

Auckland Regional Public Health Service

Rātonga Hauora ā Iwi o Tamaki Makaurau



Working with the people of Auckland, Counties Manukau and Waitemata

Pandemic Postings

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International

Situation in Indonesia [WHO, 29/11/06](#). The Ministry of Health in Indonesia has confirmed the country's 57th death from H5N1 avian influenza. The 35-year-old female, whose infection was announced on 13 November, died on 28 November in hospital. Of the 74 cases confirmed to date in Indonesia, 57 have been fatal.

Situation in Korea [OIE, 24/11/06](#); [CIDRAP, 27/11/06](#). An H5 avian influenza outbreak among poultry was confirmed in South Korea on 22/11. The outbreak, on a farm in North Jeolla province that raises parent stock for broiler chickens, was the first in South Korea for nearly three years. The outbreak caused 6500 deaths among 13000 susceptible birds. The *Korea Times* has reported that the South Korea agriculture ministry is culling 236,000 poultry in the area, and 3km quarantine and 10km surveillance zones have been established.

Background

Airborne transmission of influenza in healthcare environments: update. The Tellier article posted in the last issue of Pandemic Postings, on the potential for airborne transmission of influenza, has been challenged. Evidence presented by the article for airborne influenza transmission is in part based on a 1979 paper, regarded by ADHB pandemic planners (with expertise in infection control, infectious diseases, microbiology and virology) as not supporting airborne spread as the main transmission route.

The WHO considers "available evidence suggests that transmission of human influenza viruses probably occurs largely through exposure to respiratory large-particle (>5µm in size) droplets", and recommends that healthcare workers wear surgical masks when within 1m of those considered potentially infectious with pandemic influenza. The Ministry of Health [infection control guidelines](#) and Northland and Auckland regional hospitals' guidelines for pandemic influenza concur with the WHO statement, and recommend that healthcare workers performing aerosol-generating procedures (eg, endotracheal intubation, suctioning, or aerosolised nebuliser treatments) on patients with pandemic influenza should wear N95/P2 respirator masks, among other personal protective equipment. The basic principles of careful hand hygiene (before and after each patient contact), cough etiquette, adequate ventilation and social distancing are also emphasised.

H5N1 influenza - continuing evolution and spread [Webster and Govorkova, NEJM 2006;355:2174-7](#). Perspectives article providing an overview of current understanding of influenza A/H5N1; contains graphic with timeline and map of spread of different H5N1 subgroups (clades and subclades).

Avian influenza A (H5N1) in Eastern Turkey in 2006 [Oner et al, NEJM 2006;355:2179-85](#). Clinical case series of eight patients with confirmed H5N1 infection admitted to a hospital in Van, Turkey, in Jan 2006. All were children with history of contact with diseased or dead poultry. The median period from exposure to illness was 5 days. Initial diagnostic testing was negative in many of the patients, leading the authors to suggest that ELISA and rapid influenza tests are of limited value in diagnosis of H5N1 infection, and that real-time PCR should be performed.

Current global avian influenza activity
Confirmed human cases of avian influenza A/(H5N1), 14 - 29 Nov 2006,¹ and outbreaks of highly-pathogenic avian influenza H5N1 in poultry, 17 - 30 Nov 2006,² by country. The complete list of human cases and poultry outbreaks to date can be found on the [ARPHS website](#).

	Human ¹		Poultry ²
	cases	deaths	outbreaks
Indonesia	-	1	-
Korea (South)	-	-	1
TOTAL	-	1	1

Notes:

1 As reported by [World Health Organization](#)

2 As reported by the [World Organisation for Animal Health \(OIE\)](#).

Background (contd)

Three Indonesian clusters of H5N1 infection in 2005 [Kandun et al, NEJM 2006;355:2186-94](#). Descriptions and clinical case series of eight patients with H5N1 infection (7 confirmed, 1 probable) occurring in three family clusters in Indonesia in 2005. Severe disease occurred in all three clusters, deaths occurred in two of the clusters, and in two clusters some cases experienced mild illness. Limited person-to-person transmission could not be excluded in two clusters. Molecular sequence analysis determined the isolates were clade 2 H5N1 viruses of avian origin.

A model for the spread and control of pandemic influenza in an isolated geographical region [Roberts et al, J R Soc Interface \[internet publication\]. 2006 \[cited 4/12/06\]](#). This article, based on material commissioned by the Ministry of Health, proposes a mathematical model to describe an epidemic following the introduction of pandemic influenza to a geographically isolated region; ie, New Zealand. The authors consider a scenario in which the virus is unintentionally introduced by an airline passenger not detected by border screening. The model is "structured on the location at which infection occurs and based on published parameters for influenza, to describe an epidemic in a community of one million people. The model is then modified to reflect a variety of control strategies based on social distancing measures, targeted antiviral treatment and antiviral prophylaxis and home quarantine, and the effectiveness of the strategies is compared. The results suggest that the only single strategy that would be successful in preventing an epidemic (with $R_0=2.0$) is targeted antiviral treatment and prophylaxis, and that closing schools combined with either closing work places or home quarantine would only prevent such an epidemic if these strategies were combined with a modest level of antiviral coverage."

Evidence of influenza A virus RNA in Siberian lake ice [Zhang et al, J Virol 2006;80:12229-35](#). This article reports identification of influenza A virus RNA in ice and water from high-latitude lakes visited by migratory birds. The authors state that their results suggest influenza A viruses can be preserved in lake ice, facilitating "temporal gene flow ... between viruses shed ... the previous year and the viruses newly acquired by birds during winter months spent in the south." The authors also state that, as cycles of ice freezing and melting may last for decades in length, preservation of viruses in ice may explain the re-emergence of unchanged influenza strains long after their apparent disappearance. The authors also comment that surveillance of influenza virus in Arctic and subarctic lakes may aid vaccine development.

Ministry of Health advice line: 0800 AVN FLU (286 358)

MAF Hotline (for suspect animal cases): 0800 809 966

Disclaimer: Background material is listed in Pandemic Postings to alert recipients to new publications on highly-pathogenic avian and pandemic influenza topics. While efforts are made to maintain quality by only including material from reputable sources, it is beyond the scope of this bulletin to independently establish the veracity of this material, or to place the material within the local pandemic planning context: such assessments are left to the judgement of the readership. Conclusions made by authors of material cited in this bulletin do not necessarily represent policy or opinions of Auckland Regional Public Health Service, of Waitemata, Auckland or Counties Manukau DHBs, or of the Ministry of Health.