

Bird flu debate: Should H5N1 experiments resume?

October 13 2012, by Eryn Brown

Virologists making mutated versions of the H5N1 bird flu halted their research in January after a U.S. government advisory panel suggested that their work, though well-intentioned, had the potential to endanger the public.

That voluntary moratorium was intended to last 60 days. Nearly nine months later, it remains in place, and scientists are still hashing out if, when and how the research might resume. In a series of essays commissioned this week by mBio, a journal published by the American Society for Microbiology, key players in the controversy set out their thoughts on the matter.

First, a brief review of the controversy: [H5N1 bird flu](#) has been circulating in parts of Asia, Europe and the Middle East for more than a decade, resulting in the deaths of millions of [chickens](#), [ducks](#) and other fowl. It's rare in humans and does not appear to pass easily from person to person. But when [bird flu](#) does strike in people, it is often deadly.

Virologists were concerned that if [H5N1](#) did evolve to become contagious in people, it could trigger a devastating pandemic. To see how easy it might be for that to happen, they decided to test the virus' ability to become transmissible in ferrets, a lab [mammal](#) whose [flu](#) response is similar to ours. Last winter, reports began to emerge that two teams had engineered versions of H5N1 in the lab that passed through the air between ferrets and sickened them.

Before long, some began to worry about what might happen if the mutated viruses were to escape the lab. Also of concern: whether terrorists or other mischief-makers could use the content of the yet-to-be-published papers to make and unleash their own [deadly viruses](#). The moratorium on publication and research was intended to let everyone step back and figure out how to go on with the work - which could help fight outbreaks in the future, proponents said - while protecting the public.

The journals wound up publishing the research several months later. In May, Nature released a study led by University of Wisconsin virologist Yoshihiro Kawaoka, which reported developing a hybrid bird flu that could pass between ferrets. In June, Science published a paper by Dutch virologist Ron Fouchier and colleagues showing that mutated H5N1 could pass between [ferrets](#) and, when administered directly to the animals, occasionally proved deadly. At the time, policymakers and scientists took time to debate how to continue with the work, with some calling for strict controls on the H5N1 work moving forward and others urging self-regulation by researchers.

This time around, in the mBio essays, the experts touch on many of the same issues. Dr. Anthony Fauci of the U.S. National Institute of Allergy and Infectious Diseases in Bethesda, Md., writes that the moratorium "should continue, pending the resolution of critical policy questions." Infectious disease experts Marc Lipsitch and Barry R. Bloom of the Harvard School of Public Health advocate specific, "explicit risk benefit assessments" before scientists are permitted to work on potentially dangerous pathogens like H5N1.

An essay coauthored by Fouchier and Kawaoka, with researcher Adolfo Garcia-Sastre, argues that research that has already received approval should be permitted to resume.

"It is unreasonable to extend the pause on H5N1 transmission research until every country has made a final decision" on how to proceed, they wrote. "To contribute meaningfully to [pandemic](#) preparedness, we need to conduct more experiments to better understand transmission of H5N1 viruses in mammals, in a timely manner."

For now, the work remains at a halt. As of Wednesday, the World Health Organization reported that 359 people had died between 2003 and 2012 after catching H5N1 - nearly 60 percent of confirmed cases.

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