Human infection with avian influenza A(H5) viruses

Human infection with avian influenza A(H5N1) virus
Between 25 November 2022 and 1 December 2022, no new cases of human infection with avian influenza A(H5N1) virus were reported to WHO in the Western Pacific Region.

As of 25 November 2022, a total of 240 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, 135 were fatal, resulting in a case fatality rate (CFR) of 56%. The last case was reported from China, with an onset date of 22 September 2022 and died on 18 October 2022. This is the first case of avian influenza A(H5N1) reported from China since 2015.

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 24 November 2022), Western Pacific Region

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<td>C</td>
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<tr>
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<td>9</td>
<td>7</td>
<td>47</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>0</td>
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<tr>
<td>Viet Nam</td>
<td>112</td>
<td>57</td>
<td>15</td>
<td>7</td>
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<tr>
<td>Total</td>
<td>161</td>
<td>91</td>
<td>71</td>
<td>42</td>
<td>6</td>
<td>1</td>
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Globally, from January 2003 to 11 November 2022, there have been 868 cases of human infection with avian influenza A(H5N1) virus reported from 21 countries. Of these 868 cases, 457 were fatal (CFR of 53%) (Source).

Human infection with avian influenza A(H5N6) virus
Between 25 November 2022 and 1 December 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 25 November 2022 and 1 December 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; NA subtype could not be determined.

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 25 November 2022 and 1 December 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 25 November 2022 and 1 December 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 25 November 2022 and 1 December 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 25 November 2022 and 1 December 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 79 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, 77 were reported from China and two were reported from Cambodia. The last case was reported from China, with an onset date of 20 September 2022 and has since recovered.

Human infection with avian influenza A(H10N3) virus
Between 25 November 2022 and 1 December 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 have 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 25 November 2022 and 1 December 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) 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 25 November 2022 and 1 December 2022, there have been new outbreaks of high pathogenicity avian influenza among birds reported to WOAH from the Western Pacific Region.

On 24 November, 3 outbreaks of highly pathogenic avian influenza A(H5N1) from poultry were reported in Japan with one event each in Izumi City, Kagoshima Prefecture; Aga Town, Niigata Prefecture; and Shintomi Town, Miyazaki Prefecture. There was a total number of 116 cases and 116 deaths, and 420,284 domestic birds killed and disposed (Source). On 28 and 30 November, there were also reports of highly pathogenic avian influenza A(H5N1) detected in several species of wild birds in Izumi City, Kagoshima Prefecture, Japan, with sample collection between 31 October and 20 November 2022 (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](https://www.who.int/wah/publications/event-reports/en/)
- 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](https://www.who.int/publications/i/item/2022.125) (05 October 2022)
- [WHO issues updated influenza vaccines position paper](https://www.who.int/publications/i/item/2022.126) (1 June 2022)
- [WHO SAGE Seasonal Influenza Vaccination Recommendations during the COVID-19 Pandemic Interim guidance](https://www.who.int/publications/i/item/2020.127) (20 September 2020)
- [Recommended composition of influenza virus vaccines for use in the 2022-2023 northern hemisphere influenza season](https://www.who.int/publications/i/item/2022.128) (25 February 2022)
- [Recommended composition of influenza virus vaccines for use in the 2023 southern hemisphere influenza season](https://www.who.int/publications/i/item/2022.129) (23 September 2022)