Influenza at the human-animal interface

Summary and assessment as of 24 January 2014

**Human infection with avian influenza A(H5N1) viruses**

From 2003 through 24 January 2014, 650 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 15 countries. Of these cases, 386 died.

Since the last WHO Influenza at the Human-Animal Interface update on 20 December 2013, two new laboratory-confirmed human cases of influenza A(H5N1) virus infection were reported to WHO (one from Canada and one from Viet Nam).

Canada notified WHO of a human infection with influenza A(H5N1) virus in a previously healthy resident who travelled to Beijing between 6 and 27 of December 2013. The case had an onset of disease on 27 December, when travelling back to Canada, presented with rapidly progressing pneumonia and encephalitis on 1 January 2014, and died on 3 January 2014. This is the first case of infection with H5N1 virus reported in the Americas. Although exposure to the virus most likely happened in Beijing, no clear history of exposure to poultry or poultry-contaminated environments was reported. No further cases were identified through contact follow-up and investigation around this case in Canada. The most recent human cases in China of A(H5N1) infection were reported in February 2013 in Guizhou province.

Viet Nam notified WHO of one fatal case of human infection with influenza A(H5N1) virus with onset on 11 January 2014 from Binh Phuoc 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 (20 Dec 2013- 24 Jan 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>Canada</td>
<td>Alberta</td>
<td></td>
<td></td>
<td>27 Dec 2013</td>
<td>1 Jan 2014</td>
<td>3 Jan 2014</td>
<td>3 Jan 2014</td>
<td>unknown</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Binh Phuoc</td>
<td>52</td>
<td>M</td>
<td>11 Jan 2014</td>
<td>16 Jan 2014</td>
<td>NA</td>
<td>18 Jan 2014</td>
<td>Slaughter and consumption of duck</td>
</tr>
</tbody>
</table>

NA: not applicable or not available
Figure 1: Epidemiological curve of avian influenza A(H5N1) cases in humans by reporting country and month of onset.

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(H9N2) viruses in China**

Two human cases of infection with avian influenza A(H9N2) virus were reported to WHO from China. The first case was reported from Hong Kong SAR in an 86-year-old male Hong Kong citizen with underlying medical conditions living in Shenzhen, Guangdong province, China. The patient developed symptoms on 28 December 2013 and was admitted to hospital on the same day. He was reported on 30 December to be in a stable condition. Investigation around this case did not reveal other human cases of infection with this virus. No clear history of exposure to poultry or poultry-contaminated environments was reported. The second case was a 7-year-old boy from Hunan Province, China. He fell ill on 19 November 2013, was treated as an outpatient and fully recovered on 24 November. On 31 December, specimen collected during his outpatient visit was tested positive for influenza A(H9N2). Investigations revealed that the patient had close contact with poultry. No additional human cases were reported among contacts of this case. Low pathogenic avian influenza A(H9N2) viruses are known to be circulating in poultry across Asia and the Middle East. The latest human infection with influenza A(H9N2) virus was reported from Hong Kong, SAR, China in December 2009. Most human infections with influenza A(H9N2) were mild.
**Overall public health risk assessment for avian influenza A(H9N2) virus:** Further human cases and small clusters could occur as this virus is circulating in poultry populations across Asia and Middle East. This virus does not seem to transmit easily between humans and tends to result in mild clinical disease, therefore the current likelihood of community-level spread and public health impact of this virus is considered low.

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

Slightly increasing numbers of outbreaks in birds are currently being identified globally as is expected during this period of the year, and a continued upward trend in these events is predicted based on the historical seasonal pattern of outbreaks, especially given expected increases in the trade and transport of poultry associated with the upcoming Lunar New Year.

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