

WHO RISK ASSESSMENT

of Human infections with avian influenza A(H7N9) virus

23 February 2015

Summary of surveillance and investigation findings

Human cases of avian influenza A(H7N9) virus infection to date

A total of 571 laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, including 212 deaths, have been reported to WHO: 568 cases from China including 552 cases by the China National Health and Family Planning Commission, four (4) cases reported by the Taipei Centers for Disease Control (Taipei CDC), and twelve (12) cases reported by the Centre for Health Protection, Hong Kong SAR. One (1) case in a Chinese traveller reported by Malaysia, and two (2) in travellers reported by Canada. The two cases reported from Canada were travellers returning from China on 12 Jan 2015.

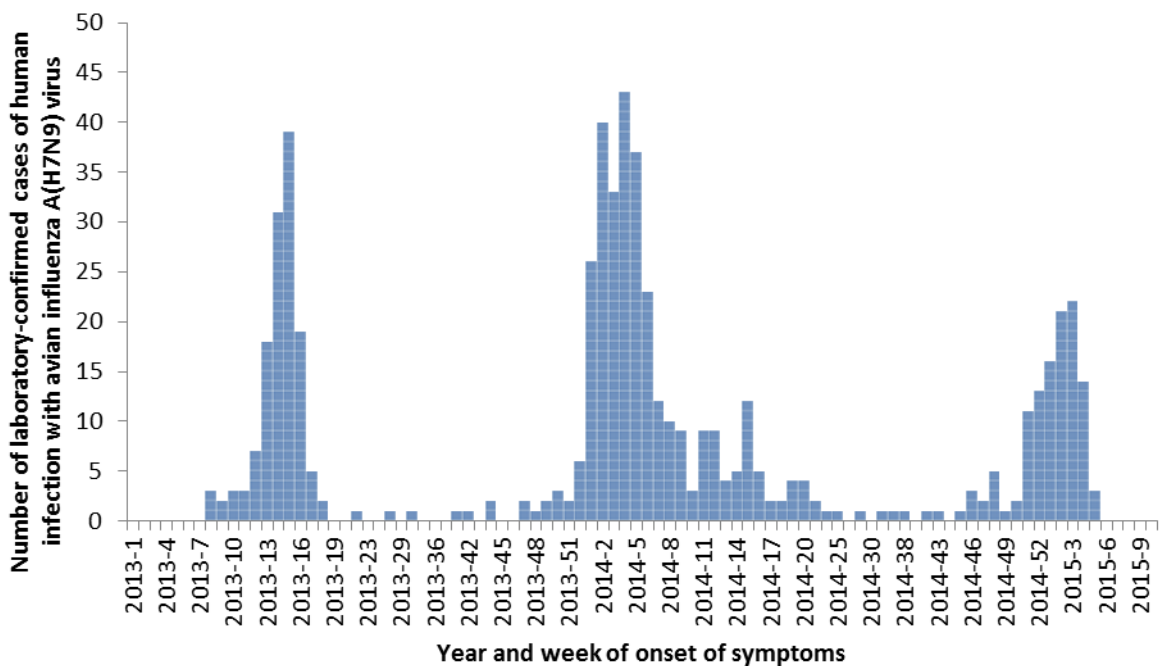


Fig 1: Laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus by week of onset

Virus characteristics

The majority of the influenza A(H7N9) viruses characterized so far remain antigenically similar to A/Anhui/1/2013, the candidate vaccine virus recommended by WHO. See also http://www.who.int/influenza/vaccines/virus/characteristics_virus_vaccines/en/

Source of human infection

Although much remains unknown about this virus, such as (1) the animal reservoir(s) in which it is circulating, (2) the main exposures and routes of transmission to humans, and (3) the distribution and prevalence of this virus among people and animals (including the distribution in wild birds), human infection appears to be associated with exposure to infected live poultry or contaminated environments, including markets where live poultry are sold.

Current evidence suggests that these A(H7N9) viruses do not transmit easily from poultry or environments to humans, although their transmissibility may be higher than avian influenza A(H5N1) viruses.

Evidence regarding human-to-human transmission

Information to date does not support sustained human-to-human transmission, although limited human-to-human transmission cannot be excluded in a very few clusters of cases.

A total of seventeen (17) family clusters have been detected in mainland China, all through contact tracing. All clusters except for one cluster (3 family members) involved 2 family members.

Risk assessment

This 23 February 2015 risk assessment was conducted in accordance with WHO's published¹ recommendations for rapid risk assessment of acute public health events and will be updated as more information becomes available.

Overall, the public health risk from avian influenza A(H7N9) virus has not changed since the assessment published on 2 October 2014².

What is the likelihood that additional human cases of infection with avian influenza A(H7N9) viruses will occur?

The understanding of the epidemiology associated with this virus, including the main reservoirs of the virus and the extent of its geographic spread among animals, remains limited. However, it is likely that most human cases were exposed to the H7N9 virus through contact with infected poultry or contaminated environments, including markets (official or illegal) that sell live poultry. Changes to hygiene practices in live poultry markets have been implemented in many provinces and municipalities. Since the virus source has not been identified nor controlled, and the virus continues to be detected in animals and environments in China, further human cases are expected in affected and possibly neighbouring areas.

¹ http://www.who.int/csr/resources/publications/HSE_GAR_ARO_2012_1/en/

² http://www.who.int/influenza/human_animal_interface/influenza_h7n9/Risk_Assessment/en/

What is the likelihood of human-to-human transmission of avian influenza A(H7N9) viruses?

Current evidence suggests that this virus has not acquired the ability of sustained transmission among humans.

It is possible that limited human-to-human transmission may have occurred where there was unprotected close contact with symptomatic human cases. Most of reported clusters (17 to date) involved two people (except for one cluster of three people) with potential common exposure and no further human-to-human transmission was reported. No clusters reported have involved health-care workers. Among the three family clusters reported to WHO on 4 February 2015, all the index cases reported exposure to live poultry or their environment. However, in two of these clusters, secondary cases may have been infected through close contact with the index cases, not excluding limited, unsustained human-to-human transmission. All these suggest that the transmissibility of the virus among humans remains low.

What is the risk of international spread of avian influenza A(H7N9) viruses by travellers?

On 27 and 31 Jan 2015, Canada reported 2 cases of human infection with avian influenza A(H7N9) in travellers returning from China. These travellers had mild symptoms and only reported indirect contact with poultry. On 12 February 2014, Malaysia reported one human case with avian influenza A(H7N9) virus infection. The patient was a Chinese resident who travelled to Malaysia while sick, and was most likely exposed in China. No further cases were reported in Malaysia linked to this case.

It is possible that further similar cases will be detected in other countries among travellers from affected areas, although community-level spread in these other countries is unlikely.

Does WHO recommend any travel and trade precautions related to the H7N9 outbreak?

WHO does not advise special screening at points of entry with regard to this event, nor does it currently recommend any travel or trade restrictions.

What should countries do?

As the extent of virus circulation in animals is not clear, epidemiological and virologic surveillance and follow up of suspect human cases should remain high. WHO advises countries to continue strengthening influenza surveillance, reporting human infections as applicable under the IHR (2005), and other national health preparedness actions. Current technical information as well as guidance related to avian influenza A(H7N9) can be found on the WHO website.³

³ http://www.who.int/influenza/human_animal_interface/influenza_h7n9/en/