Influenza at the human-animal interface

Summary and assessment as of 25 February 2014

Human infection with avian influenza A(H5N1) viruses

From 2003 through 25 February 2014, 658 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 15 countries. Of these cases, 388 have died.

Since the last WHO Influenza at the Human-Animal Interface update on 24 January 2013, eight new laboratory-confirmed human cases of influenza A(H5N1) virus infection were reported to WHO (one from Viet Nam, five from Cambodia and two from China).

Cambodia reported five confirmed and one probable case of human infection with influenza A(H5N1) virus. All cases were children: a 5 year old boy from Kampong Thom, and three cases from the same village in Kratie province: an 8 year old boy and his 2 year old sister (probable case) and a 4 year old boy. The siblings died from severe respiratory infection, but samples were collected only from the 8 year old boy. The 4 year old boy was detected during the contact tracing around this family cluster. Exposure of the last three children to a common poultry source is likely as a high number of poultry were reported to have died in the village in mid-January, and all had direct exposure to dead and sick poultry. The last two reported cases were a 10 year old girl and an 11 year old girl from two different districts in Kampong Cham province. Both presented with mild disease and fully recovered. Poultry die-off was reported in their neighbourhood.

China reported 2 cases: one in a 75 year old man from Guangxi province who developed severe pneumonia and one in a 5 year old girl from Hunan province who fully recovered.

Viet Nam notified WHO of one fatal case of human infection with influenza A(H5N1) virus with onset on 22 January 2014 from Dong Thap province.

Overall public health risk assessment for avian influenza A(H5N1) viruses: Whenever influenza viruses are circulating in poultry, sporadic infections or small clusters of human cases are possible, especially in people exposed to infected household poultry or contaminated environments. This influenza A(H5N1) virus does not currently appear to transmit easily among people. As such, the risk of community-level spread of this virus remains low.
Table 1: Laboratory-confirmed human cases of avian influenza A(H5N1) virus infection (24 Jan 2014 – 24 February 2014)

<table>
<thead>
<tr>
<th>Country</th>
<th>Province</th>
<th>Age</th>
<th>Sex</th>
<th>Date of onset</th>
<th>Date of Hospitalisation</th>
<th>Oseltamivir treatment Start date</th>
<th>Date of death</th>
<th>Exposure to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>Dong Thap</td>
<td>60</td>
<td>F</td>
<td>22 Jan 2014</td>
<td>27 Jan 2014</td>
<td>NA</td>
<td>28 Jan 2014</td>
<td>Slaughter and consumption of duck, poultry deaths at son-in-law's residence</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Kampong Thom</td>
<td>5</td>
<td>M</td>
<td>24 Jan 2014</td>
<td>30 Jan 2014</td>
<td>31 Jan 2014</td>
<td></td>
<td>Dead chicken in neighbourhood, was around while family prepared chicken</td>
</tr>
<tr>
<td>Kratie</td>
<td></td>
<td>8</td>
<td>M</td>
<td>31 Jan 2014</td>
<td>6 Feb 2014</td>
<td>7 Feb 2014</td>
<td>7 Feb 2014</td>
<td>Dead chicken in neighbourhood, helped preparing chicken</td>
</tr>
<tr>
<td>Kratie</td>
<td></td>
<td>4</td>
<td>M</td>
<td>8 Feb 2014</td>
<td>13 Feb 2014</td>
<td>13 Feb 2014</td>
<td></td>
<td>Dead chicken in neighbourhood</td>
</tr>
<tr>
<td>Kampong Cham</td>
<td></td>
<td>10</td>
<td>F</td>
<td>26 Jan 2014</td>
<td>20 Feb 2014</td>
<td>20 Feb 2014</td>
<td>recovered</td>
<td>Dead and sick ducks in village; helped preparing duck</td>
</tr>
<tr>
<td>Kampong Cham,</td>
<td></td>
<td>11</td>
<td>F</td>
<td>9 Feb 2014</td>
<td>20 Feb 2014</td>
<td>20 Feb 2014</td>
<td>recovered</td>
<td>Dead chickens in neighbourhood</td>
</tr>
<tr>
<td>China</td>
<td>Guangxi</td>
<td>75</td>
<td>M</td>
<td>NA</td>
<td>29 Jan 2014</td>
<td>NA</td>
<td>NA</td>
<td>Exposure to poultry</td>
</tr>
<tr>
<td>Hunan</td>
<td></td>
<td>5</td>
<td>F</td>
<td>17 Feb 2014</td>
<td>NA</td>
<td>NA</td>
<td>recovered</td>
<td>NA</td>
</tr>
</tbody>
</table>

NA: not applicable or not available
Human infection with other non-seasonal influenza viruses

Human infections with avian influenza A(H7N9) viruses in China

WHO is closely monitoring this event and separate risk assessments have been posted. Please find the most updated information at http://www.who.int/influenza/human_animal_interface/influenza_h7n9/Risk_Assessment/en/index.html

Human infections with avian influenza A(H10N8) viruses in China

Since the last WHO Influenza at the Human-Animal Interface update on 24 January 2013, two human cases of infection with avian influenza A(H10N8) virus were reported to WHO from China, both from Jiangxi province. The first human case of H10N8 virus infection was a 55-year-old woman with onset of illness 8 January, hospitalized on 15 January with severe pneumonia. She visited a live bird market four days before onset of illness. The second human case was in a 75-year-old man with underlying disease who was admitted to hospital on 4 February and died on 8 February. He was exposed to live poultry prior to onset of illness.

China has reported three human infections with influenza A(H10N8) virus since December 2014, all from Jiangxi province.
Genetic information from one virus isolate is available, which showed all genes to be of avian origin and the internal genes to be derived from A(H9N2) viruses currently circulating widely in poultry in China. This virus is susceptible to the neuraminidase inhibitor class of antiviral drugs.

**Overall public health risk assessment for avian influenza A(H10N8) virus**: Based on current epidemiological information, these cases seem not to be linked to each other. Information on the prevalence and distribution of A(H10N8) viruses in poultry in the region is limited, thus the assessment of its impact on public health is difficult. Further human cases of human infection with avian influenza A(H10N8) would not be unexpected if the virus were circulating in populations of birds to which humans were exposed.

**Outbreaks in animals with avian influenza viruses with potential public health impact**

The number of reported outbreaks of avian influenza in birds globally is currently slightly increased, as is expected during this period of the year, and is expected to continue based on the historical seasonal pattern of outbreaks through the northern hemisphere winter.

Further, owing in part to the emergence of avian influenza A(H7N9) virus and associated infections of humans in China, there is enhanced surveillance for non-seasonal subtypes of influenza in both humans and animals in China, the countries neighbouring China, and globally. It is therefore to be expected that more avian influenza A(H5N1), A(H7N9), and a variety of other influenza subtypes and reassortant viruses will be detected in humans and animals over the coming months.

Because of the constantly evolving nature of influenza viruses, WHO continues to stress the importance of global monitoring to detect virological, epidemiological and clinical changes that may affect public (or animal) health. To be able to detect changes early, WHO recommends that all Member States strengthen routine influenza surveillance. All human infections with non-seasonal influenza viruses are reportable to WHO under the IHR (2005), and it is critical that influenza viruses from animals and people are fully characterized in appropriate animal or human health influenza reference laboratories.

**Links:**

WHO human-animal interface web page

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

H5N1 avian influenza: timeline of major events

Avian influenza A(H7N9) information

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

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

OFFLU
http://www.offlu.net/index.html