Why We Shouldn't Quarantine Travelers Because of Zika

Contrary to some Republican presidential candidates, public health experts say there should not be any travel or trade restrictions because of the virus

 By [Dina Fine Maron](http://www.scientificamerican.com/author/dina-fine-maron/) on February 7, 2016

If GOP presidential candidate Chris Christie were to be believed one way to help tamp down the [threat of Zika](http://www.scientificamerican.com/report/the-surge-of-zika-virus/) in the United States would be to quarantine individuals with symptoms of the mosquito-borne illness coming into the country from Brazil. The World Health Organization has already said that such measures would not be a good idea, however. The director-general of the WHO, Margaret Chan, specifically [said](http://www.who.int/mediacentre/news/statements/2016/emergency-committee-zika-microcephaly/en/) earlier this month that there is “no public health justification for restrictions on travel or trade to prevent the spread of Zika virus.”

Christie, the Governor of New Jersey, was asked during the Republican debate in New Hampshire on Saturday night, just days ahead of that state’s primary, if he would quarantine individuals returning from Brazil with symptoms of Zika virus. “You bet I would,” he [replied](https://www.washingtonpost.com/news/the-fix/wp/2016/02/06/transcript-of-the-feb-6-gop-debate-annotated/?hpid=hp_rhp-top-table-main_no-name%3Ahomepage%2Fstory). Presidential candidate and retired neurosurgeon Ben Carson then weighed in to say, “If we have evidence that they are infected and that there is evidence that that infection can be spread by something that they’re doing, yes.” Carson added that “willy-nilly going out and quarantining a bunch of people because they’ve been to Brazil, I don’t think that that’s going to work.” But so far public health officials have advised against any level of quarantine.

There is no evidence that individuals who have acquired Zika abroad are causing transmission of the virus within the U.S., and isolating people with Zika symptoms in the U.S. would be impractical and unnecessary, according to a number of infectious disease experts contacted by *Scientific American*.

“I think with this being the first emerging infection post-Ebola, people are more anxious about this virus.  While it has been associated with some serious outcomes that must be addressed, the virus does not spread in a way that makes quarantine something that should be considered,” says Tom Talbot, chief epidemiologist at Vanderbilt University Medical Center.

Zika is a mosquito-borne illness that has relatively mild symptoms so even finding people to quarantine would be challenging. In fact, most individuals infected with the virus have no symptoms at all. Those who do get sick may experience a week of symptoms including fever, rash, achy joints and conjunctivitis. The flu-like symptoms are not highly specific so it would be very hard to tell if an individual at an airport—especially with the limited diagnostic resources available at airports—had Zika or one of many illnesses that could cause similar symptoms. Additionally, the current blood testing for Zika is [cumbersome and time-consuming](http://www.scientificamerican.com/article/babymoon-turns-into-zika-nightmare/) and it can take two weeks or more to confirm whether or not a person exhibiting symptoms has the illness.

Quarantining a symptomatic individual in an attempt to ensure she or he is not bit by a mosquito capable of carrying the virus would also be unnecessary. “Although Zika poses a real threat of continued global spread, continuing measures to protect travelers and control the outbreaks where they are occurring, although imperfect, are more appropriate responses,” says Jeffrey Duchin, chair of the public health committee for the Infectious Diseases Society of America’s public health committee. “National quarantine of travelers exposed to Zika virus is neither appropriate or feasible, and would likely have no meaningful impact on the spread on the disease but would result in significant negative unintended consequences on travel, commerce and individual rights.”

The primary concern epidemiologists have about Zika—and the reason WHO declared it a public health emergency—is its connection with[microcephaly](http://www.scientificamerican.com/article/what-s-behind-brazil-s-alarming-surge-in-babies-born-with-small-heads/) a severe birth defect that causes infants to have abnormally small heads. The worry, therefore, is that pregnant women will contract Zika. So far, there have been more than 50 cases of Zika virus that have been imported into the United States since 2007, according to an [analysis](http://www.scientificamerican.com/article/zika-virus-threatens-u-s-from-abroad1/)by *Scientific American*, yet there have only been [two cases](http://www.scientificamerican.com/article/first-case-of-u-s-transmission-in-ongoing-zika-outbreak-announced-in-texas/) of local transmission of the disease, both via sexual contact. (The Centers for Disease Control and Prevention has said in [new guidance](http://www.cdc.gov/media/releases/2016/s0205-zika-interim-guidelines.html) that recovering male patients should wear condoms since it is unclear how long the virus may stay in semen.) Every other case involved a traveler who was infected via a mosquito bite overseas, and there have been no cases of transmission by mosquitoes in U.S.

The insects do present the greatest potential for Zika transmission, according to both the WHO and the CDC, and American health officials are bracing for small clusters of local transmission because the mosquitoes that carry Zika—mainly [*A. aegypti*](https://en.wikipedia.org/wiki/Aedes_aegypti)—live in the U.S. But quarantines would be unlikely to help prevent such outbreaks. “Based on experience with other viruses like dengue and chickungunya that are transmitted by the same mosquito vectors and have reached the U.S. after large scale epidemics expanded globally, the risk for ongoing transmission or large outbreaks in the U.S. is thought to be low,” says Duchin. “In contrast, the number of persons traveling to and from Zika-affected areas would be extremely large, making implementation unrealistic even if it was potentially useful. And it is likely that Zika, as dengue and chickungunya viruses have done, will become established in much of the world meaning that quarantine would need to be continued on an ongoing basis.”

There are still many unanswered questions about Zika, but it is nothing like Ebola, which can spread via contact with a variety of bodily fluids and killed thousands. Genetic material from Zika has been detected in saliva and urine, but that does not mean it can be passed onto another person via kissing or casual forms of contact. There is no evidence of such transmission in any case since the virus was first detected in 1947. Furthermore, finding genetic material from the virus in saliva and urine is akin to finding bones of a dinosaur rather an actual dinosaur. While it indicates that the virus was once there, it does not necessarily signal the presence of a live and active threat.

As CDC director Tom Frieden told reporters last week, “There are a total of three cases in the world literature of Zika virus being … in male genital urinary secretions. As we learn more, we will adapt. I think it's important to step back and emphasize that Zika is a mosquito-borne virus, and the overwhelming majority of cases are spread by mosquitoes.”

Although the mosquitoes that are biologically capable of transmitting the virus already [live in the U.S.](http://www.scientificamerican.com/article/zika-virus-cases-are-confirmed-in-the-u-s-what-you-need-to-know/), primarily on the Gulf Coast, the same mosquitoes are also capable of passing on dengue and chikungunya and there have not been large outbreaks of either illness despite the fact that travelers coming to the U.S. with symptoms have not been quarantined. That suggests the only thing that needs quarantine right now is fearful claims that sequestering travelers from the more than 30 countries and territories with the virus is necessary.

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