Influenza at the human-animal interface

Summary and assessment of February 2011 events[1]

Human infections with avian influenza H5N1

WHO has reported 528 confirmed human cases of infection with avian influenza H5N1 virus with onset dates between 2003 and 28 February 2011, from 15 countries. Of these, 311 died (CFR 59%). Epidemiologic investigations have identified only limited human to human transmission of this virus, with no community-level spread since its emergence in 2003.

Six human cases with onsets in February 2011, with four deaths (CFR 25%), have been reported from two countries (Egypt with four and Cambodia with two). In February, Egypt also reported two cases and Indonesia one case with onsets in January that were not included in previous summaries. All of these cases either had contact with sick or dead poultry, or had visited markets where live poultry were sold. According to animal health authorities, the H5N1 virus is thought to be circulating endemically in poultry in regions of Egypt and Indonesia, while in Cambodia, sporadic reintroduction into poultry populations is thought to occur.

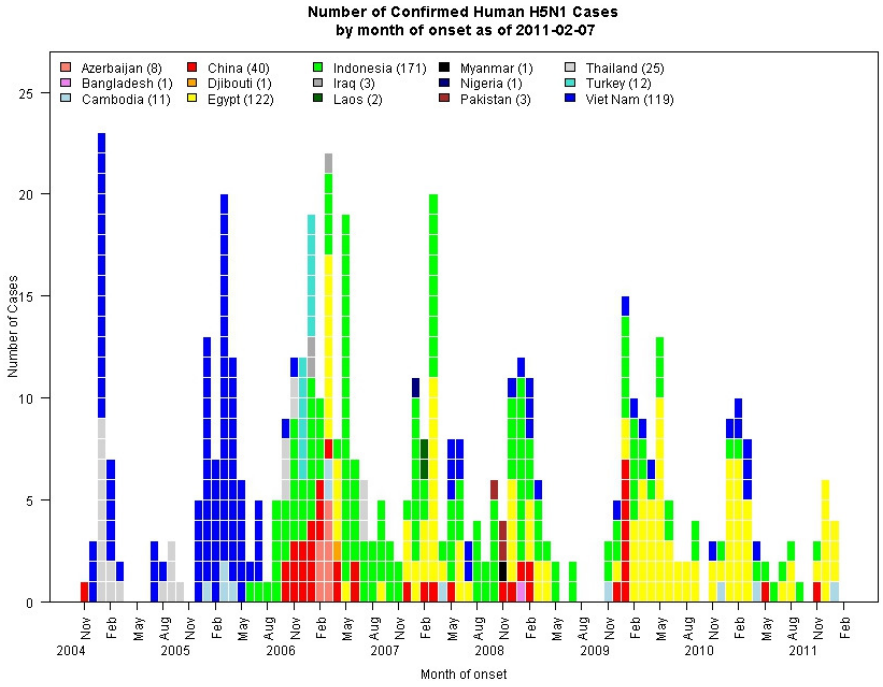

Figure 1: Epidemiological curve of avian influenza H5N1 cases in humans by country and month of onset

The epidemiologic curve of recent human cases follows the same pattern seen in previous years (Figure 1), with larger numbers of cases in the winter months, decreasing with the onset of summer in the northern hemisphere. This curve follows the seasonal curve of outbreaks in poultry.

[1] As of 7 March

In Egypt, human cases of avian influenza H5N1 virus infection continue to be regularly reported from several governorates, reflecting a functioning national disease surveillance and reporting structure. The recent increase in number of cases follows the expected seasonal pattern in the country. It is anticipated that people in Egypt 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. The animal health and public health sectors in Egypt continue to work closely together to reduce risks from H5N1 at the human-animal interface. However, there is the potential that the current political situation may exacerbate some of the infrastructure supporting risk reduction measures in place.

Cambodia has reported 13 sporadic human cases of H5N1 infection, with 11 deaths, since 2005. The recent cases were a 19-year-old woman and her 11-month-old son. Both mother and son had disease onset on 5 February, and based on the assessment it is likely that they were both infected through a common poultry source. The family lived in Banteay Meanchey Province, but were believed to have been exposed to sick poultry in Prey Veng province, although this province is not currently reporting H5N1 in poultry. As with global patterns of incidence, the occurrence of H5N1 infections in humans in Cambodia has also shown a seasonal pattern, with human cases corresponding temporally with reported outbreaks in poultry in most instances.

There has been an overall increase in the number of countries reporting H5N1 in poultry or wild birds. Such an increase has been seen every year in the winter months, and all countries reporting avian H5N1 in 2011 have previously reported H5N1 infections in birds (although West Bank has not reported H5N1 since 2006). With the onset of warmer weather, we will expect to see a decrease in outbreaks in poultry. Human cases are possible whenever the virus is circulating in birds, although data suggest that fewer human cases occur in association with H5N1 outbreaks in commercial poultry operations compared with outbreaks in village or household birds. More information on animal influenza is available from OIE (www.oie.int/animal-health-in-the-world/web-portal-on-avian-influenza/) and FAO (www.fao.org/avianflu/en/index.html).

Viruses of H5N1 subtype, clade 2.3.2 are currently circulating in Asia and were reported from Europe in 2010. There has been some suggestion that, similar to clade 2.2 and different from other H5N1 clades, viruses of clade 2.3.2 may be more adapted to wild birds[2], and therefore show the same behaviour as clade 2.2 in terms of spread. Viruses of this clade have been isolated from human H5N1 cases.

Human infections with other animal influenza viruses

There were no human infections with other animal influenza viruses reported to WHO during February, 2011.

Relevant Links:

WHO Table: Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO
www.who.int/csr/disease/avian_influenza/country/cases_table_2011_02_09/en/index.html

WHO Table: H5N1 avian influenza: timeline of major events
www.who.int/csr/disease/avian_influenza/ai_timeline/en/index.html

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[2] *Li Y, Liu L, Zhang Y, Duan Z, Tian G, Zeng X, et al. New avian influenza virus (H5N1) in wild birds, Qinghai, China. Emerg Infect Dis [serial on the Internet]. 2011 Feb [date cited]. http://www.cdc.gov/EID/content/17/2/265.htm*

WHO Archive: Avian Influenza situation updates
www.who.int/csr/disease/avian_influenza/updates/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