Human infection with avian influenza A(H5) viruses

Human infection with avian influenza A(H5N1) virus
Between 04 November 2022 and 10 November 2022, no new cases of human infection with avian influenza A(H5N1) virus were reported to WHO in the Western Pacific Region.

As of 10 November 2022, 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 20 October 2020 (one case, no death).

Table 1: Cumulative number of laboratory-confirmed human cases (C) and deaths (D) of influenza A(H5N1) virus infection reported to WHO, by date of onset (January 2003 to 10 November 2022), Western Pacific Region

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<tr>
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<td>7</td>
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<tr>
<td>China</td>
<td>38</td>
<td>25</td>
<td>9</td>
<td>5</td>
<td>6</td>
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<td>Viet Nam</td>
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<td>57</td>
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<tr>
<td>Total</td>
<td>161</td>
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<td>42</td>
<td>6</td>
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Globally, from January 2003 to 05 October 2022, there have been 865 cases of human infection with avian influenza A(H5N1) virus reported from 21 countries. Of these 865 cases, 456 were fatal (CFR of 53%). The latest case was reported from the United States of America in April 2022 (Source).

Human infection with avian influenza A(H5N6) virus
Between 04 November 2022 and 10 November 2022, no new cases of human infection with avian influenza A(H5N6) virus were notified to WHO in the Western Pacific Region. To date, a total of 82 laboratory-confirmed cases of human infection with influenza A(H5N6) virus including 33 deaths have been reported to WHO in the Western Pacific Region since 2014.

Human infection with avian influenza A(H5) virus
Between 04 November 2022 and 10 November 2022, no new cases of human infection with avian influenza A(H5) virus were notified to WHO in the Western Pacific Region. The last case was reported from Viet Nam, with an onset date of 22 October 2022 (one case, no death). This is the first case of avian influenza A(H5) reported from Viet Nam since 2014; the identification of the NA subtype is pending.

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

The rise in numbers of reported human cases of A(H5N6) infection may reflect the continued circulation of the virus in birds, and enhanced surveillance system and diagnostic capacity as a direct outcome from the response to the COVID-19 pandemic. The zoonotic threat remains elevated due to the spread of the viruses among birds. However, the overall pandemic risk associated with A(H5) is considered not significantly changed in comparison to previous years. WHO recommends Member States to remain
vigilant and consider mitigation steps to reduce human exposure to potentially infected birds to reduce risk of additional zoonotic infection.

For information on risk assessments on Avian Influenza, see: monthly risk assessment summaries and Assessment of risk associated with highly pathogenic avian influenza A(H5N6) virus.

**Human infection with avian influenza A(H3N8) virus**
Between 04 November 2022 and 10 November 2022, no new cases of human infection with avian influenza A(H3N8) virus were reported to WHO in the Western Pacific Region. To date, a total of 2 laboratory-confirmed cases of human infection with influenza A(H3N8) virus with no death has been reported to WHO in the Western Pacific Region.

**Human infection with avian influenza A(H7N4) virus in China**
Between 04 November 2022 and 10 November 2022, 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 04 November 2022 and 10 November 2022, no new cases of human infection with avian influenza A(H7N9) virus were reported to WHO in the Western Pacific Region. To date, 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. The last case of human infection with avian influenza A(H7N9) reported to WHO in the Western Pacific Region was in 2019.

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.

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) were 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 04 November 2022 and 10 November 2022, no new cases of human infection with avian influenza A(H9N2) were reported to WHO in the Western Pacific Region.
To date, a total of 78 cases of human infection with avian influenza A(H9N2) including two deaths (both with underlying conditions) have been reported to WHO in the Western Pacific Region since December 2015. Of these, 76 were reported from China and two were reported from Cambodia.

**Human infection with avian influenza A(H10N3) virus**

Between 04 November 2022 and 10 November 2022, no new cases of human infection with avian influenza A(H10N3) virus were reported to WHO in the Western Pacific Region. To date, two cases of avian influenza A(H10N3) virus has been reported globally.

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.

**Human infection with Eurasian avian-like A(H1N1) swine influenza virus**

Between 04 November 2022 and 10 November 2022, no new cases of human infection with Eurasian avian-like A(H1N1) swine influenza virus were reported to WHO in the Western Pacific Region. To date, a total of six cases of human infection with Eurasian avian-like A(H1N1) swine influenza virus have been officially reported from China to WHO since October 2021.

Sporadic influenza A(H1)v virus infections in humans have been reported by China, Europe, and the United States of America, Canada and other countries in South America. Because these viruses continue to be detected in swine populations around the world, further human cases can be expected. There has been some limited, non-sustained human-to-human transmission of variant influenza viruses, but no ongoing community transmission has been identified. Current evidence suggests that these viruses have not acquired the ability of sustained transmission among humans; thus, the likelihood of sustained human-to-human transmission is low.

**Animal infection with avian influenza virus**

Between 04 November 2022 and 10 November 2022, one new outbreak of high pathogenicity avian influenza among birds was reported to WOAH from the Western Pacific Region.

On 08 November 2022, Japan reported one case of highly pathogenic avian influenza A(H5N2) among a wild large-billed crow in Sapporo City, Hokkaido. In total there was 1 animal case and 1 animal death (source).

On 04 November 2022, Japan confirmed virus subtyping from a previously reported outbreak of highly pathogenic avian influenza among domestic birds in Kannonji-City, Kagawa. The outbreak was reported on 26 October 2022. Sequencing confirmed the subtype to be A(H5N1). In total, 50 cases were detected among 41,200 susceptible domestic birds. Of the 41,200 susceptible birds, 50 died and 41,150 were killed and disposed of (source).
For more information on animal infection with avian influenza viruses with potential public health impact, visit:

- World Organization for Animal Health (WOAH) web page: [Weekly disease information and Latest report on Avian 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](#), 05 October 2022
- [WHO SAGE Seasonal Influenza Vaccination Recommendations during the COVID-19 Pandemic Interim guidance](#), 20 September 2020
- [Recommended composition of influenza virus vaccines for use in the 2022-2023 northern hemisphere influenza season](#) (who.int), 25 February 2022
- [WHO Consultation on the Composition of Influenza Virus Vaccines for Use in the 2023 Southern Hemisphere Influenza Season](#), 19-22 September 2022
- [WHO issues updated influenza vaccines position paper](#), 1 June 2022
- [Zoonotic influenza: candidate vaccine viruses and potency testing reagents](#), 3 March 2022