Scientists: China bird virus likely silent threat

April 3 2013, by Gillian Wong

A woman and her daughter are frightened while ducks approach closely for food at an amusement park in Beijing, China, Wednesday, April 3, 2013. Scientists taking a first look at the genetics of the bird flu strain that recently killed two men in China said Wednesday the virus could be harder to track than its better-known cousin H5N1 because it might be able to spread silently among poultry without notice. The bird virus also seems to have adapted to be able to be able to sicken mammals like pigs. (AP Photo/Alexander F. Yuan)

Scientists taking a first look at the genetics of a bird flu strain that has

killed three people in China said Wednesday that the virus could be harder to track than its better-known cousin H5N1 because it might be able to spread among poultry without showing any signs.

The scientists, at several research institutes around the world, urged Chinese veterinary authorities to widely test animals and birds in affected regions to quickly detect and eliminate the H7N9 virus before it becomes widespread.

They said the virus is troubling because it can infect poultry without producing any symptoms, while seriously sickening humans. The virus, previously known to have infected only birds, appears to have mutated, enabling it to more easily infect other animals, including pigs, which could serve as hosts and spread the virus more widely among humans, they said.

The findings are preliminary and need further testing.

China over the weekend reported two deaths in Shanghai in the strain's first known infections of humans. On Wednesday it announced an additional fatality—a 38-year-old cook working in Jiangsu province, where other cases also have been reported.

The cook went home to Hangzhou in Zhejiang province for treatment after falling ill in early March, and died March 27.

One other person in Hangzhou, a 67-year-old retiree, was in critical condition, the official Xinhua News Agency reported, bringing the number of seriously ill H7N9 patients in three eastern provinces to six. Those regions stepped up measures this week to guard against the spread of the disease, calling on hospitals to report severe pneumonia cases with unknown causes and schools to monitor for fevers.

In the wake of the outbreak, the Chinese Center for Disease Control and Prevention shared the genetic sequence of the new virus with the global health community. The data allow scientists to make preliminary interpretations of how the virus might behave in different animals and situations. Such hypotheses, while not conclusive, can help provide important early warnings to authorities dealing with the disease.

A woman feeds ducks while her boyfriend takes photos at an amusement park in Beijing, China, Wednesday, April 3, 2013. Scientists taking a first look at the genetics of the bird flu strain that recently killed two men in China said Wednesday the virus could be harder to track than its better-known cousin H5N1 because it might be able to spread silently among poultry without notice. The bird virus also seems to have adapted to be able to be able to sicken mammals like pigs. (AP Photo/Alexander F. Yuan)

The scientists said that based on information from the genetic data and

Chinese lab testing, the H7N9 virus appears to infect some birds without causing any noticeable symptoms. Without obvious outbreaks of dying chickens or birds to focus efforts on, authorities could face a challenge in trying to trace the source of the infection and stop the spread.

"We speculate that when this virus is maintained in poultry the disease will not appear, and similar in pigs, if they are infected, so nobody recognizes the infection in animals around them, then the transmission from animal to human may occur," said Dr. Masato Tashiro, director of the World Health Organization's influenza research center in Tokyo and one of the specialists who studied the genetic data. "In terms of this phenomenon, it's more problematic."

This behavior is unlike the virus's more established relative, the virulent H5N1 strain, which set off warnings when it began ravaging poultry across Asia in 2003. H5N1 has since killed 360 people worldwide, mostly after close contact with infected birds.

"In that sense, if this continues to spread throughout China and beyond China, it would be an even bigger problem than with H5N1 in some sense, because with H5N1 you can see evidence of poultry dying, but here you can see this would be more or less a silent virus in poultry species that will occasionally infect humans," said University of Hong Kong microbiologist Malik Peiris, who also examined the information.

A duck stands near a warning sign at an amusement park in Beijing, China, Wednesday, April 3, 2013. Scientists taking a first look at the genetics of the bird flu strain that recently killed two men in China said Wednesday the virus could be harder to track than its better-known cousin H5N1 because it might be able to spread silently among poultry without notice. The bird virus also seems to have adapted to be able to be able to sicken mammals like pigs. (AP Photo/Alexander F. Yuan)

Scientists closely monitor bird flu viruses, fearing they may change and become easier to spread among humans, possibly sparking a pandemic. There's no evidence of that happening in China.

Peiris praised Chinese health authorities for being forthcoming with data and information, but said animal health agencies needed to act quickly. He urged China to widely test healthy birds in live animal markets in the parts of the country where the human infections have been reported to find out what bird species might be hosting the virus and stop the spread.

"If you don't stamp it out earlier now, there won't be any chance of stamping it out in the future," Peiris said. "It already may be too late, but this is the small window of opportunity that really one has to grasp, as quickly as possible."

The Agriculture Ministry's propaganda office could not be reached by phone and did not immediately respond to a faxed list of questions.

Other information gleaned from the genetic data was that the H7N9 virus was what scientists call a "gene re-assortant"—in which three bird viruses swapped genes among themselves—undergoing changes that allowed it to adapt more easily, though not fully, to human hosts, WHO's Tashiro said. One change has allowed it to lodge on the surfaces of cells of mammals, making it easier to infect humans.

Ducks are fed by two tourists at an amusement park in Beijing, China, Wednesday, April 3, 2013. Scientists taking a first look at the genetics of the bird flu strain that recently killed two men in China said Wednesday the virus

could be harder to track than its better-known cousin H5N1 because it might be able to spread silently among poultry without notice. The virus also appears to have mutated into a form that enables it to more easily infect animals such as pigs, meaning they could serve as hosts that spread the virus more widely among humans. (AP Photo/Alexander F. Yuan)

"The tentative assessment of this virus is that it may cause human infection or epidemic. It is still not yet adapted to humans completely, but important factors have already changed," Tashiro said.

In China, the public is highly sensitized to news of infectious disease outbreaks, with many still recalling the SARS pneumonia scare a decade ago, when the government stayed silent while rumors circulated for weeks of an unidentified disease in southern Guangdong province. The cover-up contributed to the spread of the virus to many parts of China and to two dozen other countries, killing hundreds of people.

While many foreign health experts say China is being far more forthcoming this time than during the SARS scare, the government still faces credibility questions at home as it tries to juggle the need to respond to calls by the public for more information and the need to prevent unnecessary panic.

"The H7N9 bird flu is currently approaching. Ten years ago, the lesson learned in fighting SARS was: The greatest enemy is not the virus, but covering up the truth; the best medicine is not steroids, but transparency and trust," Yang Yu, a commentator with state broadcaster CCTV, said in a post on his microblog. "No matter what H7N9 is, now, the time to test the progress of Chinese society over the past 10 years has come."