficult to reach. Because people lived far apart, the disease could not spread easily. Sick patients did not see many other people. Without more people getting sick, the disease stopped spreading.

The current outbreak in West Africa is different. It is happening where the borders of several countries meet. Sick people are meeting other people and spreading the disease. It has caused this outbreak to become a worldwide problem.

What will it take to stop the Ebola outbreak? Two new studies tried to answer that question using math.

One study suggests at least half of all ill patients would need to be isolated. They would need to be kept separate from other people at hospitals, or other places. The study was published by *Eurosurveillance*, a magazine about disease.

Another study said even more people need to be isolated. Based on its math, it says seven out of 10 patients with the disease must be isolated. The second study is by the U.S. Centers for Disease Control and Prevention (CDC), the nation's health protection agency.

## More Needs To Be Done

If sick patients aren't isolated, the disease may continue to spread. It could spread for years.

Right now every ill patient with Ebola makes about two more people sick. The World Health Organization (WHO) has so far counted 7,178 cases. It has also counted 3,338 deaths.

Experts say that there could soon be tens of thousands of dead. Much more needs to be done to stop that from happening.

In a worst-case scenario, Sierra Leone and Liberia alone could have up to 1.4 million cases by mid-January, the CDC said. It could be avoided. Many countries are now sending help.

Small efforts will give communities some time to fight Ebola. They could prepare their hospitals. They could maybe develop a vaccine. But to stop the disease from spreading, at least half of the sick people need to be isolated.

There are other worries. If the disease is not contained soon, areas that are now Ebola-free could flare up again. In addition, it's possible that recovered patients may get ill again.

## A Global Risk

The disease can be contained. Senegal and Nigeria appear to have stopped the spread of Ebola.

Ebola is a deadly disease. But it is not as easily passed between people as some other diseases.

The 1918 Spanish flu killed more than 30 million people worldwide. It reportedly spread much more quickly than Ebola. Then, each ill person made between two and five other people ill, says Gerardo Chowell. He is a professor at Arizona State University. He did the study in *Eurosurveillance* magazine that found that half of Ebola patients should be isolated.

Chowell came up with that number by looking at how quickly Ebola spread in past outbreaks. He studied how many people were made sick by other people. He found that in older outbreaks each person made about two more people sick. That is about the same as this Ebola outbreak.

The CDC did not agree with Chowell. Its study found that up to seven out of 10 patients with the disease must be isolated.

A second person in the U.S. was found to have Ebola recently. The U.S. cases show how Ebola is now a global problem. They also show how important it is to stop it from spreading.

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## Quiz

1. According to the article, which of these need to be done to stop Ebola from being spread?
  - (a) The people with Ebola must be asked to stop getting other people sick.
  - (b) Most countries should ban people from traveling to Africa.
  - (c) People with the Ebola virus must be kept away from other people.
  - (d) Experts in countries should ask people to stay in Ebola-free areas.
2. According to one of the studies, how many people need to be isolated?
  - (a) All the people living in West and Central Africa need to be isolated.
  - (b) Half of the people in West and Central Africa must be isolated.
  - (c) All the people with Ebola must be isolated.
  - (d) Half of the people with Ebola must be isolated.
3. Why was it difficult for Ebola to spread much in the past?
  - (a) Earlier vaccines were more effective.
  - (b) It had a very low reproduction rate then.
  - (c) Patients were isolated as soon as they were infected.
  - (d) Past outbreaks happened in areas with very few people.
4. Select the paragraph from the section “A Global Risk” that shows a comparison between two Ebola outbreaks.

## Answer Key

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