“While pandemics have happened several times in the past, never before have we had all of the tools of today. Never before have we possessed the wealth of knowledge on the problem and the ability to prepare. The challenge is immense, but so is our will to protect and preserve.”
Last March, I wrote that we are in a race, a race against a fast-moving, highly pathogenic avian H5N1 flu virus; a race to prepare in every possible way against a potential human flu pandemic. Three months later, the pace has not slackened.

The deadly avian H5N1 virus has now been confirmed in 53 countries, an increase of 16 nations since March. Three additional nations have reported human cases. The number of reported human cases now stands at 228, an increase of thirty percent, and more than half of the people infected have died. (please see addendum)

More troubling was a family cluster identified in Sumatra, Indonesia. The incident involved a fatally ill woman who apparently contracted the flu through exposure to poultry and who then infected other family members. Seven people became ill; six died. All were genetically related and had close exposure to the initial victim. A World Health Organization (WHO) team, including Centers for Disease Control and Prevention (CDC) specialist Dr. Tim Uyeki, was quickly dispatched to the village to test, monitor for further spread of the virus, and administer antivirals to people potentially exposed.

Test results released last week revealed that the virus mutated slightly in one of the victims, a 10-year old boy, and that the boy passed the virus to his father, who also died. Dr. Uyeki says this is the first evidence that a person caught the virus from a human and then passed it on to another person. Uyeki stressed that the virus died with the father and did not pass outside the family.

“It stopped. It was dead end at that point,” he said, adding that viruses are always slightly changing and there was no reason to raise alarms. It has been more than a month since the last death in this family-cluster occurred, and no related cases have been identified.

We continue to learn. Some scientists expected that, by now, high-pathogenic H5N1 would have arrived in North America, brought here by migratory waterfowl. That hasn’t happened, at least not yet. Migratory birds continue to be reservoirs of H5N1, but the spread of H5N1 through Western Asia to Europe and Africa is now thought to have been caused at least in part by the international trade in poultry. We continue to learn how much we have to learn.

While the H5N1 avian influenza virus appears to be the greatest pandemic threat, there are other strains of concern which we must also address. Guided by our five priorities (see box), we have accelerated the pace of our planning and preparation.

Planning summits have been held in all but two states, and almost every state and every federal agency has either a draft or final pandemic plan in place. Many states are coordinating their strategic plans with neighboring states, and community planning is underway across the nation.
We took a major step toward building vaccine production capability when, in May, we added to previous investments and invested more than $1 billion in the advanced development of cell-based vaccine technology. Shifting from the current egg-based technology is critical to the ability to quickly produce vast quantities of vaccine should a pandemic develop. However, licensed cell-based vaccine production in the U.S. is at least several years away.

We continue to stockpile antiviral drugs. The Strategic National Stockpile (SNS) now contains sufficient antivirals to treat more than 7 million people. An additional 19 million courses of Tamiflu and Relenza are on order, and we expect the SNS to contain 26 million courses by the end of 2006. We also continue to stockpile N95 respirators (20.2 million on hand) and surgical masks (12.3 million on hand).

Information is our friend. When ABC aired its TV drama, *Fatal Contact: Bird Flu in America*, we saw an opportunity to educate people. We prepared a viewer’s guide and ABC cooperated by promoting www.pandemicflu.gov at the conclusion of the movie. Web site activity immediately following the movie set a new record as people sought answers to questions raised by the TV drama.

The role of the media will be critical should a pandemic develop. Agriculture Secretary Mike Johanns and I have been meeting with media executives, editors, producers, correspondents, radio talk show hosts and bloggers so they know what we know, and so we know what they will need should a pandemic threat become imminent. We discussed our mutual roles, asking for accurate, responsible reporting and promising to “flood the zone” with the best information we have in every form possible. Ultimately, messaging from the federal government, in the event of a pandemic, will be coordinated and harmonized with all appropriate stakeholders.

These and other developments are detailed below. While we have accomplished much in a short period of time, the race we are in is not a sprint, but a marathon. In June, Congress passed the President’s FY 2007 emergency funding request of $2.3 billion to help achieve our pandemic preparedness goals. These funds, the second installment of the President’s request, will allow us to continue the essential work outlined here.

As I wrote in my first report, “Preparation is a continuum. Each day we prepare brings us closer to being ready. We are better prepared today than we were yesterday. And we must be better prepared tomorrow than we are today.”
Early detection is vital to effective preparation for a potential pandemic influenza. Should avian H5N1 mutate into a virus easily transmitted from human to human, any hope of containing or slowing a pandemic requires almost immediate notification and action. Constant international surveillance is also critical to determine if the virus mutates again into a new form, which affects the development of pre-pandemic vaccines. The goal is to be able to detect and respond to an outbreak anywhere in the world within two weeks.

International Cooperation

The United States has pledged to contribute $334 million to the international effort to assist nations most severely affected by bird flu. Funds will be used in the detection, containment, and mobilization of resources in areas affected by highly pathogenic avian influenza.

In May, the United States shipped an amount of the antiviral drug Tamiflu to a secure location in an Asian country. The Tamiflu could be used as part of the international community’s efforts to contain a pandemic. However, if containment was not possible, the Tamiflu would be sent back to the U.S. stockpile of antiviral influenza medications.

We are working with the WHO, the United Nations Food and Agriculture Organization (FAO), the World Organisation for Animal Health (OIE), the Institute Pasteur and concerned national governments to closely monitor and quickly respond to outbreaks of humans infected with avian influenza.

The CDC is continuing to monitor the situation in Indonesia where, on average, one person died of H5N1 every 2½ days in the month of May. Working with WHO and local health officials, surveillance and control efforts focused on the family-cluster incident (story above) in Sumatra. Daily house-
to-house monitoring for influenza-like illness was conducted throughout the village and in health care facilities where patients were treated and no further related cases were detected.

Results from the investigation of the cluster revealed that the virus mutated slightly in one of the victims, a 10-year old boy, and that the boy passed the virus to his father, who also died. This is the first documented case where a person caught the virus from one human and then passed it on to another. Officials stressed that the virus is constantly mutating, and that this particular virus died with the father and did not pass outside the family cluster.

Encouraging News

Many lessons have been learned from the world’s swift response and containment of infected poultry in Vietnam. In 2005, Vietnam experienced 61 cases of H5N1. The Vietnamese government worked with the WHO, the United States and other countries to contain the problem by culling 45 million birds and substantially quelling the outbreak. So far, Vietnam has reported no human cases of H5N1 in 2006. Similarly, Thailand experienced seven human cases of H5N1 influenza in 2005 and, through swift containment and bird culling practices, no new cases have arisen in 2006. Up to now, the disease appears to be successfully contained through culling in Vietnam and Thailand. (please see addendum)

Domestic Monitoring

Scientists are currently debating the potential role migratory birds have in the spread of high-pathogenic avian influenza around the globe. Thus far, migratory birds seem to be playing a limited role in the spread of the disease. Evidence suggests that migratory birds have not yet spread H5N1 to North America as originally predicted. Nonetheless, wild birds are considered to be natural reservoirs for all subtypes of avian influenza and prudent monitoring of wild birds is crucial to tracking the spread of the disease and disease vectors.

The Department of Health and Human Services (HHS) is currently working with Departments of Agriculture (USDA), Interior (DOI), Homeland Security

Map of Indonesia showing location of extended family cluster of H5N1.

“As far as we know [the mutations] don’t correlate with any particular functional changes about the virus. It doesn’t confer any greater transmissibility or any great pathogenicity.”

– Dr. Keiji Fukuda, WHO
(DHS), the International Association of Fish and Wildlife Agencies (IAFWA) and the State of Alaska in an expanded national framework for early detection of highly pathogenic avian influenza.

The expanded early detection network is working closely with local, state and federal governments to investigate and monitor live wild birds, mortality events of wild birds, birds killed by hunters, backyard poultry flocks and environmental samples of water and bird feces. Because Alaska is a crossroads of migratory bird flyways in North America and Asia, it is a priority area for sampling of live birds and birds taken in subsistence and sport harvests. Sampling in Alaska is currently focused on species that migrate to and from wintering areas in the Russian Far East and Southeast Asia and are thought to have the highest probability of contracting the virus and bringing it to North America.

Other Developments

CDC has developed FluSurge and FluAid (pandemic modeling software) for use by communities and hospitals so that they can better understand and plan for a potential outbreak of a pandemic virus in humans. CDC is continuing to strengthen local laboratory capability and its national influenza surveillance system.

In collaboration with the CDC, the Food and Drug Administration (FDA) cleared a new laboratory diagnostic test capable of detecting within hours the influenza A/H5 virus that causes influenza A/H5 human infection. In April, the FDA provided guidance for industries on diagnostic devices to detect influenza A viruses. The guidance provides the in vitro diagnostic industry with recommendations for evaluating performance as well as writing product labeling that assures safe and effective use of these tests.

Monitoring and Surveillance (cont.)