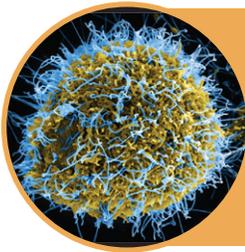


# Why Ebola is Not Likely to Become Airborne



Ebola is a scary, highly infectious, deadly disease. Discovered in 1976, it is a rare disease caused by one of five Ebola virus species. As if Ebola isn't a scary enough disease, some people have wondered whether or not Ebola could mutate and become airborne. Has it become or could it become an even scarier, more deadly, and more easily spread super-bug?

**No. Scientists have not seen any evidence to suggest that the Ebola Virus may be mutating to become more contagious or more easily spread.**

## What we know about how Ebola spreads

- Ebola virus is spread through direct contact with the blood or body fluids (including but not limited to feces, saliva, sweat, urine, vomit, and semen) of a person who is sick with or has died from Ebola. The virus in blood and body fluids can enter another person's body through broken skin or unprotected mucous membranes in, for example, the eyes, nose, or mouth.
- Ebola can also be spread through needle sticks and contact with objects (like needles and syringes) that have been contaminated with the virus.
- In some countries in Africa, Ebola can be spread through contact with infected animals and it may be spread as a result of handling bushmeat (wild animals hunted for food) and contact with infected bats.
- It is also possible that Ebola virus can be spread through the semen of men who have recovered from Ebola (for example, by having oral, vaginal, or anal sex).
- Healthcare providers caring for Ebola patients and family and friends in close contact with Ebola patients are at the highest risk of getting sick because they may come in contact with infected blood or body fluids of patients who are very sick with Ebola.

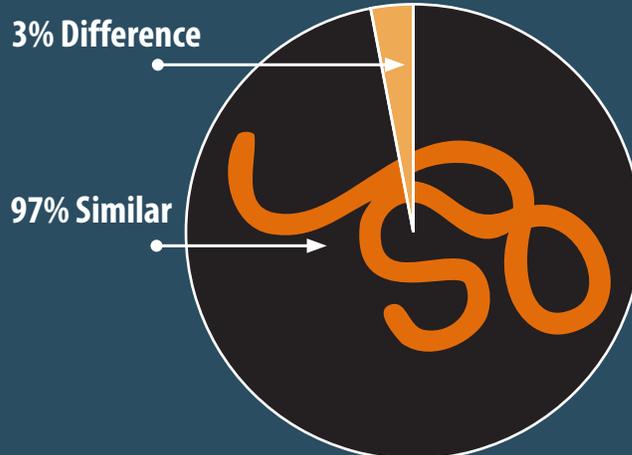
## What we know about Ebola virus and mutation

- Although Ebola was first discovered in 1976, the virus is an ancient one, having split off from other viruses dating back thousands of years.
- Since discovered, Ebola has proven to be a stable virus with a relatively constant mutation rate.
- The Ebola virus samples from this outbreak are 97% similar to the virus that first emerged in 1976.
- Scientists monitoring the virus have not seen any evidence to suggest that the Ebola virus may be mutating to become more contagious or more easily spread.

## Why we don't think Ebola will mutate to become airborne

- Viruses are ancient. They constantly mutate; this is expected and normal.
- Mutations occur every time a virus replicates or makes copies, but most mutations are "silent" and have no effect on the virus.
- Even as Ebola mutates, like all viruses do, it would be very unusual for it to change how it is transmitted, especially when it is spreading easily through a population.
- Over the course of millions of years, viruses do sometimes mutate to change how they spread infection. **For Ebola, this would require multiple mutations in the virus over a very long period of time.**

## Changes in the Ebola virus from 1976 to 2014



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention