

The Avian and Human Influenza Threat¹
East Asia and Pacific Region
The World Bank
An Update

Summary

Since our last November 2005 Update there have been outbreaks of the highly pathogenic avian influenza H5N1 virus ("bird flu") in poultry and wild birds in another 31 countries. In East Asia there was a poultry outbreak in previously unaffected Myanmar, as well as further outbreaks in China and Indonesia. In Thailand and Vietnam, however, no new outbreaks have been reported since October-November 2005, a success attributed to aggressive action taken by these countries to stamp out the disease through culling and vaccination. There were also 42 confirmed new human cases of avian influenza reported to WHO worldwide so far in 2006, of which half were in East Asia, nearly all in China and Indonesia. The economic impact of bird flu in the affected East Asian economies has been fairly limited at the overall macroeconomic level, though of course more severe in agriculture, in rural communities and in the upstream and downstream industries to the poultry sector. However there remains great concern that genetic changes will allow the virus to achieve the capacity for sustained and efficient transmission from human to human, leading to a human influenza pandemic with much higher levels of illness, death and economic and social costs. A November 2005 global partners' conference in Geneva identified key components of a global action plan to control avian influenza in animals and simultaneously limit the threat of a human influenza pandemic. These included a stress on country leadership based on integrated prevention and control plans, control of the epidemic at source among birds, strengthening of surveillance, containment and preparedness and a transparent communications policy. A subsequent International Ministerial Pledging Conference in Beijing in January secured pledges of some US\$1.9 billion in grants and credits to provide resources for technical agencies and developing countries in meeting the threat of avian and human pandemic influenza. With some progress having been made on mobilizing financial resources, a key focus is now on preparation, appraisal and implementation of integrated programs at the country level.

The Avian and Human Influenza Threat

Last November's East Asia Update noted the spread of the highly pathogenic avian influenza (HPAI) H5N1 virus ("bird flu") from East Asia, where 10 countries had experienced outbreaks since the end of 2003, to several countries in Europe and Central Asia (Russia, Kazakhstan, Turkey, Romania and Croatia). Since then bird flu outbreaks among poultry and wild birds have occurred in another 31 countries, virtually all in February and March 2006.² These included 11 new outbreak countries in Europe and Central Asia, 3 in South Asia, 4 in the Middle East and North Africa, 3 in Sub-Saharan Africa and 8 in Western Europe.

In East Asia, where the present bird flu pandemic began, recent trends have been mixed. Two new East Asian economies reported bird flu outbreaks in recent months, Myanmar among poultry in March and Hong Kong among a small number of wild birds in January. China reported three outbreaks among poultry since last November, the last at the start of February 2006 in Shanxi province. In Indonesia high numbers of poultry deaths also continued to be recorded in Central and East Java in February-March 2006. In Thailand and Vietnam, however, no new outbreaks have been reported since October-November 2005, a success attributed to aggressive action taken by these countries to stamp out the disease through culling, and 'ring vaccinating' around outbreaks.

¹ Section taken from the *East Asia Update*, March 2006, pp 12-14.

² World Organization for Animal Health (OIE): http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm

Malaysia, which had also taken strong action to quickly stamp out outbreaks in August-November 2004, experienced a new outbreak among poultry in February 2006, reinforcing the need for high continuing vigilance.

There were 42 confirmed new human cases of avian influenza reported to WHO worldwide so far in 2006, bringing the total since 2003 up to 185 (Table 1). Half of the new 2006 human cases were in East Asia, nearly all in Indonesia and China. Worldwide, somewhat over half of human bird flu cases since the start of the epidemic have resulted in death. Nearly all of the human cases so far are considered to be the result of transmission from birds or other animals to humans. The economic impact of bird flu in the affected East Asian economies has been fairly limited so far at the overall macroeconomic level, though of course more severe in agriculture, in rural communities and in the upstream and downstream industries to the poultry sector. However there remains great concern that genetic changes will allow the virus to achieve the capacity for sustained and efficient transmission from human to human, leading to a human influenza pandemic with much higher levels of illness, death and economic and social costs.³ The changes may occur through antigenic drift, the natural process of mutation and 'coding errors' in genetic material as the virus replicates, or through antigenic shift, a more abrupt change where the H5N1 virus in a co-infected human exchanges genetic material (or 'reassorts') with a circulating human influenza virus strain that has developed the ability for human-to-human transmission. Reassortment could also occur through intermediate mammalian species such as pigs or other large domestic animals.

Table 1. Confirmed Human Cases of Avian Influenza A/H5N1 Reported to WHO

	2003-04		2005		2006		Total		Fatality Rate (%)
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	
East Asia	49	35	95	41	21	18	165	94	57.0
Cambodia			4	4	1	1	5	5	100.0
China			8	5	8	6	16	11	68.8
Indonesia			17	11	12	11	29	22	75.9
Thailand	17	12	5	2			22	14	63.6
Vietnam	32	23	61	19			93	42	45.2
Other					21	11	21	11	52.4
Azerbaijan					7	5	7	5	71.4
Iraq					2	2	2	2	100.0
Turkey					12	4	12	4	33.3
Total	49	35	95	41	42	29	186	105	56.5

Source: Confirmed cases reported to World Health Organization as of March 24, 2006.

Policy Responses

The gravity of the threat posed by avian and human pandemic influenza has made action to prevent or mitigate the threat a high priority for policy makers. Among numerous recent international meetings to plan a response, two are particularly notable.

³ A growing number of studies attempt to develop scenarios of the economic impacts of a global human influenza pandemic. A brief survey of some of the relevant issues was provided in the November 2005 World Bank East Asia Update. The most detailed recent study is provided by Warrick McKibbin and Alexandra Sidorenko. (February 2006). "Global Macroeconomic Consequences of Pandemic Influenza." Lowy Institute for International Policy. <http://www.lowyinstitute.org/PublicationGet.asp?i=345>. This study finds that a "mild" pandemic could be associated with a median loss of 0.9 percent of GDP among the 9 East Asian economies it includes. In a "severe" scenario the median loss among the nine could rise to 8.4 percent of GDP, while in an "ultra" scenario it could be as much as 18 percent of GDP.

In November 2005 a global meeting in Geneva co-sponsored by the World Health Organization, Food and Agriculture Organization, World Organization for Animal Health and World Bank identified key components of a global action plan to control avian influenza in animals and simultaneously limit the threat of a human influenza pandemic:

- **Control at Source in Birds.** Improving veterinary services, emergency preparedness plans and control campaigns, including culling, vaccination and compensation.
- **Surveillance.** Strengthening early detection and rapid response systems for animal and human influenza; building and strengthening laboratory capacity.
- **Rapid Containment.** Support and training for the investigation of animal and human cases and clusters, and planning and testing rapid containment activities.
- **Pandemic Preparedness.** Building and testing national and global pandemic preparedness plans; strengthening health system capacity, training clinicians and health managers.
- **Integrated Country Plans.** Developing integrated national plans across all sectors to provide the basis for coordinated technical and financial support.
- **Communications.** Factual and transparent communications, in particular risk communication, is vital.

In January 2006 an International Ministerial Pledging Conference in Beijing co-sponsored by the Government of the People's Republic of China, the European Commission, and the World Bank secured pledges of some \$1.9 billion in grants and credits to provide resources for technical agencies and developing countries in meeting the threat of avian and human pandemic influenza. Of the total, \$285 million was pledged to various UN and regional technical agencies. Some \$600 million was allocated to specific developing regions, the bulk to Asia, the epicenter of the avian flu pandemic so far. Another \$750 million was available as unrestricted funds available to countries meeting eligibility criteria. The latter total includes a new World Bank funding facility of \$500 million, the Global Program for Avian Influenza Control and Human Pandemic Preparedness and Response (GPAI). Countries eligible for concessional IDA credits or grants can apply such funds in their avian influenza response and preparedness efforts, while other countries will be eligible to borrow on standard IBRD terms. A grant for Kyrgyzstan was approved in February and some 20 countries are at present preparing to draw on this facility. The World Bank is also putting in place arrangements for a multi-donor trust fund to handle some of the resources pledged in Beijing.

With some progress having been made on mobilizing financial resources, a key focus of attention is now on preparation, appraisal and implementation of integrated programs at the country level. The results of current efforts to strengthen animal and human health system capacities should prove a good long term investment not just in dealing with the immediate problem of avian and human pandemic influenza, but also in addressing the broader long term problem of communicable diseases, which includes the resurgence of many old existing diseases as well as the emergence of new diseases. In short the response to avian and human pandemic influenza also needs to be seen as part of the broad development agenda.