

## Ebola virus response “inadequate” to match new potential mutations

In the wake of President Obama’s announced [plans to redouble U.S. emergency aid efforts](#) to fight the epidemic, there are fears that the virus could evolve new mutations and could go airborne.

There is increasing concern that the virus could acquire mutations that make it more easily spread or even airborne. A [study](#) published in the journal *Eurosurveillance* found that in Guinea, Liberia, and Sierra Leone – three countries that have been hit the hardest by the epidemic – for each person infected with Ebola between June and August, [as many as two other people contracted the virus](#).

Although such numbers must be interpreted with caution (as they rest on an assumption of continued exponential growth within 2014, which is unlikely), our study supports the notion that the ongoing Ebola virus disease epidemic must be regarded as a Public Health Emergency of International Concern.

Michael T. Osterholm, director of the Center for Infectious Disease Research and Policy, expressed concern in a [New York Times op-ed](#) that the rate of new Ebola cases might actually increase if unpredictable mutations make the virus harder to control.

Viruses like Ebola are notoriously sloppy in replicating, meaning the virus entering one person may be genetically different from the virus entering the next. The current Ebola virus’s hyper-evolution is unprecedented; there has been more human-to-human transmission in the past four months than most likely occurred in the last 500 to 1,000 years. Each new infection represents trillions of throws of the genetic dice.

In its current form, Ebola is only capable of being spread from person to person by bodily fluids. Its rapid rate of mutation, Osterholm explains, could lead to the virus being transmissible by air. If this happens, containing Ebola will become an even more daunting task than it already is, and a global pandemic could ensue.

How serious a threat is this scenario? According to [William Schaffner](#), infectious disease expert at Vanderbilt University, it is possible but highly unlikely that Ebola would mutate to become airborne.

Still, conditions are presently bad enough in areas that are already affected to warrant an international response. West Africa’s climate, poverty rates and political climate make infectious disease outreach difficult in the best circumstances: some members of a team of health workers and educators were killed in Guinea in a [public riot](#) against Ebola clinics. As Osterholm explains:

*We have to remember that Ebola isn't West Africa's only problem. Tens of thousands die there each year from diseases like AIDS, malaria and tuberculosis. Liberia, Sierra Leone and Guinea have among the highest maternal mortality rates in the world. Because people are now too afraid of contracting Ebola to go to the hospital, very few are getting basic medical care.*

To make matters worse, the already severe shortage of doctors in Liberia – 250 for four million people – is becoming even more serious due to health care workers contracting Ebola.

For humanitarian reasons, world leaders should be pulling out all the stops to properly treat Ebola patients, prevent the virus from spreading to more populations, and develop a vaccine to stop it. Richard E. Besser, former director of the Centers for Disease Control and Prevention, asserts little doubt that [current efforts are not sufficient](#) to address the Ebola crisis.

/ speak from sad experience: The level of response to the Ebola outbreak is totally inadequate. At the CDC, we learned that a military-style response during a major health crisis saves lives. In a global setting, the CDC usually provides technical support to local ministries of health. This crisis calls for much more.

#### **Additional Resources:**

- [WHO fast-tracks use of experimental drugs for Ebola](#), New Scientist
- [We could have stopped this](#), Foreign Policy
- [Ebola is rapidly mutating as it spreads across West Africa](#), NPR