

Threat posed by H5N1 bird flu deepens, as public health authorities delay action

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Since the highly pathogenic avian influenza (H5N1 bird flu) was first detected among dairy cows in late March, a total of 132 herds across 12 states have now officially been impacted. In the last 30 days, an additional 65 infected herds have been confirmed across eight states. Despite repeated assurances given by the federal government that every resource is being utilized to eliminate the threat, scientists are increasingly concerned that far too little is actually being done to protect humanity from another pandemic.

To date, the Centers for Disease Control and Prevention (CDC) has only tested 51 people potentially exposed to H5N1, a figure which has remained essentially static since the outbreak was detected. This only confirms in the negative that little has been done to conduct surveillance, testing, and serological studies of communities where people and livestock live in close proximity, which are necessary for epidemiologists to comprehend the scope of the ongoing threat.

More recently, a Michigan initiative is underway with the support of the US Food and Drug Administration (FDA) to begin testing a wider range of dairy products and a human serology study to assess the impact on workers after exposure to sick cows. The CDC stated that the objective of these efforts is to determine the efficacy of antivirals on the circulating clade of the bird flu, understanding infection in people, estimating the incubation period and potential mechanisms to mitigate the possibility of an H5N1 pandemic.

In a recent social media post on Twitter/X, molecular biologist and social science journalist Kai Kupferschmidt commented on research being conducted in a high security lab in Germany where cows were infected with the H5N1 strain circulating in US dairy cows and strains from H5N1-infected wild birds. He wrote, “In both cases they infected the udders directly through the teats and in both cases the animals got sick. They showed clear signs of disease such as a sharp drop in milk production, changes in milk consistency and fever.”

Kupferschmidt noted that the preliminary results imply that wherever H5N1 is circulating, the virus can spill over into cows. The researchers also indicated that transmission among cows may be a result of human activity, in which contaminated equipment is causing transmission through direct contact. However, he said that more research is needed on the potential

for cow-to-cow transmission, and he is awaiting the results of the research to be published soon.

In a special report published in *STAT News*, based on interviews with numerous experts and federal representatives, the authors concluded,

The country still does not have a sufficient testing infrastructure in place, nor a full understanding of how the virus is moving within herds and to new herds, experts say. Government officials also have not secured the cooperation from farmers and dairy workers that would be required to rein in the outbreak.

In another interview, former CDC director in the Trump administration Dr. Robert Redfield said, “I really do think it’s very likely that we will, at some time, it’s not a question of if, it’s more of a question of when we will have a bird flu pandemic.” He added that a bird flu pandemic would have considerably greater mortality than COVID-19, placing the figure at “somewhere between 25 and 50 percent mortality,” while the death rate for COVID-19 has been estimated at 0.6 percent.

As CDC director under Trump, Redfield botched the initial rollout of mass testing and contact tracing and was instrumental in the dismantling of public health infrastructure. He discouraged COVID-19 testing, advocated the deadly reopening of schools in the fall of 2020, lied about the airborne nature of the virus and denigrated masking. One must ask, when the next pandemic ignites, will Redfield call for an elimination strategy or endorse a “forever bird flu” policy?

Redfield’s decades of experience in public health and discussions with experts on flu viruses and the evolution of H5N1 over nearly three decades underscore the significance of his warnings. That this particular virus has insinuated itself into livestock and animals, such as cats and mice, known to habitate homes and farms, indicates the potential ability for the virus to mutate further and potentially evolve to easily infect people via respiratory pathways.

The case of SARS-CoV-2, the virus that causes COVID-19, and its emergence from the wild animal market in Wuhan, underscores these concerns. According to the EcoHealth Alliance’s 2022 study published in *Nature*, the authors found an abundance of SARS-and SARS-CoV-2-related bat coronaviruses across a broad geographic region in Southern China, home to 300 million people. Their estimates indicated approximately 66,000 people were exposed to these viruses annually.

Given that 16 million people were engaged in the wild animal trade industry in China at that time, estimated at \$73 billion by the Chinese Academy of Engineering, brings to the fore the connection between economics, human activity, the need for sources of alternative proteins given the prohibitive cost of basic foods and the threat of pandemics.

That SARS-CoV-2 has the ability to infect a wide array of animals besides humans suggests that the virus had already been well established in intermediary hosts before it had erupted in a self-sustaining outbreak in December 2019. Such is the case with H5N1 clade 2.3.4.4b, which emerged in 2020 when the virus reassorted between wild birds and poultry and has led to the mass killing of hundreds of millions of birds, as well as dozens of animal species.

As the *STAT News* report highlights, private dairy farms and agricultural businesses see the need for a thorough public health investigation into the outbreak of H5N1 as an intrusion into their profit-making. That is why the statement by the USDA—“The actions we have taken to limit movements, improve biosecurity and encourage testing are expected to establish the foundation for eliminating this virus from the dairy herd”—must be taken with a massive grain of salt. While the USDA advocates for a sound scientific approach, it is ultimately invested in the corporate structure.

It is precisely because the US cattle industry is struggling to break even that the call to investigate H5N1 on their farms and among their workers and livestock is met with trepidation. According to the Federal Reserve Bank of Kansas City, cattle inventories are at historic lows. A March 29, 2024 report notes:

Cattle producers may face challenges maintaining or restocking herds, as higher interest expenses on cattle and input purchases in 2022-23 have constrained profit margins. Although feed costs have decreased slightly, higher costs for financing and other operating expenses could continue to put pressure on cattle production and profitability.

The *STAT News* piece indicates the cool response from farmers to public health measures that might cut into their profits, noting:

But the government’s own data indicate the efforts have holes large enough for the virus to run through. In one USDA survey, 60 percent of farms acknowledged moving cows within a state even after the animals had started showing symptoms of infection. Federal officials have acknowledged they’re not getting much cooperation from dairy producers and workers.

Despite the clear and growing dangers of a bird flu pandemic, there is now a repeated refrain that the threat posed thus far remains low. However, one should recall a report from 2010 by influenza virologist Professor Yoshihiro Kawaoka and colleagues from the School of Veterinary Medicine at the University of Wisconsin-Madison, studying potential reassortments between co-circulating H5N1 and human H3N2 influenza viruses, which noted:

Our data demonstrate that the gene segments of these two viruses are largely compatible, resulting in 184 reassortant viruses with different replicative abilities. Pathogenicity experiments performed with 75 H5 reassortant viruses showed that 22 viruses were more pathogenic for mice than the parental SK06 virus. Strikingly, three viruses exhibited substantial lethality for mice.

As H5N1 continues to spread deeper into US dairy farms, one can ask how might the flu season evolve if these two flu viruses co-circulate, thereby allowing H5N1 to gain respiratory transmission potential with its pathogenicity intact? Are such possibilities being considered, and what preparations should US and World Health Organization (WHO) authorities undertake to prevent such a catastrophic development?

To suggest, as many political mouthpieces have, that the US and the world will somehow be prepared to vaccinate their way out of a pandemic scenario is utterly depraved and dangerous. As Rick Bright, former director of the Biomedical Advanced R&D Authority, recently told *Fortune*, “A head-in-the-sand approach to influenza readiness will not serve the public well when there is a need to respond to an influenza pandemic. The time to commence serious action is now, not when the country is staring down the barrel of a full pandemic.”



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