

Scientists and infectious disease experts warn about the growing danger of bird flu

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The disconnect between the warnings made by veterinary researchers and infectious disease specialists and the patchwork of toothless policies being offered against the threat posed by the evolving H5N1 bird flu virus to conciliate the public is widening at an alarming pace.

Dr. Rick Bright, a virologist and former head of the US Biomedical Advanced Research and Development Authority, speaking with *Fortune* magazine, reminded readers that the virus “is going to adapt. We’ve watched it adapt over the years among bird species, and we know it is what influenza viruses do.”

Providing a backdrop to his comment, in the current bird flu panzootic period (2020-2024), 26 countries have reported information of infections among more than 48 animal species, including humans. Since the H5 strain was first identified, more than a half-billion farmed birds have been slaughtered. Wild bird deaths are estimated in the millions. Experts have warned that not only is it expanding its geographic range, but its adaption to immunologically naive populations will have tremendous impact on biodiversity, including the potential for the emergence of a pandemic in human populations.

Since 2003, close to 900 people have tested positive for H5N1 virus, with slightly more than half dying (a lethality rate just above 50 percent). Since 2020, the number of cases has been considerably lower at 28, with eight fatalities (just under 30 percent lethality). While the current clade is seemingly less virulent, even this fatality rate, should H5N1 become a true respiratory pathogen in humans, would make the ongoing COVID pandemic pale in comparison. Many of these cases were among people with direct contact with birds and poultry. But the recent emergence of the disease in dairy cows and the transmission of the virus from these animals to humans raises the threat of the virus developing the necessary mutations to make direct human-to-human transmission

possible.

This is particularly concerning since the intimate connection between farm workers and animals in the agriculture industry makes such a scenario plausible. This type of zoonotic transfer was shown by the emergence of the COVID pandemic at the Huanan wet market in Wuhan, China in December 2019, a byproduct of the extensive wildlife trade there.

According to the US Department of Agriculture, in the nearly three months since health officials and veterinarians began to hear about an unknown illness that was sickening cattle in the Texas panhandle, 94 herds have been infected across 12 states. These include Texas, Kansas, Michigan, Idaho, New Mexico, Ohio, North Carolina, South Dakota, Colorado and, last week, Minnesota, Wyoming and Iowa.

Added to these ongoing concerns, the Iowa Department of Agriculture and Land Stewardship reported on May 28 that an outbreak of the bird flu was confirmed at a commercial egg-layer farm in Sioux County, located in the northwestern corner of the state. State officials told the media that some 4.2 million birds were slated for culling to contain the spread of infections.

Last week, news of dozens of dairy cows across five states dying with the bird flu or having to be slaughtered due to persistent illness has fueled growing alarm. Just recently, the public was told that these cows were expected to make a complete recovery and that the animals only suffered a mild course of illness. Given the bird flu’s propensity to “adapt” and “adapt quickly,” it remains to be ascertained if the bird flu virus in the cows that have had a more severe course of illness has undergone any mutations that make it more virulent.

However, scientists and influenza virologists have decried the continued refusal of the USDA to share data in a way that these developments can be studied in real time. It appears the agency is only providing a smattering

of sequences and most of these from animals first infected in March and early April. Specifically, Bright explained, “They [USDA] have not shared a sequence that they collected from any infected animal in the last eight weeks.”

Additionally, the fact that only three farm workers have tested positive for H5N1 since the outbreak, and only one with respiratory symptoms, gives little reassurance. The Centers for Disease Control and Prevention (CDC) reported that, as of last week, only 45 people had actually received an influenza test. How many cases are being missed?

There are many anecdotal reports of flu-like symptoms among animal handlers. But no serological testing is being done to understand the true extent of the bird flu’s spread. Without such measures, efforts to contain the virus and eliminate it from dairy herds and other animals stand no chance.

More recently, reports of deaths among cats who drank unpasteurized milk or cases of bird flu in house mice in New Mexico near infected dairy cows only suggest other potential vectors for the crossover of the virus into human populations. The autopsy of the cats demonstrated high concentrations of virus in the brains and lungs of the felines. Also, the CDC reported on a ferret study last week in which the animal was infected with the virus from the Texas farm worker. Although the CDC gave assurances that the virus only spreads through direct contact (and not respiratory) between the animals, it was 100 percent lethal among all the animals in the experiment.

Michael Osterholm, epidemiologist and director of the Center for Infectious Disease Research and Policy, told *Fortune*, “It’s interesting that we’ve seen a lot of multi-organ involvement, brain involvement, major organ involvement that has been really remarkable, causing the death of many different animal species. And we don’t understand that yet. ... What’s we’re seeing right now in dairy cattle is just another situation where the potential for that virus to change is, I think, surely increased.”

Meanwhile, beyond recommendations for the use of personal protective equipment and voluntary monitoring, little else if anything is being done to protect agricultural workers. Given the complete evisceration of public health measures that has taken place during COVID, the dangers of a new pandemic are growing.

The emergence of right-wing populist anti-public-health campaigns and the abandonment of elementary healthcare principles are a consequence of financial pressures that

place profits always ahead of well-being and safety both for people and the products bought and sold.

An important opinion piece in *Scientific American* by Kay Russo, Michelle Kromm and Carol Cardona, veterinarians and influenza experts, identifies the source of the inertia. They wrote, “At this point, the dairy industry must put aside cultural and operational differences and start the kind of broad-scale influenza testing and reporting that occurs in the poultry and swine industries. By taking these proactive measures, dairy operators can reduce the risk and impact of H5N1 on their herds and prevent the development of human-adapted strains of bird flu. We cannot afford to be complacent in the face of this threat, especially after the lessons learned from the COVID pandemic. No one wants to go back to that.”

The authors underscore the dangers of the business profit mentality that focuses on productivity and output volume while reducing to the bare minimum the necessary safety expenditures and practices. But they also cite the failures of state and federal agencies who continue to respond without any real show of urgency because they “need to quell consumer concerns and to manage the industry’s desire to continue with business as usual.” The half-hearted makeshift measures taken are leading to policies that “did not consider the long-term economic, animal welfare and health and food security effects of a potential epidemic, not to mention pandemic.”

The commentary concludes with lessons from the experience of the last four years. The three experts state, “The bigger picture of this issue related to human health has been repeatedly brushed aside in the past few months. This is a genuine ‘One Health’ initiative, an opportunity for both animal and human health advocates to work together for the betterment of all species. Set politics aside. Focus on a sustainable, science-driven solution. Act now before it is too late.”



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