Influenza at the human-animal interface
Summary and assessment, from 25 June 2019 to 27 September 2019

- **New infections**: Since the previous update on 24 June 2019, one new human infection with an influenza A(H5N6) virus was reported.
- **Risk assessment**: 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. Further human infections with viruses of animal origin are expected.
- **Risk management**: Selection of new candidate vaccine viruses (CVVs) for zoonotic influenza for influenza pandemic preparedness purposes was done during a recent WHO consultation.
- **IHR compliance**: All human infections caused by a new influenza subtype are required to be reported under the International Health Regulations (IHR, 2005). This includes any influenza A virus that has demonstrated the capacity to infect a human and its haemagglutinin gene (or protein) is not a mutated form of those, i.e. A(H1) or A(H3), circulating widely in the human population. Information from these notifications is critical to inform risk assessments for influenza at the human-animal interface.

**Avian Influenza Viruses**

**Current situation:**

**Avian influenza A(H5) viruses**

Since the last update on 24 June 2019, one new laboratory-confirmed human case of influenza A(H5N6) virus infection was reported to WHO. On 18 August 2019, China reported a case in a 59-year-old female from Beijing, who developed symptoms on 6 August. She was admitted to hospital on 11 August with severe pneumonia and remained hospitalized at the time of reporting. The investigation indicated that the most likely source of the case's exposure to the virus was chilled meat that originated in southern China. No other cases had been detected among the patient’s contacts.

A total of 24 laboratory-confirmed cases of human infection with influenza A(H5N6) virus have been reported to WHO from China since 2014.

According to reports received by the World Organisation for Animal Health (OIE), various influenza A(H5) subtypes continue to be detected in birds in Africa, Europe and Asia.

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1 For epidemiological and virologic features of human infections with animal influenza viruses not reported in this assessment, see the yearly report on human cases of influenza at the human-animal interface published in the Weekly Epidemiological Record. Available at: [www.who.int/wer/en/](http://www.who.int/wer/en/)
3 World Health Organization. Case definitions for the four diseases requiring notification in all circumstances under the International Health Regulations (2005). Available at: [www.who.int/ihr/Case_Definitions.pdf](http://www.who.int/ihr/Case_Definitions.pdf)
4 An additional case was reported in November 2018 and was not included in the December 2018 risk assessment. A fatal case of infection in a 10-year-old girl from Jiangsu province was reported on 21 November from China. She had illness onset on 29 October and was hospitalized on 3 November. No known exposure to live poultry was reported.
Risk Assessment:
1. What is the likelihood that additional human cases of infection with avian influenza A(H5) viruses will occur? Most human cases were exposed to A(H5) viruses through contact with infected poultry or contaminated environments, including live poultry markets. Since the viruses continue to be detected in animals and environments, further human cases can be expected.
2. What is the likelihood of human-to-human transmission of avian influenza A(H5) viruses? Even though small clusters of A(H5) virus infections have been reported previously including those involving healthcare workers, current epidemiological and virological evidence suggests that this and other A(H5) viruses have not acquired the ability of sustained transmission among humans, thus the likelihood is low.
3. What is the likelihood of international spread of avian influenza A(H5) viruses by travellers? Should infected individuals from affected areas travel internationally, their infection may be detected in another country during travel or after arrival. If this were to occur, further community level spread is considered unlikely as evidence suggests these viruses have not acquired the ability to transmit easily among humans.

Avian influenza A(H7N9) viruses
Since the last update on 24 June 2019, no new laboratory-confirmed human cases of influenza A(H7N9) virus infections were reported to WHO. Publicly available reports from animal health authorities in China of influenza A(H7N9) virus detections in animals in recent months indicate virus detections in two provinces from samples taken in the first half of the year. Overall, the risk assessment has not changed.

For more information on A(H5), A(H7N9), A(H9N2) and A(H1)v viruses, please see the September 2019 report: Antigenic and genetic characteristics of zoonotic influenza viruses and candidate vaccine viruses developed for potential use in human vaccines.

Overall Risk Management Recommendations:
- WHO does not advise special traveler screening at points of entry or restrictions with regards to the current situation of influenza viruses at the human-animal interface. For recommendations on safe trade in animals from countries affected by these influenza viruses, refer to OIE guidance.
- WHO advises that travelers to countries with known outbreaks of animal influenza should avoid farms, contact with animals in live animal markets, entering areas where animals may be slaughtered, or contact with any surfaces that appear to be contaminated with animal faeces. Travelers should also wash their hands often with soap and water. Travelers should follow good food safety and good food hygiene practices.
- Due to the constantly evolving nature of influenza viruses, WHO continues to stress the importance of global surveillance to detect virologic, epidemiological and clinical changes associated with circulating influenza viruses that may affect human (or animal) health, especially over the coming winter months. Continued vigilance is needed within affected and neighbouring areas to detect infections in animals and humans. Collaboration between the animal and human health sectors is essential. As the extent of virus circulation in animals is not clear, epidemiological and virologic surveillance and the follow-up of suspected human cases should remain high. New guidance on investigation of non-seasonal influenza and other emerging acute respiratory diseases has been published on the WHO website here www.who.int/influenza/resources/publications/outbreak_investigation_protocol/en/.

• All human infections caused by a new subtype of influenza virus are notifiable under the International Health Regulations (IHR, 2005). State Parties to the IHR (2005) are required to immediately notify WHO of any laboratory-confirmed case of a recent human infection caused by an influenza A virus with the potential to cause a pandemic. Evidence of illness is not required for this report.

• It is critical that influenza viruses from animals and people are fully characterized in appropriate animal or human health influenza reference laboratories. Under WHO’s Pandemic Influenza Preparedness (PIP) Framework, Member States are expected to share their influenza viruses with pandemic potential on a regular and timely basis with the Global Influenza Surveillance and Response System (GISRS), a WHO-coordinated network of public health laboratories. The viruses are used by the public health laboratories to assess the risk of pandemic influenza and to develop candidate vaccine viruses.

Links:
WHO Human-Animal Interface web page
WHO Protocol to investigate non-seasonal influenza and other emerging acute respiratory diseases
Cumulative Number of Confirmed Human Cases of Avian Influenza A(H5N1) Reported to WHO
Avian Influenza A(H7N9) Information
WHO Avian Influenza Food Safety Issues
http://www.who.int/foodsafety/areas_work/zoonose/avian/en/
World Organisation of Animal Health (OIE) web page: Web portal on Avian Influenza
Food and Agriculture Organization of the UN (FAO) webpage: Avian Influenza
OFFLU
http://www.offlu.net/index.html

6 World Health Organization. Case definitions for the four diseases requiring notification in all circumstances under the International Health Regulations (2005). Available at: www.who.int/ihr/Case_Definitions.pdf