

# New avian flu attacking more than birds

## My View

Lynn Klotz, PhD

Before the year 2015, the H5N1 bird flu virus killed over 52% of poultry workers and others who had close contact with infected poultry. Fortunately, the virus was rarely transmissible among humans. From 2015 to 2020, avian H5N1 fatalities in humans had almost disappeared, since the strains from nature that appeared in poultry markets were no longer deadly to humans. They were, so to speak, “defanged.” We thought we were finished with H5N1 bird flu. We thought we were in a good place.

Since 2021, we are facing a new threat to birds and mammals, a deadly and highly transmissible H5N1 bird flu virus. Worldwide, this new virus is responsible for the death of and purposeful culling of nearly a billion poultry birds; and according to one estimate, the deaths of 10 million wild birds. Recent deaths of large numbers of birds and a much smaller number of deaths of mammals who otherwise would be alive is alarming and sad.

In the 2022 outbreak of H5N1 bird flu along the seacoast of Maine, more than 330 harbor and gray seals died from the virus according to Deborah Fauquier, a veterinary medical officer with the National Marine Mammal Health and Stranding Response Program. Importantly, there have not been any H5N1 deaths in Maine seals so far this year. Let’s hope the observation of no new seal deaths continues.

Some species of meat-eating birds are at risk of extinction from this new bird flu. There is now an effort to vaccinate California condors to protect them from extinction. The vaccine is now being tested. It is possible the condors might need to be re-vaccinated every year or so, a daunting task.

What is the danger of the new H5N1 bird flu virus to humans? So far, there have been almost no human fatalities. A protein called BTN3A3 protects humans from the virus. Analysis for the BTN3A3 genes of some primates that include humans, which separated in evolution around 40 million to 44 million years from other primates, show that humans have the gene that makes the BTN3A3 protein. The other primate group does not make the protein. So, an accident of genome evolution that occurred millions of years ago protects us from the new avian flu virus, an extraordinary bit of luck. It is possible but not yet probable that the virus could begin to infect humans too.

Perhaps a hundred species of mammals, which don’t usually reside on the seacoast, have been infected, and the number is growing. One recent example is noteworthy: an infected mountain lion in the state of Montana. But Montana is not on the seacoast, how did the mountain lion become infected? We don’t really know. For whatever reasons, infected mammals are found far inland. and the numbers of species and the number of animal deaths keep growing. The beat goes on.

Those of us who live along coastlines along the North Shore should pay attention to shore birds to see if they are behaving normally and going about their daily business.

Report dead or dying animals whose deaths seem unusual to the public health authorities in your area.

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