

Avian Influenza – Is Australia a Sitting Duck?

What is ‘Avian Influenza’?

Avian influenza is an infectious disease of birds, caused by various strains of the type A influenza virus, one of the three types of ‘flu’ virus, A, B and C. Type A viruses occur in a variety of animals. As wild birds (particularly waterfowl) are the main natural reservoir (or host) for all sub-types of A viruses, they are believed to be the source of type A flu viruses in all other animals.¹

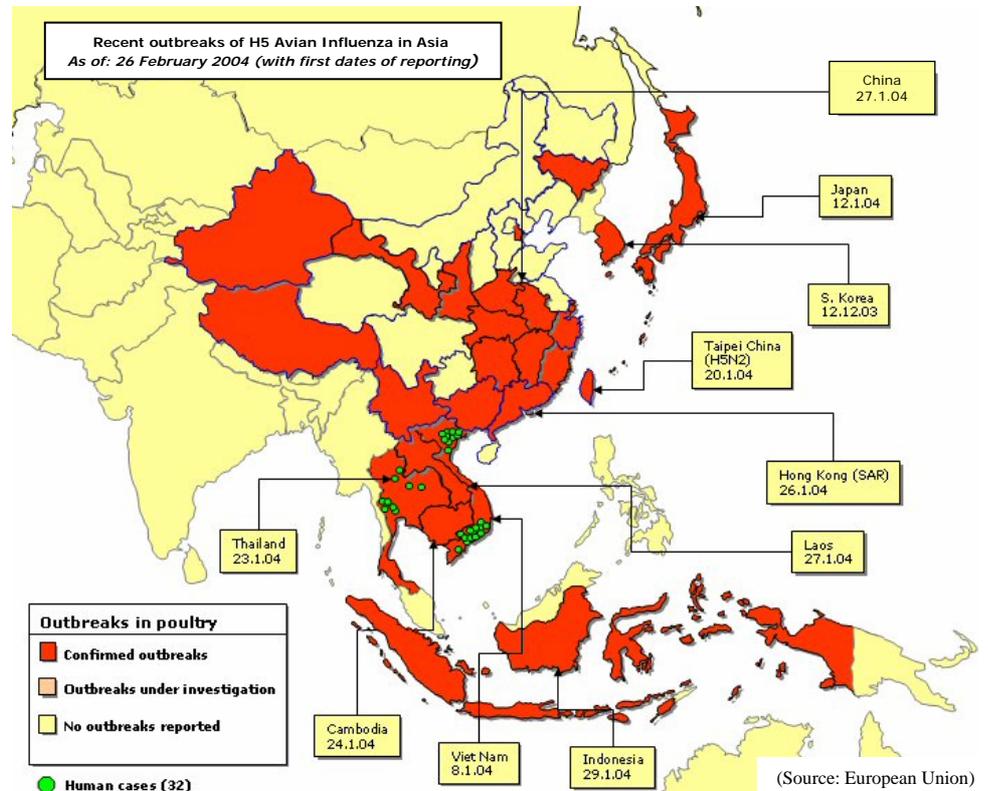
Although avian flu viruses usually only cause mild symptoms in wild birds, some (most notably the H5 and H7 strains) cause widespread, highly contagious and fatal disease (referred to as ‘highly pathogenic avian influenza’ (HPAI), or ‘avian flu’) in domestic poultry. A strain of HPAI known as ‘H5N1’ is currently sweeping across much of Asia.

HPAI is classified by the Office International des Epizooties (OIE, the World Organisation for Animal Health) as a ‘List A’ disease. List A diseases have the potential for ‘very serious and rapid spread, irrespective of national borders’ and are ‘of serious socio-economic or public health consequence.’² HPAI shares this category with diseases such as foot-and-mouth disease and Newcastle disease, another serious disease of poultry.

Although HPAI does not usually directly infect humans, some people who have reportedly had close contact with infected birds have become infected themselves. Human infection with H5N1 was first noted in Hong Kong in 1997. Pigs are also susceptible to both avian and human flu viruses.

What’s at Stake?

If avian flu and human flu were to mix in an infected pig or person to create a new flu virus to which people have no immunity, and human-to-human



transmission occurred, a human flu pandemic could occur.

The world generally experiences three or four pandemics a century, and most experts believe another is ‘inevitable and possibly imminent.’³ The most infamous pandemic was the ‘Spanish Flu’ of 1918–19, which is estimated to have killed 40–50 million people worldwide, including 11 500 in Australia, in an age before mass commercial air travel. Although a different strain from the current outbreak of avian flu, it is also thought to have originated in birds.

Normal winter flu epidemics in the US are estimated to result in an average of 36 000 deaths⁴ (mainly in high-risk groups) and 114 000 hospitalisations annually, at a cost of between US\$71–167 billion a year.⁵ A global pandemic would be likely to result in far greater social upheaval and economic losses. Epidemiological models suggest that the next pandemic might result in 1–2.3 million hospital admissions and cause 280 000–650 000 deaths in less than two years in industrialised countries alone. However, developing countries would bear the greatest

impact.⁶ If struck by a flu pandemic today like the Spanish Flu, Australia could expect at least 42 000 deaths per year, representing a 30 per cent increase in overall mortality rates.⁷

A significant outbreak of the current avian flu in Australia could threaten the agricultural industry, trade, tourism and the economy generally. The Treasurer has already expressed concern that if the avian flu were to begin infecting people on a large scale, Australia’s tourism industry would suffer as it did with SARS in 2003.⁸ Australia’s poultry meat and egg industries, currently worth about \$1.2 billion and \$358 million a year, respectively, would also be put at risk.⁹

A major outbreak would result in significant loss of income for operators over an extended period and could lead to job losses on farms and in related industries.¹⁰ As an example of the impact on associated industries, the Australian feed grains industry is anticipating a 20 per cent reduction in demand from Asian customers as a result of the current outbreak in Asia.¹¹ The poultry, egg and related industries could take some time to recover. Some

NSW producers, whose birds were culled during a Newcastle disease outbreak in 1999, claim to still be recovering from its impact.¹²

The Asian Development Bank says the avian flu has the potential to cause overall losses of 'tens of billions of dollars' in Asia, citing in particular the poultry industry which is worth US\$1 billion a year in exports to Thailand¹³ and US\$7 billion a year in domestic production to Indonesia.¹⁴ The *Bangkok Post* reported at the end of January 2004 that the Stock Exchange of Thailand had dipped after the outbreak and human infections were confirmed, and the value of shares in European airlines was reported to have weakened rapidly in response to reports that Germany may have identified Europe's first avian flu cases¹⁵ (since established not to have been avian flu).¹⁶

There are costs associated with every aspect of an outbreak – loss of revenue, dealing with the disease, compensating farmers and re-establishing markets. In Australia at least, the costs associated with an outbreak of avian flu in poultry (without human infections), would be shared equally by government and industry under the pre-existing 'Emergency Animal Diseases Response Agreement.'

Australia's Preventive and Response Measures

A total of five outbreaks of HPAI (due to H7 viruses) have occurred in Australia, with the last occurring in NSW in 1997. Each outbreak was quickly eradicated, but in each case, there was evidence of contact between the farmed poultry and waterfowl.

Migratory waterfowl are thought to be one of the main means of spreading bird flu viruses between continents. Sampling of wild birds for avian flu is part of the Australian Quarantine and Inspection Service's (AQIS) disease surveillance program, the Northern Australia Quarantine Strategy, and other programs. Surveys have confirmed various strains of avian flu do circulate among wild birds.

Australia's strict farm biosecurity aims to prevent contact between commercial poultry and wild birds by protecting feed and water supplies, limiting entry to farms, and physically isolating the poultry.

The Australian Veterinary Emergency Plan (AUSVETPLAN) deals with a variety of animal health crises, including avian flu, in line with OIE

guidelines. The Disease Strategy document on HPAI provides background information on HPAI and detailed information on mounting a response to any outbreak of the disease. Similarly, Australia also maintains a national influenza pandemic plan, which outlines measures for identifying and dealing with a flu pandemic in the human population. This would be implemented if human-to-human transmission of HPAI were to occur. The plan notes the need for surveillance in the event of an animal flu outbreak to determine if it has spread to people.

Although AUSVETPLAN notes that the risk of a major HPAI outbreak in Australia remains low due to the strength of the biosecurity provisions in the poultry industry, Australia's proximity to Asia means border authorities are not taking any chances. AQIS has been conducting 100 per cent baggage screening with passengers arriving from Asia, and seizing all poultry products such as meat, eggs and feathers. International mail is also being screened and poultry from ships stores is being confiscated. Even under normal circumstances, Australia does not import live poultry, eggs or raw poultry products, and any cooked product must be cooked well enough to kill the flu and other viruses before it is imported.¹⁷

There are fears that HPAI could spread through Indonesia and reach Papua (formerly Irian Jaya), and then into PNG, bringing it much closer to Australia. In response to calls by international agencies for a concerted effort to combat avian flu, and for affluent nations to assist developing countries, Australia has pledged \$1 million to assist regional organisations dealing with the disease.

Vaccination of healthy birds may prevent the need for mass culling of birds, and Australian researchers are already working on a vaccine for use against the current H5N1 strain. Vaccination has been suggested as a preventive measure to protect the livelihoods of farmers and agrarian economies.

Although the current HPAI outbreak is affecting some of Australia's nearest neighbours, and the threat to Australia could be considered high, the actual risk of it spreading to Australia while it predominantly affects only birds appears to be low. The consensus seems to be that Australia's strict farm biosecurity measures, routine disease surveillance and increased quarantine

screening should act together to substantially mitigate the risk.

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17. Department of Health and Ageing, http://www.health.gov.au/avian_influenza/faq.htm (28 January 2004).

Nigel Brew
Foreign Affairs, Defence and Trade Group
Information and Research Services

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