

## Influenza at the human-animal interface

Summary and assessment as of 29 August 2013

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

From 2003 through 29 August 2013, 637 laboratory-confirmed human cases with avian influenza A(H5N1) virus infection have been officially reported to WHO from 15 countries, of which 378 died.

Since the last update on 4 July 2013, four new laboratory-confirmed human cases with influenza A(H5N1) virus infection were reported to WHO from Cambodia. One of these died.

All cases are considered to be sporadic cases, with no evidence of community-level transmission. As influenza A(H5N1) virus is circulating widely in poultry in Cambodia, additional sporadic human cases or small clusters might be expected in the future.

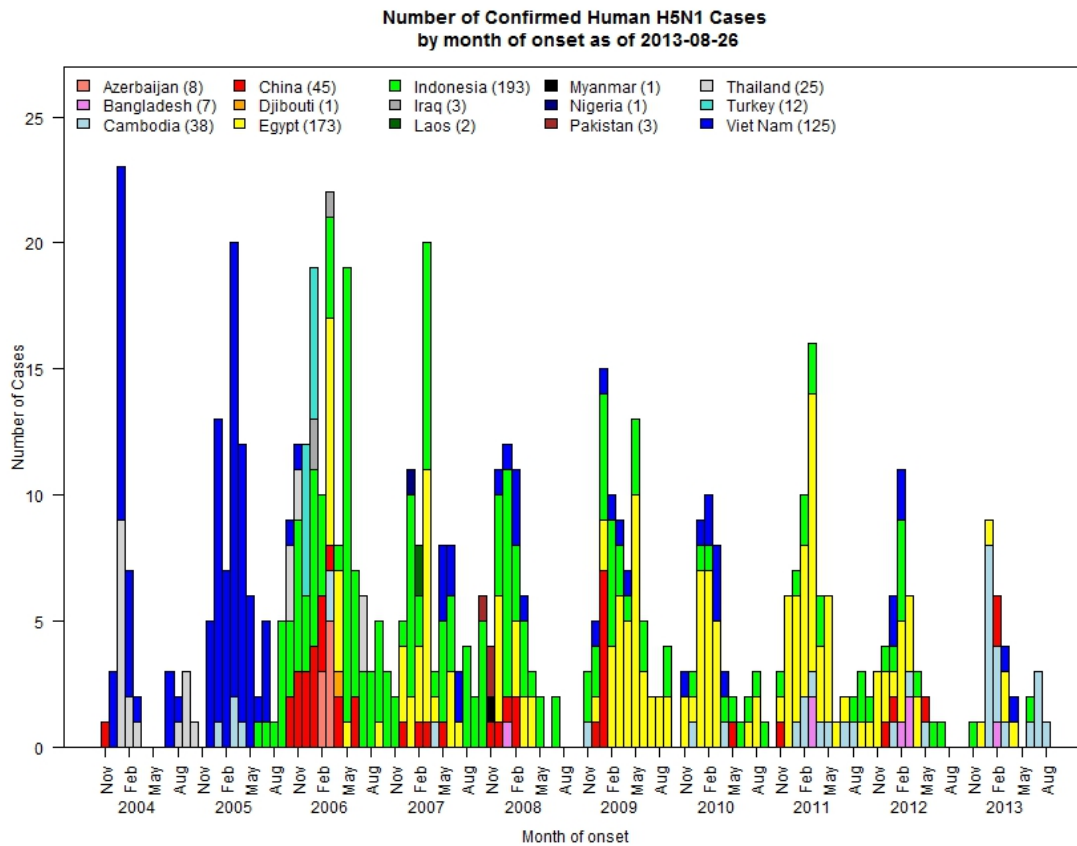
**Table 1: Laboratory-confirmed human cases of avian influenza A(H5N1) virus infection (4 July 2013– 29 August 2013)**

Country	Province	Age	Sex	Date of onset	Date of Hospitalisation	Oseltamivir treatment Start date	Date of death	Exposure to
Cambodia	Prey Veng	3 years	M	03/07/2013	08/07/2013	09/07/2013	NA	Sick and dead poultry in village
	Battambang	9 years	M	26/07/2013	02/08/2013	09/08/2013	18/08/2013	Sick and dead poultry (chicken and ducks) in village
	Kandal	5 years	F	01/08/2013	09/08/2013	10/08/2013	NA	dead poultry in the village
	Kandal	6 years	M	21/07/2013	NA	NA	NA	contact with sick poultry

NA: not applicable or not available

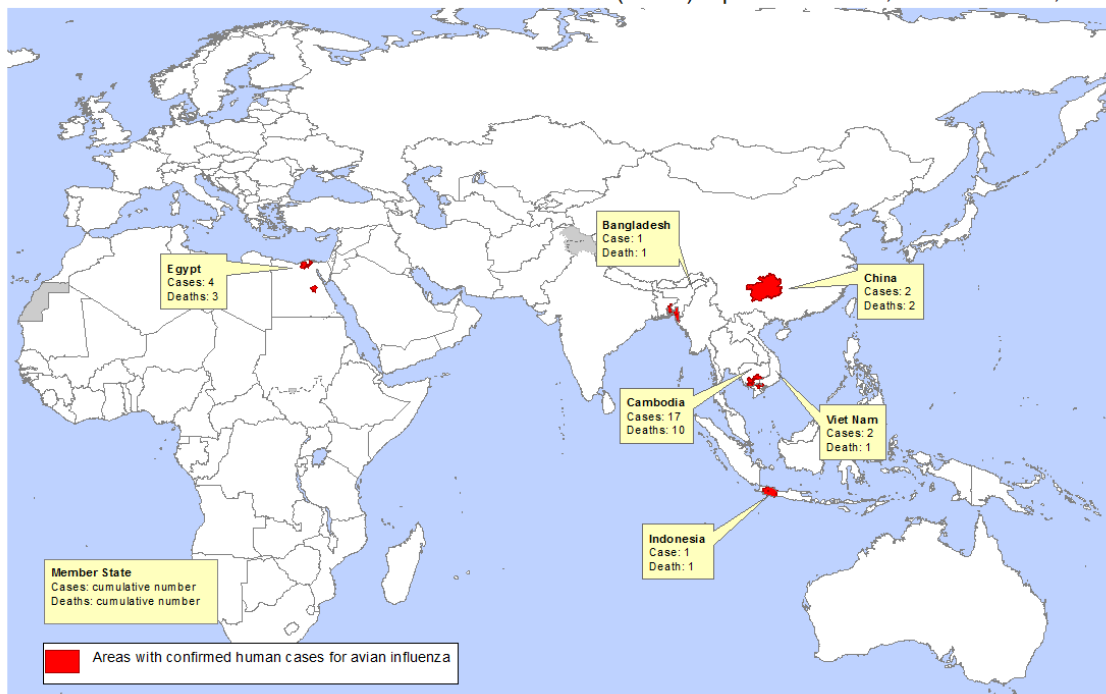
**Overall public health risk assessment for avian influenza A(H5N1) viruses:** Whenever influenza viruses are circulating in poultry, sporadic infections or small clusters of human cases are possible, especially in people exposed to infected household poultry or contaminated environments. However, this 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.

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



**Figure 2: Map of avian influenza A(H5N1) cases in humans in 2013**

Areas with confirmed human cases for avian influenza A(H5N1) reported to WHO, 2013- to-date\*,



\*All dates refer to onset of illness  
Data as of 29 August 2013  
Source: WHO/GIP

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.  
© 2013 WHO. All rights reserved.



## Human infection with other non-seasonal influenza viruses

### Avian influenza A(H7N9)

China has reported two cases of human infection with avian influenza A(H7N9) virus since the last update of 4 July 2013. The first patient was a 61-yr-old woman from Hebei Province who had onset of illness on 10 July. The second was a 51-yr-old woman from Guangdong province with onset on 27 July 2013. As of 16 August 2013, 135 human cases with influenza A(H7N9) infection were reported to WHO, including 44 deaths. Most human cases presented with pneumonia.

Most human A(H7N9) cases have reported contact with poultry or live animal markets. Knowledge about the main virus reservoirs and the extent and distribution of the virus in animals remains limited. Given the reports of additional human cases, combined with the likely continued circulation of the virus in poultry, reports of additional human cases and infections in animals would not be unexpected, especially as the Northern Hemisphere autumn approaches.

Although four small family clusters have been reported among previous cases, evidence does not support sustained human-to-human transmission of this virus.

**Overall public health risk assessment for avian influenza A(H7N9) virus:** Sporadic human cases and small clusters would not be unexpected in previously affected and possibly neighboring areas/countries of China, and potentially in travellers from these areas returning to other countries.

Continued vigilance is needed within affected and neighboring areas to detect infections in animals and humans. WHO advises countries to continue surveillance and other preparedness actions, including ensuring appropriate laboratory capacity. All human infections with non-seasonal influenza viruses such as avian influenza A(H7N9) are reportable to WHO under the IHR (2005).

Current technical information as well as guidance related to avian influenza can be found at:

[http://www.who.int/influenza/human\\_animal\\_interface/influenza\\_h7n9/en/index.html](http://www.who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html)

### Influenza A(H3N2) variant virus infections in humans

The United States of America (USA) reported 16 cases of human infection with influenza A(H3N2)v this year in Illinois (1), Indiana (14) and Ohio (1). Only one person was hospitalized and no deaths have occurred. All cases reported close contact with swine in the week before illness onset and no ongoing human-to-human transmission has been identified

Limited serological studies indicate that adults may have some pre-existing immunity to this virus but children do not. Seasonal vaccines do not provide cross-protection to influenza A(H3N2)v in adults or children. Three candidate vaccine viruses specific for A(H3N2)v have been developed in the USA and could be used to produce an (H3N2)v vaccine if needed.

**Overall public health risk assessment for influenza A(H3N2)v viruses:** Further human cases and small clusters may be expected as this virus is circulating in the swine population in the USA and the season of agricultural fairs is ongoing.

Close monitoring of the situation, including continued characterization of viruses to detect any changes, is warranted.

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

Overall, official reports of animal influenza outbreaks are at their expected seasonal level ([http://www.oie.int/wahis\\_2/public/wahid.php/Diseaseinformation/WI](http://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI)). Normally, with the onset of summer in the northern hemisphere, there is a downward trend in the number of reports of influenza events in birds. Owing in part to the emergence of avian influenza A(H7N9) virus and infections of humans with this virus in China, there is enhanced surveillance for various subtypes of avian influenza in both humans and animals in China, the countries neighboring China, and globally. It is therefore expected that more influenza A(H5) and A(H7) events in humans and animals will be detected and reported, as well as identification and reporting of infections with a variety of other influenza subtypes and reassortants. Most infections that might be reported in humans will likely be clinically mild and sporadic, and will not change the overall public health risk assessment. However, it is critical that these events be reported through the appropriate channels and that viruses be collected and fully characterized in appropriate animal or human health influenza reference laboratories in order to detect changes that may affect public health.

Due to the constant evolving nature of influenza viruses, WHO continues to stress the importance of global monitoring of influenza viruses in animals and people and 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).

### **Relevant Links:**

WHO human-animal interface web page

[http://www.who.int/influenza/human\\_animal\\_interface/en/](http://www.who.int/influenza/human_animal_interface/en/)

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](http://www.who.int/influenza/human_animal_interface/EN_GIP_LatestCumulativeNumberH5N1cases.pdf)

H5N1 avian influenza: timeline of major events

[http://www.who.int/influenza/human\\_animal\\_interface/avian\\_influenza/H5N1\\_avian\\_influenza\\_update.pdf](http://www.who.int/influenza/human_animal_interface/avian_influenza/H5N1_avian_influenza_update.pdf)

Avian influenza A(H7N9) information

[http://who.int/influenza/human\\_animal\\_interface/influenza\\_h7n9/en/index.html](http://who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html)

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

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

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

<http://www.fao.org/avianflu/en/index.html>

OFFLU

<http://www.offlu.net/index.html>