

Researchers propose new experiments on mutant bird flu (Update)

August 7 2013, by Kerry Sheridan



Nepalese health workers carry sacks of dead chickens at a farm with a suspected bird flu outbreak near Kathmandu, August 1, 2013. Scientists proposed new experiments Wednesday on the deadly H7N9 bird flu to examine how mutant forms might spread among humans, a topic that has stoked global alarm in the past.

Scientists proposed developing a more potent strain of the deadly H7N9 bird flu on Wednesday to examine how mutant forms might spread among humans, a topic that has stoked global alarm in the past.

The announcement came a day after Chinese scientists reported the first likely case of person-to-person transmission of the H7N9 virus, which has killed 43 of the 134 people infected since March according to official figures.

US health authorities said any new H7N9 experiments that seek US funding would undergo a new, strict safety review, after concerns over such research on another bird flu, H5N1, in December 2011 raised fears that terrorists could unleash a virulent lab-grown strain and cause mass deaths.

Those concerns led to a year-long halt to the research being led by Ron Fouchier of Erasmus Medical Center in The Netherlands and US colleagues in Wisconsin.

That voluntary moratorium was lifted earlier this year by a group of 40 scientists around the world.

Fouchier told AFP that his lab has resumed work on an engineered H5N1 virus, but that US labs have not and are awaiting a final decision by American health authorities, expected in the coming weeks.

The latest proposal by Fouchier and 21 colleagues in Hong Kong, Britain and the United States is to examine how H7N9 may spread among mammals and may become more potent and drug-resistant.

This "gain of function" (GOF) research is "necessary and should be done" to better understand how the virus could act in the future, Fouchier and colleagues said in a letter published in the US journal *Science* and the British journal *Nature*.

"To fully assess the potential risks associated with these novel viruses, there is a need for additional research," said the letter.

"As members of the influenza research community, we believe that the avian A(H7N9) virus outbreak requires focused fundamental and applied research conducted by responsible investigators with appropriate facilities and risk mitigation in place."

US health authorities said any experiments that boost the virus's ability to spread would face "extra oversight" and "an additional level of review" by the Department of Health and Human Services.

The research is urgent because the H7N9 virus has some characteristics in common with human flu viruses and others like H5N1 that have adapted to transfer from birds to mammals, Fouchier and colleagues wrote.

H7N9 also shows signs of resistance to the main medical treatment, Tamiflu, and other neuraminidase inhibitors such as peramivir and zanamivir, which "could increase the risk of serious outcomes," the scientists wrote.

Adding to concerns about its spread was the announcement Tuesday that a 32-year-old woman in China appeared to have contracted the virus from her father, who had close contact with poultry, in the first known case of human-to-human transmission of H7N9. Both died.

Research published in *Science* in May showed that H7N9 could spread among ferrets in close contact, and may be able to transmit in people under certain conditions.

"Because the H7N9 virus has acquired the ability of limited airborne transmission under natural circumstances, many experts think the threat posed by H7N9 is higher than for H5N1," Fouchier told AFP in an email.

"As a consequence, it is possible that some people think that H7N9 research is more urgent."

Fouchier also said that no additional US funds were being sought for the experiments, since they would likely seek to use government money already provided under a seven-year contract to the high-security labs that are part of the US National Institutes of Health's Centers of Excellence in Influenza Research and Surveillance (CEIRS).

US health authorities said their review process would "consider the acceptability of these experiments in light of potential scientific and public health benefits as well as biosafety and biosecurity risks."

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