

Influenza at the human-animal interface

Summary and assessment as of 20 December 2013

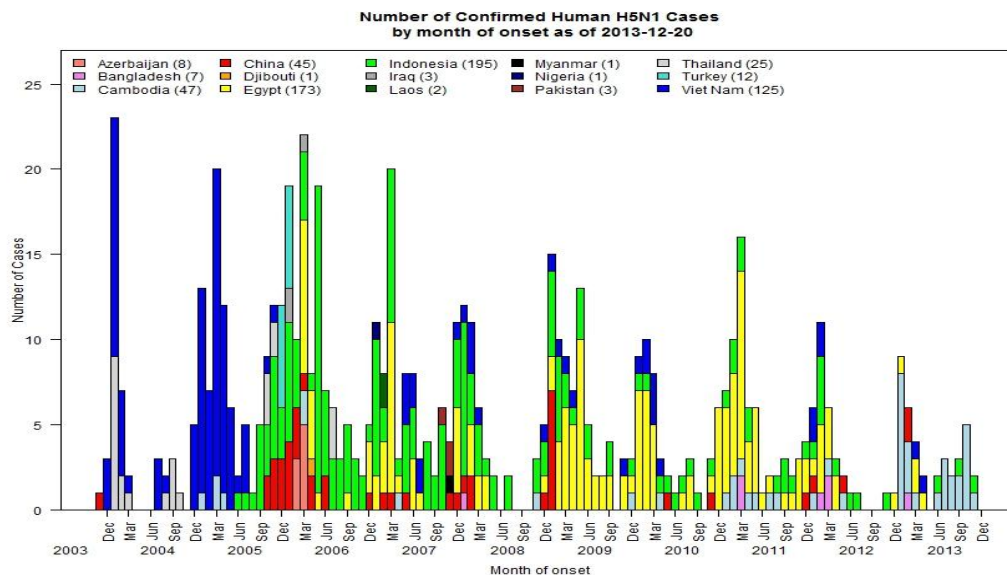
Human infection with avian influenza A(H5N1) viruses

From 2003 through 20 December 2013, 648 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 15 countries. Of these cases, 384 died.

Since the last WHO Influenza at the Human-Animal Interface update on 10 December 2013, no new laboratory-confirmed human cases of influenza A(H5N1) virus infection were reported to WHO.

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



Human infection with other non-seasonal influenza viruses

Avian influenza A(H7N9) in China

Since the last update of 10 December 2013, China has reported four new cases of human infection with avian influenza A(H7N9) virus, from Guangdong province, with onset dates between 6 and 11 December. All new patients are in a critical condition.

Most human A(H7N9) cases have reported contact with poultry or live bird markets. Knowledge about the main virus reservoirs, and the extent and distribution of the virus in animals remains limited. Because this virus causes only subclinical infections in poultry, it is possible that the virus continues to circulate in China and perhaps in neighbouring countries without being detected. As such, reports of additional human cases and infections in animals would not be unexpected, especially with onset of winter in the Northern Hemisphere and as poultry production and movement increase in the region in anticipation of the Chinese New Year Holidays.

Although five small family clusters have been reported, evidence does not currently 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 areas of China, and possibly neighbouring countries. The current likelihood of community-level spread of this virus is considered to be low.

Continued vigilance is needed within China and neighbouring 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 International Health Regulations (IHR)2005.

Symptomatic individuals with exposure to avian influenza A(H7N9) virus should receive prompt antiviral *treatment*. Antiviral chemoprophylaxis post avian influenza A(H7N9) virus exposure is generally not recommended. For asymptomatic individuals at high-risk due to type of exposure or underlying conditions who have been exposed to a patient with confirmed avian influenza A(H7N9) virus infection, presumptive antiviral *treatment* with oral oseltamivir or inhaled zanamivir can be considered.

Current technical information as well as guidance related to avian influenza A(H7N9) can be found at: http://www.who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html

Avian influenza A(H10N8) in China

On 17 December, China reported a human infection with avian influenza A(H10N8) virus in Jiangxi province. The patient was a 73 year-old female with multiple comorbidities, who was hospitalized on 30 November with severe pneumonia and died 6 December. The comorbidities of the patient might have contributed to a more severe illness than if the patient had been previously healthy. The patient had a history of exposure to a live bird market. Although avian influenza A(H10N8) virus has been previously reported in wild and domestic birds^{1,2}, this is the first human case of influenza A(H10N8) infection

¹ Zhang, H et al., Virology Journal, 2011

² Jiao, P et al, Journal of Virology, 2012

reported to WHO. No cases among contacts have so far been detected although follow up is continuing. Both health and agricultural authorities continue to enhance influenza surveillance in humans, poultry and the environment in the region, especially in the context of identifying avian influenza A(H7N9) virus-associated events.

Overall public health risk assessment for avian influenza A(H10N8)virus: Based on current epidemiological information this seems to be a sporadic human infection with avian influenza A(H10N8) virus, perhaps detected as a result of the current increased influenza surveillance in China. Although the prevalence of the virus in the local poultry population is unknown, sporadic 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.

Influenza A(H3N2) variant virus infections in humans in the USA

Since the last update of 10 December 2013, no new case of human infection with influenza A(H3N2)v was reported from United States of America (USA). To date in 2013, the USA has reported 19 cases of human infection with influenza A(H3N2)v.

Overall public health risk assessment for avian influenza A(H3N2)v virus: Further human cases and small clusters could occur as this virus is circulating in the swine population in the USA. However, agricultural fairs, where most of the human cases were reportedly exposed, are rarely held in the USA in the winter season. The current likelihood of community-level spread and public health impact of this virus is considered low.

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

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. In order to detect virological and epidemiological changes that may affect public (or animal) health, it is critical that all non-seasonal influenza events be reported through the appropriate channels and that viruses be collected and fully characterized in appropriate animal or human health influenza reference laboratories.

Because of the constantly 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).

Links:

WHO human-animal interface web page

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

H5N1 avian influenza: timeline of major events

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

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>