



AVIAN FLU: Are we ready?

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Trouble is brewing in the East. A highly pathogenic strain of avian influenza is endemic in southeast Asia. Many millions of chickens have been culled, but there is a persistent reservoir in domesticated ducks and wild birds. The H5N1 virus isn't going to go away. And each time it emerges, people can be infected.

H5N1 first reared its head in Hong Kong and southern China in 1997, killing six. Since late 2003, it has led to the deaths of more than 50 people in Vietnam, Thailand and Cambodia.

The stage is set for the emergence of a fresh human influenza pandemic. These occur when a virus to which most people have no immunity, usually an avian strain, acquires the ability to transmit readily from person to person. H5N1 hasn't yet gained that ability — and hopefully, it will not.

But if it does, the virus could spread across the globe within months. The consequences are difficult to predict. We're unlikely to be as lucky as in 1968, when the relatively mild H3N2 virus killed some 750,000 people worldwide. But the real nightmare scenario is a re-run of the H1N1 flu pandemic of 1918, which left as many as

40 million dead. Standards of health care have improved a lot since then, which will help. But if a pandemic strain were to retain H5N1's current extreme pathogenicity, a similar toll can't be ruled out.

This week, *Nature* devotes its News Feature and Commentary pages to a detailed consideration of the risks posed by avian flu, and how well we are prepared to deal with it. In the pages that follow, our reporters examine nations' capacity to produce a vaccine against a pandemic strain, and the adequacy of global stockpiles of antiviral drugs. They do not paint an encouraging picture.

Repeated warnings about the international community's failure to respond to the pandemic threat have fallen on deaf ears. So in our opening News Feature, we use the benefit of fictional hindsight to throw the issues into starker relief, describing a future pandemic through the weblog of a journalist in the thick of things. This is fiction, but not fantasy — the storyline was drawn up in consultation with those who could soon be dealing with the situation for real.

In our extended Commentary section, starting on page 415, experts who are

grappling with the issues tackle some hard questions. Which nations are ready, and which are not? David Ho asks if China is in a better position to cope with new microbial threats since the 2003 SARS outbreak. And Anthony Fauci outlines what US researchers are doing to develop vaccines and drugs.

Asian countries are the most immediately vulnerable. Robert Webster and Diane Hulse address the possibility of controlling flu outbreaks in these nations at source, pointing to two examples of successful intervention to wipe out the disease in poultry — in Hong Kong in 1997 and more recently in Thailand. Joining up the dots between animal and human health is also the concern of Albert Osterhaus and his colleagues. They propose a permanent global flu task force to strengthen coordination among agencies on the ground.

If we are fortunate, we may still have the time to take these messages on board. As Michael Osterholm warns in his Commentary, a flu pandemic could bring human tragedy and a global economic catastrophe. Let's hope world leaders heed the warnings. ■

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