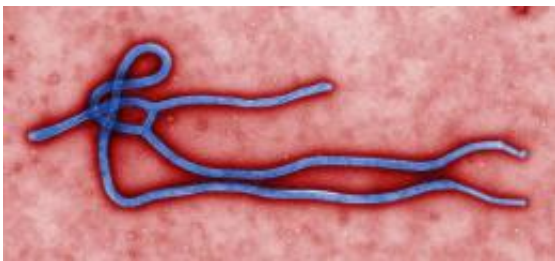


Researchers suggest some emerging infectious diseases may have been around a long time

November 9 2012, by Bob Yirka



Electron micrograph of an Ebola virus virion. Credit: CDC/Cynthia Goldsmith

(Medical Xpress)—A genetics research team led by Pardis Sabeti of Harvard University has published a paper in the journal *Science*, suggesting that some infectious diseases that are thought to be relatively new, may in fact have been around for thousands of years. They claim they have genetic evidence that shows that some diseases such as Ebola and Lassa, which some believe first began infecting people in just the past half century, likely have been around for hundreds and in some cases thousands of years.

Recent field evidence has suggested that some people that live in areas where such diseases are common show rates of exposure to Ebola and Lassa that are high enough to indicate that some have developed an immunity to them. Last year, for example, blood tests showed that up to

55 percent of the population in a community in Guinea had been exposed to Lassa and 22 percent had been exposed to Ebola. Generally it takes many generations to build up such a level of immunity.

Additionally, in studying the genetic structure of Ebola and Lassa, the researchers found that Lassa appears to have diverged from a family of hemorrhagic diseases approximately 500 hundred years ago. Ebola appears to go back even further, having diverged from the [Marburg virus](#) approximately 10,000 years ago.

In studying field reports regarding Ebola and Lassa the researchers also found that both can show symptoms that differ from those that have been commonly associated with them, namely mucosal and internal bleeding. Sometimes, they found, victims with the diseases show no signs of bleeding – instead they have a fever, cough or sore throat. In such situations, it's likely others believed they had contracted another disease. Such cases they say, might explain why so many researchers have come to conclude that both are among those classified as [emerging infectious diseases](#). Instead they suggest, it's more of an emerging diagnosis trend.

The team suggests that if Lassa and [Ebola](#) are diseases that are newly diagnosed, rather than emerging, it makes sense that others likely are as well. And if that is the case, then research that focuses on which populations are harboring them might turn up data to better predict when an outbreak might occur.

More information: Emerging Disease or Diagnosis? *Science*, 9 November 2012: Vol. 338 no. 6108 pp. 750-752 [DOI: 10.1126/science.1225893](#)

Abstract

Outbreaks this year of the deadly and highly contagious Ebola and

Marburg viruses in the Democratic Republic of Congo and Uganda and Lassa virus in Nigeria raised concerns about possible epidemic spread of these hemorrhagic fevers. These pathogens seemed to appear out of nowhere around the middle of the 20th century: Marburg virus in 1967, Lassa virus in 1969, and Ebola virus in 1976. By the early 1990s, public health concerns were crystallized in a landmark report (1) that was the first to popularize the concept of "emerging pathogens". But could "emerging diagnosis" explain the rise in appearance of hemorrhagic fevers caused by these pathogens? Recent epidemiologic and genetic studies of Lassa and Ebola fevers suggest that these diseases may have widespread prevalence and ancient origins. They raise the possibility that some viral infections may reflect "emerging diagnoses" of diseases that are circulating more widely than thought, with an emerging character primarily a matter of improved detection of the culprit pathogens.

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Citation: Researchers suggest some emerging infectious diseases may have been around a long time (2012, November 9) retrieved 4 May 2024 from <https://medicalxpress.com/news/2012-11-emerging-infectious-diseases.html>

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