

Doctors Brace for Possible Avian Flu Pandemic

As health officials draft preparedness plans, doctors have few practical options beyond watchful waiting.

BY SHARON WORCESTER
Southeast Bureau

Warnings of a potential avian influenza pandemic have the nation and medical community on alert—but those who would be on the front lines appear to be taking the threat in stride.

One of the few concrete steps that physicians can take at this time is to ensure that patients are vaccinated against conventional influenza strains, said Donald M. Poretz, M.D., vice president of the Infectious Diseases Society of America. (See box.)

There doesn't appear to be—and there shouldn't be—major fear or panic in the United States regarding a pandemic at this point, he told this newspaper.

However, European Union (EU) public health experts have begun to circle the wagons with confirmation by the World Health Organization that the H5N1 strain of the influenza virus has been isolated in poultry in Turkey and Romania, bringing the disease to Europe's doorstep. Among the steps taken by the EU was a ban on the importation of live birds, poultry meat, and other poultry products from Turkey and Romania, according to a statement posted on the EU website.

"We need to look at the information objectively, and not emotionally. I don't believe anyone can make a statement as to whether or not there will be a pandemic, but the likelihood is that there will be at some point, so one has to be prepared," said Dr. Poretz, professor of medicine at Georgetown University in Washington.

Doug Campos-Outcalt, M.D., said that "everyone I know is fatalistic about it. Everyone knows it's coming, but it's difficult to prepare for."

Beyond preventive hygiene measures, such as hand washing and covering one's mouth when coughing or sneezing, that are important for preventing transmission of any influenza virus, most preparations for a pandemic are "out of the hands of ordi-

nary physicians," said Dr. Campos-Outcalt, chair of the department of family and community medicine at the University of Arizona, Phoenix, and former chair of the American Academy of Family Physicians' commission on clinical policy.

The watch-and-wait mode is an appropriate place for individual physicians to be right now, said Bill Hall, a spokesperson for the Department of Health and Human Services. HHS is working to maintain open lines of communication with public health departments, and through those departments is working to keep physicians informed of world events related to the spread of avian influenza—particularly the H5N1 strain that is rampant in Asia, has spread to numerous other areas, continues to mutate, and has jumped from birds to multiple other species. Although there is a sense of urgency, there is, at this point, no influenza strain that is causing a pandemic, thus there is no alert to physicians with regard to a pandemic, Mr. Hall said in an interview.

In fact, the only panic—as in people running through the streets with arms flailing—is occurring in the media, he said.

Donald M. Poretz, M.D., vice president of the Infectious Diseases Society of America, agreed there doesn't appear to be—and there shouldn't be—major fear or panic in the United States regarding a pandemic at this point.

As for recent press coverage of a leaked draft of the federal government's pandemic preparedness plan, which indicates the country is alarmingly unprepared for such a pandemic, Mr. Hall said only that the report has undergone and will continue to undergo revisions as the situation evolves.

The final report is anticipated, but its release won't be hastened in response to the flurry of media reports about the draft

copy. "What drives us is not the media, but global health, and being as prepared as possible for a pandemic," he said.

According to information from the World Health Organization, IDSA, and various research projects, the H5N1 avian influenza strain does appear to have the potential for developing efficient person-to-person transmission capability, which it currently lacks, and which could be the bridge between the current situation and a future pandemic. Should the virus obtain this capability, H5N1 could circle the globe within weeks or months, and could kill as many as 150 million people, according to a WHO estimate.

This scenario is the source of the sense of urgency that Mr. Hall mentioned.

At press time, WHO had confirmed 117 cases of human infection with H5N1 influenza, with cases in Vietnam, Thailand,

Cambodia, and Indonesia. Human-to-human transmission has been documented in only two of those cases—both from a single household in Vietnam. The fatality rate among these cases is over 50%.

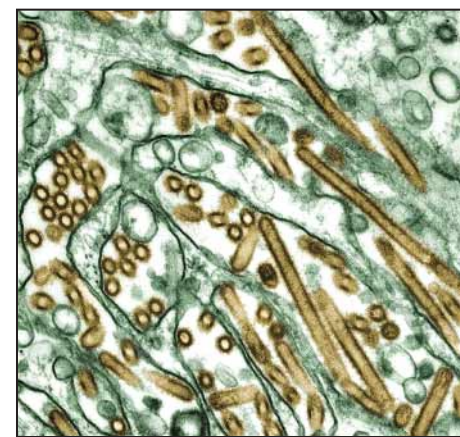
Infection in animals has been more widespread. The virus' ability to mutate and infect additional species, including cats, leopards, tigers, and pigs, is another source of that urgency, as are the findings of a recent study of the 1918 influenza pandemic, which killed an estimated 50 million people. Researchers completed the virus coding sequence for the responsible virus and discovered that, like H5N1, the 1918 strain was a bird flu that infected humans (Science 2005;310:77-80).

The study's findings, coupled with the apparent staying power of the H5N1 strain (it has been circulating since 1997) and the fact that many experts say an influenza pandemic is overdue (historically such outbreaks occur about every 30 years, and the last occurred 37 years ago) contribute to the urgency in preparing for a pandemic.

That urgency is apparent in the flurry of government activity in response to the pandemic threat. The U.S. State Department recently hosted a meeting of senior health officials from nearly 70 countries to address the need for improved communications and efforts to prevent a pandemic. And President Bush has met with vaccine makers to urge increases in flu vaccine production.

Further, the Bush administration and Congress are considering spending billions to stockpile the antiviral drug Tamiflu, legislation has been introduced that would further ramp up vaccine production and pandemic preparedness, and the National Institute of Allergy and Infectious Diseases has teamed with MedImmune Inc. to develop and manufacture new influenza vaccines, including vaccines against high-priority strains such as H5N1.

But some experts have suggested that H5N1 does not confer a pandemic threat, saying that if it was going to develop the ability to efficiently transmit between



An electron micrograph shows H5N1 viruses (gold) in MDCK cells (green).

CDC/C. GOLDSMITH, J. KATZ, AND S. ZAKI

people, then it would have done so by now, and that because the bird flu is distantly related to earlier flu viruses, much of the population already has some level of immunity.

Whether or not H5N1 becomes pandemic, preparing for a potential pandemic is warranted and worthwhile, say experts.

"Even if it does not materialize, the planning and development of effective interventions will provide the necessary preparations in the event that another avian strain jumps the species barrier or a known human pathogen like H2N2, to which large segments of the population lack immunity, reemerges," John G. Bartlett, M.D., of Johns Hopkins University, Baltimore, and Frederick G. Hayden, M.D., University of Virginia Health Sciences Center, Charlottesville, Va., stated in a recent editorial (Ann. Intern. Med. 2005;143:460-2).

Preparations would also enhance the nation's ability to cope with annual epidemics and their substantial toll. Widespread vaccination and use of antiviral drugs could provide the foundation for responding to the next pandemic, thus warranting the stockpiling of antiviral agents, they wrote. ■

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Giving Regular Flu Vaccine May Help

The most effective thing individual physicians can do is vaccinate patients against the currently circulating influenza strains, Dr. Poretz said.

Such vaccination will address the immediate concern of influenza outbreaks in the United States, and, according to guidelines from the WHO, could be useful for preventing co-infection with H5N1 and a human influenza strain.

According to the WHO, doing so will decrease the opportunity for genetic reassortment of the avian H5N1 strain with genes from a human (H1 or H3) strain and thereby reduce the likelihood that a novel pandemic strain will emerge from the current situation in Asia.

If an avian influenza pandemic does occur, diagnosis could prove quite difficult, because the symptoms of H5N1 are similar to those of "regular flu," Dr. Campos-Outcalt said.

Communication and surveillance will be the cornerstones of effective management, he added. This is where education for and by physicians becomes important.

Physicians need to stay up to date, because so much is unknown about how patients would present in the event of a pandemic. And physicians need to educate patients about the preventive measures that will become imperative should available vaccines and antivirals prove ineffective for the pandemic strain.