

Influenza at the human-animal interface

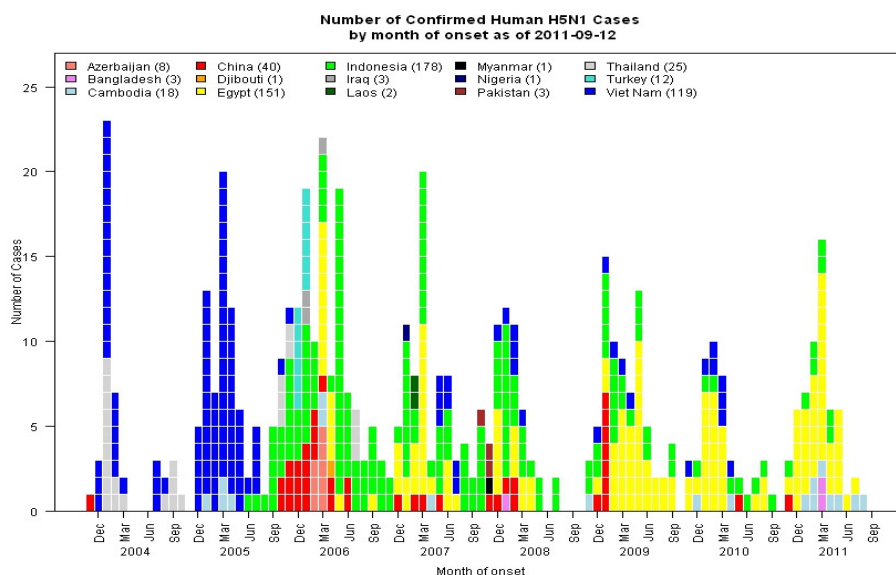
Summary and assessment as of 5 September 2011

Human infections with avian influenza H5N1 virus and associated animal health events

As of 5 September 2011, 565 confirmed human cases of infection with avian influenza H5N1 virus from 15 countries have been reported to WHO (see figure). Of these, 331 died (CFR: 58.6%). Epidemiologic investigations have identified only limited human-to-human transmission of this virus since its emergence in 2003, and no community-level spread.

Only two human cases of H5N1 infection were reported, one from Egypt and one from Cambodia, since the last summary (3 August). No other countries reported human cases since the last summary. The Egyptian case, who recovered, was a 6 year old girl from Behira governorate, who developed clinical signs on 12 July and had exposure to poultry suspected to have avian influenza. In 2011, only H5N1 viruses from clade 2.2.1 have been isolated from human cases in Egypt.

The Cambodian case, who died, was a 6 year old girl from Kampong Cham Province, who developed clinical signs on 7 August, and who had contact with sick poultry. This is the eighth H5N1 human case reported from Cambodia in 2011, all of which were in people under 19 years of age and all of which were fatal. This is the highest number of human H5N1 cases reported in one year from Cambodia. The exact reasons for the increased incidence and the high case fatality rate remain unclear. All of these cases represent sporadic infections likely related to exposure to sick poultry. The cases are not linked to each other, with the exception of a mother and her child. Cambodia has reported three H5N1 events in birds in 2011, two outbreaks in poultry (Kandal and Banteay Meanchey Provinces) and one in birds in a zoo (Takeo province). To date, only H5N1 viruses from clade 1 have ever been isolated from humans and animals in Cambodia. Currently, clade 1 viruses are being reported only from southern Viet Nam and Cambodia.



It is anticipated that people in Egypt and Cambodia, and other countries experiencing outbreaks of H5N1 in poultry will continue to be exposed to the virus through contact with infected poultry or contaminated environments, and therefore sporadic human cases will occur as long as the virus continues to circulate in poultry.

Egypt and Indonesia have officially declared the H5N1 virus endemic in poultry¹, and information from FAO suggests the H5N1 virus is also circulating endemically in poultry in China, India, Viet Nam, and Bangladesh². A continuing declining trend in the overall number of poultry outbreaks reported through the FAO EMPRESi was seen in August. According to FAO the number of infected villages in Indonesia has also shown a decreasing trend in recent months. No countries except Viet Nam reported outbreaks of HPAI H5N1 in poultry or wild birds to the OIE since the last summary. The downward trend in H5N1 events was predicted based on the seasonal pattern of outbreaks seen in previous years and the onset of warmer weather in the northern hemisphere, and this trend is expected to reverse in the coming months as the weather cools. Human cases are possible whenever the virus is circulating in birds, especially in household poultry. More information on influenza at the human-animal interface is available from WHO (http://www.who.int/influenza/human_animal_interface/en/), and information on influenza in animals is available from OIE (www.oie.int/animal-health-in-the-world/web-portal-on-avian-influenza/), FAO (www.fao.org/avianflu/en/index.html), and OFFLU (<http://www.offlu.net/index.html>).

Human infections with other animal influenza viruses

The United States of America (USA) reported two human cases of swine influenza A (H3N2) infection, one in Pennsylvania and one in Indiana³. The virus is similar to one that has been circulating in swine in the USA since 1998 and which has been previously identified in eight human cases, but it contains one gene segment, the M gene, derived from the pandemic influenza A (H1N1) virus. This virus appears to have some antigenic cross-reactivity with human seasonal H3N2 viruses circulating in the 1990s. The Indiana case did not have direct exposure to pigs but had contact with a care-giver who did have recent contact. The three cases in Pennsylvania had all recently visited a fair where pigs were present. Reassortments of the 2009 influenza A (H1N1) virus with other swine influenza A viruses have been reported previously in swine⁴. The virus does not appear to have spread widely in humans.

Relevant Links:

WHO Table: Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO: http://www.who.int/influenza/human_animal_interface/EN_GIP_LatestCumulativeNumberH5N1cases.pdf

WHO Table: H5N1 avian influenza: timeline of major events
http://www.who.int/influenza/human_animal_interface/avian_influenza/H5N1_avian_influenza_update.pdf

¹ OIE WAHID interface. HPAI Summary of Immediate notifications and Follow-ups - 2010. Available online:

http://web.oie.int/wahis/public.php?page=disease_immediate_summary&disease_type=Terrestrial&disease_id=15

² Approaches to Controlling, Preventing and Eliminating H5N1 Highly Pathogenic Avian Influenza in Endemic Countries. Rome, United Nations Food and Agriculture Organization, 2011

³ http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6035a6.htm?s_cid=mm6035a6_e%0d%0a

⁴ Duchatez MF, Hause B, Stigger-Rosser E, et al. Multiple reassortment between pandemic (H1N1) 2009 and endemic influenza viruses in pigs, United States. Emerg Infect Dis 2011;17:1624-9.

WHO Archive: Avian Influenza situation updates:

http://www.who.int/influenza/human_animal_interface/avian_influenza/archive/en/index.html

World Organisation of Animal Health (OIE) webpage: Web portal on Avian Influenza:

www.oie.int/animal-health-in-the-world/web-portal-on-avian-influenza/

Food and Agriculture Organization of the UN (FAO) webpage: Avian Influenza:

www.fao.org/avianflu/en/index.html

Government of Egypt website: "Strengthening Avian Influenza Detection and Response" (SAIDR) website:

www.saidr.org/index.php