**Zika Virus-Related Information**

**It's possible, even likely, that another species would take the place of the mosquitoes we exterminated. For instance, A. aegypti could be replaced by a mosquito from the Culex pipiens species complex. Culex, which is a vector for the West Nile virus, "does very badly when Aedes is present," Juliano notes, but it might be expected to thrive in its absence. On the other hand, the new-comer might be a relatively harmless species; the ecological niche for mosquitoes doesn't require them to carry diseases fatal to human beings. In the long term, the pathogens could evolve to be spread by the mosquitoes that are still around, but there's plenty of time for humans to worry about that *(Jerry Adler, in Smithsonian magazine)***

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**Congress failed to approve any funding to fight Zika before breaking for recess until September 5. In May, the Senate passed a bipartisan $1. 1 billion bill, which House Republicans then layered with what Democrats called "poison-pill" riders that would limit funds for Planned Parenthood and Obamacare. In response, Senate Democrats refused to reconsider the House-approved rewrite. *(The Week magazine, August 12, 2016)***

**Congress is sitting on$385 million in leftover Ebola funds, which are apparently tied up by "bureaucratic federal procurement regulations." What's more, the FDA hasn't cleared trials for a promising genetically engineered mosquito whose offspring die before maturity, which could "substantially shrink the infectious population." *(The Week magazine, August 12, 2016)***

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**If society chooses to eliminate one or more species of mosquitoes, what are the downsides? Mosquitoes play a critical role in a few environments, such as the Arctic tundra, where they hatch out by the billions over a short period and are a significant food resource for birds. In most other places, biologists believe the ecosystem could survive the loss. Still, according to Nolan, "Our goal is not to eliminate malaria mosquitoes from the face of the earth. If we succeed, people won't even notice. There will be plenty of mosquitoes out there." *(Jerry Adler, in Smithsonian magazine)***

**The good news is that Aedes aegypti is what geneticists call a lazy mosquito. It travels only about 500 feet in its entire three week life span. So chances are "there's no need to freak out -- not yet, at least." *(The Week magazine, August 12, 2016)***

**More than 1,650 Zika infections have been reported in the U.S., nearly all acquired through travel to South America and the Caribbean. *(The Week magazine, August 12, 2016)***

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**Malaria alone accounts for 60 percent of mosquito-related deaths. Fatality rates are especially high among young children. *(Jerry Adler, in Smithsonian magazine)***

**Although a huge international effort has cut malaria mortality by about half since 2000, the World Health Organization still estimates there were more than 400,000 fatal cases in 2015, primarily in Africa. *(Jerry Adler, in Smithsonian magazine)***

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**Snakes and sharks may be the stuff of nightmares, but they cause far fewer deaths than mosquitoes. *(Smithsonian magazine)***

**Despite warnings that Zika posed a hazard to everyone attending the 2016 Rio Olympics, there has not been a single confirmed case of the virus in spectators, athletes, or anyone associated with the Games, the World Health Organization says. About 80 percent of people infected with Zika, however, don't show symptoms and don't realize they've contracted the virus. *(NPR.com, as it appeared in The Week magazine, September 9, 2016)***

**The real problem is that we're constantly playing catch-up with outbreaks like these, said epidemiologist Stephen Morse in USNews.com. Recall that after the mosquito-borne West Nile virus arrived in New York City in 1999, "almost everyone was surprised" by its spread across the country. We need "a special contingency fund for infectious disease emergencies," Zika may be the health crisis of the moment, but in our "globalized world, we can expect many more." *(The Week magazine, August 12, 2016)***

**Zika, which is carried by the Aedes aegypti mosquito but can also be transmitted sexually, causes no symptoms in most of those who are infected, but it can cause microcephaly in newborns, as well as paralyzing neurological disorders in adults. *(The Week magazine, August 12, 2016)***

**Nearing a Zika vaccine? Five months after the Zika virus was declared a global public health emergency, researchers are inching closer to a vaccine that protects against the mosquito-borne illness. Two distinct approaches to the virus -- which is associated with paralyzing neurological conditions such as Guillain Barre Syndrome, as well as microcephaly and other severe birth defects -- have shown particular promise in tests using mice. Immunologists at Harvard have developed a DNA vaccine that trains the immune system to fight Zika using small pieces of the virus' genetic code -- a relatively new technique that has been approved for use in humans in the U.S. Using a more traditional strategy, a team at the Walter Reed Army Institute of Research has developed an inactivated-virus vaccine that produces antibodies by imitating an infection, the Los Angeles Times reports. "We were very surprised -- and quite impressed -- that a single shot of either of these vaccines provided complete protection," says Harvard immunologist Dan Barouch. Another DNA vaccine, known as GLS-5700, has already received FDA approval for early-stage clinical trials in humans. The developments have raised optimism, as Zika spreads northward from Brazil. But Barouch warns that "we need to be cautious about extrapolating" from results involving mice and applying them to people. *(The Week magazine, July 15, 2016)***

**The war has been waged with shovels and insecticides, with mosquito repellent, mosquito traps and mosquito-larvae-eating fish, with bed nets and window screens and rolled-up newspapers. But all these approaches are self-limiting. Puddles fill up again with rain; insects evolve resistance to pesticides; predators can eat only so much. *(Jerry Adler, in Smithsonian magazine)***

**You could wipe out every species of mosquito, although you'd need to do them one at a time, and there are around 3,500 of them, of which only about 10 spread human disease. *(Jerry Adler, in Smithsonian magazine)***

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