



Does Ebola Spread Faster in Cities?

It depends on the city's density, urban planning, and health care infrastructure.

TANVI MISRA | [@Tanvim](#) | Oct 3, 2014 | [3 Comments](#)



Festa / Shutterstock.com

Love CityLab? Make sure you're signed up for our free e-mail newsletter.

[Sign up](#)

Doctors are currently treating someone with ["Ebola-Like symptoms"](#) at Howard University Hospital. And now, there are two people with [similar symptoms in a hospital in Maryland](#). They may or may not be the second, third, and fourth instances of Ebola in America, after the first [confirmed case in Dallas](#).

The virus is scary—yes—but it's [really not all that contagious, explains NPR's Michaelleen Doucleff](#). Ebola has a low "[R0](#)" or "reproduction nought," which is the average number of people one sick person will infect. The Ebola virus is at 2 on that scale, the same as Hepatitis C. Measles, one of the most contagious viruses, sits at 18—the other end of that scale.

If a family unit is bigger, as they

Ads are being blocked

For us to continue writing great stories, we need to display ads.

[Un-block](#)

[Learn more](#)

sometimes are in more rural areas, an Ebola-infected person could actually spread it to more people than if they lived in a city.

But the reproduction number can change depending on where you live because it depends on the number of people the sick individual comes in contact with. So, is Ebola more contagious in dense cities stuffed with people?

It would seem so—but it's not that simple, says [Bryan Lewis, a computational epidemiologist at Virginia Tech](#). There are other factors that determine the R0.

How long the sick person is infectious with the virus (about a week for Ebola) is one of these factors. The other one is the probability of infecting a susceptible person in *one* contact—what Lewis calls "effective contact."

Something like the flu, which spreads through the air, is easily more contagious in cities. But Ebola spreads through [close contact with bodily fluids](#). So "effective contact" in this case is likely to happen in very close quarters—with family members or roommates—and not people you're just bumping into on the street, Lewis says. If a family unit is bigger, as they sometimes are in more rural areas, an Ebola-infected person could actually spread it to more people than if they lived in a city.

In cities without adequate indoor plumbing, a person may be more likely to come in contact with infected effluents than in rural areas where houses are further apart.

But the kind of city you're in also matters. In cities without adequate indoor plumbing, a person may be more likely to come in contact with infected effluents than in rural areas where houses are further apart. More concrete surfaces might actually make things worse—causing sewage to run down the street and pool between buildings—making "effective contact" more likely. Certain settings allow for effective contact more than others, Lewis says, and they can be present in urban or rural areas.

The virus has claimed so [many lives in West Africa](#) and spread [so steeply](#) partly because it broke out in just the right setting. But Lewis says that the likelihood of major outbreak in America is pretty low: First off, it's not that contagious, even in cities where you come in contact with lots of people. Second, the American health care system [is pretty equipped to handle](#) Ebola when a person

with symptoms comes knocking. (This last factor, Lewis notes, is even truer for urban areas where hospitals are "fine-tuned and "well-resourced.")

All said and done, it's probably safe to put the hazmat suits away—for now.

Top image: [Festa](#) / [Shutterstock.com](#).

About the Author



Tanvi Misra is a staff writer for CityLab covering demographics, inequality, and urban culture. She previously contributed to NPR's Code Switch blog and BBC's online news magazine.

ALL POSTS | [@Tanvim](#) | [Feed](#)