



Investigating Influenza



In the middle of winter, it sometimes seems like everyone is down with the flu. However, humans aren't the only species that can suffer from influenza. Dogs can get it too, and a few years back a novel strain of influenza began showing up in the canine population. In 2004, the strain was identified as H3N8 canine influenza virus (CIV), and it was eventually traced back to a Florida subtype of H3N8 equine influenza. The virus had made the leap from horses to dogs, and it quickly established itself in its new host.

Because H3N8 CIV was a new pathogen for dogs, scientists were very interested in tracing its spread around the country. They were particularly concerned because H3N8 was capable of causing outbreaks in dogs in group housing situations such as boarding kennels, day care centers and veterinary hospitals. In fact, it was so transmissible that within a few years it had established itself as endemic in certain areas of Florida, New York, Colorado, and Pennsylvania. In those areas, influenza had started being diagnosed on a regular basis.

In the early days of the emergence of H3N8 CIV, scientists from the University of Florida College of Veterinary Medicine and the Cornell University Animal Health Diagnostic Center were concerned enough about the virus to set up a collaborative study to track it around the country. For four years, they asked veterinarians from across the U.S. to submit blood samples from dogs with influenza-like symptoms, with the goal of testing those samples for antibodies to H3N8 and getting a better idea of how the virus spread.

With the support of the AKC Canine Health Foundation, the researchers were able to look for the virus in more than 1,200 pet and shelter dogs from 42 states. What they found was that, although the virus tended to concentrate in certain areas of the country, the areas it was found in varied year by year. In a study published in the January 2013 issue of the *Journal of the American Veterinary Medical Association*, they showed that H3N8 was most commonly found in the southeast during 2005, in the west and northeast during 2006 and 2007, and in the northeast during 2008. They also discovered that the virus concentrated in slightly different populations during different years. For example, in 2005 and 2006 it was most commonly found in dogs housed in shelters and boarding kennels, but there were fewer outbreaks in those settings during 2007 and 2008.

The landscape of canine influenza has changed since this research began, but that doesn't make it any less important. Although a vaccine was licensed to prevent canine influenza in 2010, it is far from universally implemented. This research has demonstrated that dogs

likely to end up in communal housing, such as a boarding kennel, may get some of the most significant benefit from vaccination. It also suggests that shelters, kennels, and other sites where dogs congregate might want to establish practices to reduce the risk of H3N8 transmission between dogs.

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Publication:

*Prevalence of and exposure factors for seropositivity to H3N8 canine influenza virus in dogs with influenza-like illness in the United States; Tara C. Anderson, DVM, PhD; P. Cynda Crawford, DVM, PhD; Edward J. Dubovi, PhD; E. Paul J. Gibbs, BVSc, PhD; Jorge A. Hernandez, DVM, PhD; *Journal of the American Veterinary Medical Association*, January 15, 2013, Vol. 242, No. 2, Pages 209-216*

- See more at: <http://www.akcchf.org/research/success-stories/investigating-influenza.html#sthash.dhsTmujW.dpuf>

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