

Pandemic Postings

Current Alert Level: WHITE ([definition](#))
Update number: 56
Date: 4 July 2008
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International Situation

Indonesia WHO 19/06/08. Two further human cases of avian influenza H5N1 have been confirmed in Indonesia. The cases are not linked epidemiologically. The first was a 16-year-old female from DKI Jakarta Province (see [map](#)) who developed symptoms on 7 May and died 14 May. Investigations indicate exposure to sick and dead poultry. The second was a 34-year-old female from Banten Province (see [map](#)) who developed symptoms on 26 May and died 3 June. Investigations into the source of infection are ongoing.

Details of recently-reported poultry outbreaks

Bangladesh OIE, 11/06/08. One further poultry outbreak of H5N1 avian influenza has been reported from Bangladesh. The 18/05/08 outbreak involved a commercial poultry farm of 4605 susceptible birds in Tangail (Tangayal), Dhaka (see [map](#)).

China OIE, 20/06/08. A poultry outbreak of H5N1 avian influenza has been reported from China. The 13/06/08 outbreak involved a population of 21000 ducks in Jiang'men, Guangdong (see [map](#)).

Pakistan OIE, 26/06/08. A poultry outbreak of H5N1 avian influenza has been reported from Pakistan. The 17/06/08 outbreak involved a commercial broiler flock with 6000 susceptible birds in Tordhair, North-West Frontier Province (see [map](#)).

Background

Virus transfer from personal protective equipment to healthcare employees' skin and clothing [Casanova L et al. Emerg Infect Dis. 2008 Aug; \[Epub ahead of print\]](#). The authors of this paper report a study that evaluated the CDC personal protective equipment (PPE) removal protocol designed to minimise wearer contamination with pathogens. The protocol requires removal of PPE in the following order: gloves, goggles/face shield, gown, mask. During the study, PPE was contaminated with a non-pathogenic bacteriophage suspended in a compound that becomes fluorescent in UV light. The researchers found that virus transfer to hands or clothing occurred among participants following the protocol. The authors recommend altering the protocol, including considering double-glove techniques, surgical PPE protocols, and emphasising hand hygiene following removal of PPE.

Options for the use of human H5N1 influenza vaccines and the WHO H5N1 vaccine stockpile [WHO, 05/08](#). This report provides findings from a WHO Scientific Consultation held 1-3 October 2007. Key topics included are (1) characteristics of candidate human H5N1 influenza vaccines (including safety, immunogenicity, cross-reactivity and efficacy), (2) options for using human H5N1 influenza vaccines, and (3) options for using the WHO H5N1 vaccine stockpile.

Current global avian influenza activity

Confirmed human cases of avian influenza A/(H5N1), 29 May - 19 June 2008¹, and outbreaks of highly-pathogenic avian influenza H5N1 in poultry 4 - 26 Jun 2008.² 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
Bangladesh	-	-	1
China	-	-	1
Indonesia	2	2	-
Pakistan	-	-	1
Total	2	2	3

Notes:

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

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

Background (contd)

An adjuvanted, low-dose, pandemic influenza A (H5N1) vaccine candidate is safe, immunogenic, and induces cross-reactive immune responses in healthy adults [Levie K et al. J Infect Dis 2008; 198. DOI: 10.1086/590913](#). The authors of this paper report a multicenter, randomized, blind-observer phase 1 trial of influenza A (H5N1) vaccine containing 1.9, 3.8, 7.5 or 15µg of haemagglutinin with adjuvant or 7.5 µg without adjuvant. Safety was monitored to day 42. No vaccine-related significant or serious adverse events occurred. Injection site reactions were more frequent with adjuvant. Even with only 1.9µg of haemagglutinin plus adjuvant, 72% of subjects had HI titers 1:32 after 2 doses. This proportion was 81%-89% with higher adjuvanted doses but was only 34% without adjuvant. The authors conclude that the pandemic influenza vaccine candidate was safe, immunogenic, and induced cross-reactive antibodies.

Optimal allocation of pandemic influenza vaccine depends on age, risk and timing [Mylius SD et al. Vaccine 2008 Jul 4;26\(29-30\):3742-9. Epub 2008 May 7](#). The limited production capacity for vaccines raises the question what the best strategy is for allocating the vaccine to mitigate an influenza pandemic. The authors of this paper report a study in which an age-structured model for spread of an influenza pandemic was developed and validated against observations from the Asian flu pandemic. Two strategies were evaluated: vaccination can be implemented at the start of the influenza pandemic, or vaccination will be implemented near the peak of it. The authors report that their results suggest prioritizing individuals with a high-risk of complications if a vaccine becomes available during a pandemic. If available at the start, vaccinating school children might be considered since this results in slightly lower expected number of deaths.

Vaccine preparedness – are we ready for the next influenza pandemic? [Wright PF. N Engl J Med 2008; 358:2540-3](#). This editorial provides background to H5N1 vaccine development, and describes two new initiatives: influenza vaccine production in substrate rather than embryonated eggs, and production of whole-virion vaccines rather than subvirion vaccines. The author concludes that an H5 vaccine could not yet be used in the field, however the work on novel vaccine approaches suggest that this may be possible if influenza continues to stay in its lair and largely confines itself to avian hosts.