This year's flu season is going to be bad. So far, at least 30 children have died from the flu.

But, as it turns out, influenza won't be bad just for humans; it will be bad for our canine companions, as well. According to news sources, canine influenza (“dog flu”) has been reported in 46 states.

Dog flu is incredibly infectious. Though there is no "dog flu season," the American Veterinary Medical Association (AVMA) says that nearly all dogs that are exposed to it will become infected, with 80% showing signs of illness. Symptoms in dogs are similar to those seen in humans: fatigue, cough, sneezing, and a drippy nose. For most dogs, the infection is rather mild, but it can be lethal.

What Causes Dog Flu? And Can It Spread to Humans?

According to the CDC, there are two subtypes of influenza A virus that cause dog flu: H3N2 and H3N8. The former, H3N2, might sound familiar: A strain of human-adapted H3N2 is a major player in the nasty flu season occurring among humans this year, as my colleague Dr. Julianna LeMieux wrote. But the human-adapted H3N2 and the canine-adapted H3N2 viruses are not the same; indeed, there are no known cases of humans catching the flu from their dogs.

Of course, that doesn't mean it's biologically impossible. Human flu can spread to pigs and birds and vice versa. Because the influenza virus mutates rapidly, it is certainly within the realm of possibility that, someday, a strain of flu that spreads between humans and dogs will evolve. In fact, the CDC claims that the H3N8 subtype jumped from horses to dogs in 2004, and the H3N2 subtype jumped from birds to dogs in 2007.
Dog Flu Is Evolving in Scary Ways

Evidence indicates that dogs can become infected with human-adapted influenza strains. While they may not show signs of infection, this is incredibly concerning. One major pathway by which influenza evolves is when two different strains infect the same host. When that happens, the viruses can swap genes, a process known as genetic reassortment. This can produce devastating influenza pandemics.


As a result of such findings, a 2016 review paper disturbingly concluded "that dogs could play a role in virus adaptation and genome mixing before spread [sic] to other species."

Preventing Dog Flu

The AVMA only recommends vaccinations against canine influenza if a dog routinely interacts with many other dogs, for instance in kennels or in dog parks.

So, if you are concerned about your dog, then vaccination is an option. If you are concerned about a genetically recombinant human-dog influenza virus wreaking havoc on humanity, then support biomedical research. We can’t stop evolution, but we can fight back.

Sources
