Human infection with avian influenza A(H5) viruses

Human infection with avian influenza A(H5N1) virus

Between 4 June and 10 June 2021, no new cases of human infection with avian influenza A(H5N1) virus were reported to WHO in the Western Pacific Region.

As of 10 June 2021, a total of 239 cases of human infection with avian influenza A(H5N1) virus have been reported from four countries within the Western Pacific Region since January 2003 (Table 1). Of these cases, 134 were fatal, resulting in a case fatality rate (CFR) of 56%. The last case was reported from Lao PDR, with an onset date of 13 October 2020 (one case, no death).

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Globally, from January 2003 to 10 June 2021, there were 862 cases of human infection with avian influenza A(H5N1) virus reported from 17 countries. Of these 862 cases, 455 were fatal (CFR of 53%). The last case was reported from Lao PDR on 31 October 2020 (source).

Human infection with avian influenza A(H5N6) virus

Between 4 June and 10 June 2021, there was one new case of human infection with avian influenza A(H5N6) virus to report from the National Health Commission of the People’s Republic of China to the Western Pacific Region. The case is a 49-year-old female from Chengdu, Sichuan Province. The case had onset of symptoms on 13 May 2021 and was hospitalized on 16 May 2021 due to severe pneumonia. The case has no clear history of poultry exposure and no further cases have been detected among close contacts. To date, a total of 32 laboratory-confirmed cases of human infection with influenza A(H5N6) virus including 19 deaths* have been reported to WHO in the Western Pacific Region since 2014

*8 deaths at the time of IHR notification and 11 additional resulting in death after IHR notification

Public health risk assessment for human infection with avian influenza A(H5) viruses

On 18 February 2021, the National IHR Focal Point of the Russian Federation notified WHO of detection of avian influenza A(H5N8) in seven human clinical specimens. These are the first reported cases of avian influenza A(H5N8) in humans. Positive clinical specimens were collected from poultry farm workers who participated in a response operation to contain an avian influenza A(H5N8) outbreak detected in a poultry farm in Astrakhan Oblast in the Russian Federation. The cases remained asymptomatic for the whole follow-up duration (several weeks). All close contacts of these cases were clinically monitored, and no one showed signs of clinical illness. Based on currently available information, the risk of human-to-human transmission remains low.

Whenever avian influenza viruses are circulating in poultry, there is a risk for sporadic infection and small clusters of human cases due to exposure to infected poultry or contaminated environments. Therefore, sporadic human cases are not unexpected. With continued incidence of avian influenza due to existing and new influenza A(H5) viruses in poultry, there is a need to remain vigilant in the animal and public health sectors. Community awareness of the potential dangers for human health is essential to prevent infection.
in humans. Surveillance should be continued to detect human cases and early changes in transmissibility and infectivity of the viruses.

For information on monthly risk assessments on Avian Influenza, visit:


Human infection with avian influenza A(H7N4) virus in China

Between 4 June and 10 June 2021, no new cases of human infection with avian influenza A(H7N4) virus were reported to WHO in the Western Pacific Region. To date, only one laboratory-confirmed case of human infection with influenza A(H7N4) virus has been reported to WHO. This case was reported from China on 14 February 2018.

Human infection with avian influenza A(H7N9) virus in China

Between 4 June and 10 June 2021, no new cases of human infection with avian influenza A(H7N9) virus were reported to WHO in the Western Pacific Region. As of 10 June 2021, a total of 1,568 laboratory-confirmed human infections with avian influenza A(H7N9) virus including 616 fatal cases (CFR: 39%) have been reported to WHO since early 2013.

Of the 1,568 human infections with avian influenza A(H7N9), 33 have reported mutations in the hemagglutinin gene indicating a change to high pathogenicity in poultry. These 33 cases were from Taiwan, China (one case had travel history to Guangdong), Guangxi, Guangdong, Hunan, Shaanxi, Hebei, Henan, Fujian, Yunnan, and Inner Mongolia. No increased transmissibility or virulence of the virus within human cases has been detected related to the HPAI A(H7N9) virus (source).

WHO is continuing to assess the epidemiological situation and will conduct further risk assessments as new information becomes available. The number and geographical distribution of human infections with avian influenza A(H7N9) viruses in the fifth epidemic wave (1 October 2016 to 30 September 2017) was greater than previous waves and the subsequent waves.

Further sporadic human cases of avian influenza A(H7N9) virus infection are expected in affected and possibly neighbouring areas. Should human cases from affected areas travel internationally, their infection may be detected in another country during or after arrival. However, if this were to occur, community level spread is considered unlikely as the virus does not have the ability to transmit easily among humans.

To date, there is no evidence of sustained human-to-human transmission of avian influenza A(H7N9) virus. Human infections with the A(H7N9) virus are unusual and need to be monitored closely in order to identify changes in the virus and transmission behaviour to humans as this may have serious public health impacts.

Human infection with avian influenza A(H9N2) virus

Between 4 June and 10 June 2021, no new cases of human infection with avian influenza A(H9N2) were reported to WHO in the Western Pacific Region. To date, 13 cases of avian influenza A(H9N2) have been reported in the Western Pacific Region in 2021, and a total of 54 cases of human infection with avian influenza A(H9N2) have been reported in the Western Pacific Region since December 2015. The last case was reported from China, with an onset date of 20 April 2021.
Human infection with avian influenza A(H10N3) virus

Between 4 June and 10 June 2021, no new cases of human infection with avian influenza A(H10N3) were reported to WHO in the Western Pacific Region. To date, one case of avian influenza A(H10N3) have been reported globally.

On 31 May 2021, the National Health Commission of the People’s Republic of China notified WHO of one confirmed case of human infection with avian influenza A(H10N3) virus. This is the first case of human infection with AI A(H10N3) virus reported globally.

The case is a 41-year-old male from Zhenjiang City, Jiangsu Province. He developed fever and nausea on 23 April 2021 and was admitted to the intensive care unit of a local hospital on 28 April 2021. The case is currently in stable condition. The National Influenza Center of the Chinese Center for Disease Control and Prevention, a WHO Collaborating Center for Reference and Research on Influenza, completed genetic sequencing and analysis of the specimen, which was confirmed as the avian influenza A(H10N3) virus of avian origin.

The case has no clear history of exposure to poultry prior to illness onset, based on an epidemiological investigation. No avian influenza A(H10N3) virus has been found in the local surroundings or poultry. Close contacts of the case have not shown any symptoms. Based on the local and national assessment, the case was considered to be an incidental infection from avian to human, with a low likelihood of human-to-human transmission.

Most previously reported human infections with avian influenza viruses were due to exposure to infected poultry or contaminated environments. Since avian influenza viruses, including avian influenza A(H10N3) viruses, continue to be detected in poultry populations, further sporadic human cases could be detected in the future. Currently available epidemiologic information suggests that the avian influenza A(H10N3) virus has not acquired the ability for sustained human-to-human transmission, thus the likelihood of spread among human is low (source).

Animal infection with avian influenza virus

Between 4 June and 10 June 2021, a total of five new outbreaks of avian influenza were reported to OIE from the Western Pacific Region (source).

Highly pathogenic avian influenza virus A(H5N2) in Taiwan, China

Three outbreaks of highly pathogenic avian influenza A(H5N2) virus were detected from 9 March 2021 to 11 May 2021, in birds from slaughterhouses in Taipei City, Taiwan, China. A total of three cases were confirmed resulting in no deaths were reported. Among 28 susceptible birds, all were culled (source).

Highly pathogenic avian influenza virus A(H5N8) in Japan

Two outbreaks of highly pathogenic avian influenza A(H5N8) virus were detected from 30 January 2021 to 1 February 2021, in birds from farms in Miyazaki Prefecture and Ibaraki Prefecture in Japan. A total of 164 cases were culled (source).
For more information on animal infection with avian influenza viruses with potential public health impact, visit:

- World Organization for Animal Health (OIE) web page: Weekly disease information and Latest report on Avian Influenza
- Food and Agriculture Organization of the UN (FAO) webpage: Avian Influenza
- OFFLU: Animal Influenza
- Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES)
- FAO Global Animal Disease Information System (EMPRES-i)

Other updates

- Influenza at the human-animal interface summary and assessment 21 May 2021
  - Risk assessment summary: The overall public health risk from currently known influenza viruses at the human-animal interface has not changed, and the likelihood of sustained human-to-human transmission of these viruses remains low. Human infections with viruses of animal origin are expected at the human-animal interface wherever these viruses circulate in animals.
- Recommended composition of influenza virus vaccines for use in the 2021 southern hemisphere influenza season (who.int) 25 September 2020
- WHO SAGE Seasonal Influenza Vaccination Recommendations during the COVID-19 Pandemic Interim guidance. 21 September 2020
- Recommended composition of influenza virus vaccines for use in the 2021-2022 northern hemisphere influenza season (who.int) 26 February 2021
- WHO Consultation on the Composition of Influenza Virus Vaccines for Use in the 2021-22 Northern Hemisphere Influenza Season. 17 February - 04 March 2021
- WHO Information Meeting on the Composition of Influenza Virus Vaccines for Use in the 2021-22 Northern Hemisphere Influenza Season. 26 February 2021
- Zoonotic influenza: candidate vaccine viruses and potency testing reagents.