

OVERSEAS EMERGING RESPIRATORY VIRUS INTELLIGENCE

Avian influenza A(H5N1) clade 2.3.4.4b has spread throughout poultry and wild birds across Africa, Asia, Europe and the Americas, and was detected on Antarctica's mainland in February 2024. [1] [2] It has never been detected in New Zealand, Australia or the Pacific Region. Since January 2022, 25 human cases of avian influenza H5N1 clade 2.3.4.4b have been reported in Europe (7 cases), Asia (2 cases) and the Americas (16 cases). All cases had exposure to sick poultry/birds (21 cases) or dairy cattle (4 cases) before illness onset, and there is no evidence of sustained human-to-human transmission. [3] [4]

On 14 August 2024, the joint FAO/WHO/WOAH assessment on the recent influenza A(H5N1) virus situation in animals and people was updated. [5] The global public health risk of influenza A(H5N1) is assessed as low, and the risk for occupationally exposed persons as low to moderate, depending on risk mitigation measures in place. Additional human infections in those exposed to infected animals or contaminated environments are likely to occur, however the public health impact of these infections is minor at the global level.

As of 03 September, the number of human cases of clade 2.3.4.4b infection remains at four, as reported by the US Centers for Disease Prevention and Control (CDC) associated with the multi-state dairy cattle outbreak of influenza A(H5N1). [6] All cases were dairy farm workers exposed to infected livestock, and all reported mild symptoms and recovered. [4] Influenza A(H5N1) has been detected in 197 dairy herds in 14 states. In the past 30 days, there have been detections in 17 herds in 4 states including the first detections in California. [7] Other farm animals in multiple states, including mice, domestic cats, and alpacas have also been reported. [8]

As of 03 September, the US CDC has also reported nine confirmed cases of A(H5N1) in poultry farm workers involved in depopulating A(H5N1) infected poultry at two farms in the same Colorado county. [9] Genomic analysis of virus isolated from three of the workers showed they are closely related to the dairy cattle clade 2.3.4.4b outbreak. [10] As of 28 August, one state has reported outbreaks in commercial or backyard poultry flocks in the past 30 days. [11]

Epidemiological findings from Michigan suggest that the majority of transmission between farms is through shared movement of people, vehicles and equipment between premises. [12] [10] Studies have demonstrated that seroprevalence to HPAI A(H5N1), even among workers with known exposures, is low reflecting generally poor ability of this virus to transmit to humans. [13] [14] [10]

On 9 August 2024, the CDC published their assessment of potential pandemic risk posed by currently circulating influenza A(H5N1) viruses, based on virus isolated from the first human case of infection following exposure to infected dairy herds. The current overall individual and population health risk to the general public from this virus remains low, and the future pandemic risk is assessed as moderate, which is similar to previous assessments of earlier influenza A(H5N1) viruses. [15]

On 2 September 2024, the WHO published a risk assessment for avian influenza A(H5N1) in Cambodia following the notification of a confirmed case due to clade 2.3.2.1c in a 15 year old child. [16] Cambodia have reported 10 human cases of infection due to influenza A(H5N1) in 2024. Available evidence suggests that the

virus has not acquired the capacity for sustained human-to-human transmission, therefore the likelihood of sustained spread is low. Further cases are expected as the virus continues to circulate among poultry in Cambodia. The overall public health risk posed by this virus was assessed as low.

Australia is responding to outbreaks of HPAI H7 viruses in 16 commercial and domestic poultry flocks; eight in Victoria, six in New South Wales and two in the ACT. [17]

In August 2024, the CDC reported four human cases of infection with swine influenza: two cases of A(H3N2) variant virus, one case of influenza A(H1N1) variant virus and one case of influenza A(H1N2) variant virus. Three cases had exposure to swine prior to illness onset, while the source remains under investigation for one case. [18]

From 8 June to 19 July 2024, two human cases of infection with influenza A(H5N6) in China, one human case of infection with influenza A(H9N2) in China, and two human cases of infection with influenza A(H1N2) variant virus in the US were reported. All cases had exposure to poultry or swine prior to illness onset. [1] [19]

As at 19 July 2024, the WHO advises that the overall public health risk from currently known influenza viruses at the human-animal interface has not changed, and the sustained human-to-human transmission of these viruses is currently considered unlikely. Human infections with viruses of animal origin are not unexpected at the human-animal interface wherever these viruses circulate in animals. [1]

A total of four MERS-CoV cases, all fatal, have been reported in 2024. [20] All cases were from Saudi Arabia. The WHO's risk assessment remains moderate at the global and regional levels. The WHO expects additional cases of MERS-CoV to be reported from the Middle East and/or other countries where MERS-CoV is circulating in dromedaries. [21]

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