

# Airborne transmission of Ebola highly unlikely, experts say

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No threat foreseen from public sniffles, coughs.

(HealthDay)—Riding a bus or an elevator full of sniffles, coughs and sneezes is one of the more unpleasant aspects of the flu season.

Those same coughs and sneezes can be downright terrifying these days, given that the Ebola epidemic in West Africa has spread a tendrill into the United States with the first diagnosed cases in Dallas.

But people face no threat from Ebola due to these public sniffles, according to a panel of Ebola experts gathered by the *New England Journal of Medicine* for an issue briefing Wednesday.

The evidence from this epidemic, and prior Ebola outbreaks, strongly suggests that the deadly virus cannot be transmitted through a cough or sneeze, said Dr. Armand Sprecher, a public health specialist with the aid organization Doctors Without Borders.

"If there were significant airborne transmission, we would see spontaneously generated cases that were not linked to a known case. There would be cases of casual transmission," Sprecher said in response to questions from health professionals.

When experts investigate how people have contracted Ebola, "it inevitably tracks back to a significant exposure" involving direct contact with either a very sick person or a dead body teeming with the virus, Sprecher said.

That's why new guidelines for [health care workers](#) treating Ebola patients focus on full-body suits that leave no exposed skin, said Dr. Arjun Srinivasan, associate director for healthcare-associated infection prevention programs at the U.S. Centers for Disease Control and Prevention.

"The best evidence that we have suggests that the overwhelming route of transmission is through contact with contaminated fluids with broken skin or mucous membranes," Srinivasan said.

The fluids in question are primarily vomit and diarrhea, which develop as Ebola infection progresses. The experts said people become more infectious as they grow sicker with Ebola, as the amount of virus in their system escalates.

Within the first day of the disease, when you simply have a fever and no production of bodily fluids, you don't see disease transmission through casual contact, Srinivasan said. "So we assume that it is not easily transmissible during the incubation period or even into the first day or two of the disease," he said.

No one in the family of America's first diagnosed Ebola patient, Thomas Eric Duncan, became infected even though they were in the house with

him when he became sick with vomiting and diarrhea, experts noted.

"I think that's a particularly important thing for us all to remember," Srinivasan said.

However, the experts admitted that these assertions are based on observations by epidemiologists, rather than by hard scientific evidence. Not enough research has been done to provide definitive answers because Ebola outbreaks have been so rare.

For example, Sprecher said the evidence is "very, very weak" that people who have survived an Ebola infection are not infectious to others even though they may have tell-tale traces of Ebola genetic material in their systems.

"Patients go home and do not produce further cases in their domestic environments, so they are not infectious to the best of our knowledge," he said.

Doctors also can't definitively say that Ebola survivors are immune from future infection, even though some current patients are receiving transfusions from past survivors in hopes that antibodies will help them fend off the virus.

Ebola survivors do carry antibodies specific to the virus, but because no one has ever faced re-infection, doctors have no idea how much protection the antibodies provide.

"I'm not aware of data that absolutely confirms that somebody who was previously infected cannot be re-infected," said Dr. Jeremy Farrar, director of the Wellcome Trust, a global charitable foundation contributing to the Ebola response.

Experts participating in the briefing also provided an update on medical efforts to halt the Ebola epidemic in Guinea, Liberia and Sierra Leone.

Ebola has killed more than 4,900 people, mostly in those three countries, out of nearly 10,000 cases.

The epidemic has severely undermined "health systems that were already grotesquely understaffed prior to this year's losses," said Dr. Paul Farmer, co-founder of Partners In Health, a global health organization dedicated to improving the health of poor people.

For example, Liberia has several million residents but fewer than 50 physicians working in the public care delivery system.

"Several of the care providers we met earlier in the year have since died of Ebola," Farmer said, adding that 97 of 125 Ebola-infected doctors and nurses in Sierra Leone have died as well.

"This is the heart of the crisis right now, that the primary care and secondary care systems have collapsed," he said.

There aren't enough Ebola treatment units, Farmer added, and the units that exist are not spread out enough to effectively combat the virus in all parts of the countries.

Supplies also remain scarce in these treatment units, Farmer said.

**More information:** For more on Ebola virus, visit the [U.S. Centers for Disease Control and Prevention](#).

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