Influenza at the human-animal interface

Summary and assessment as of 26 January 2015

Human infection with avian influenza A(H5) viruses

From 2003 through 23 January 2015, 718 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 16 countries. Of these cases, 413 have died.

Since the last WHO Influenza update on 6 January 2015, 24 new laboratory confirmed human cases of avian influenza A(H5N1) virus infection, including 11 fatal cases, were reported to WHO from Egypt.

Of the 24 cases, seven had onset of disease in December 2014 and the rest had onset of disease in January 2015. The cases were reported from nine different governorates of Egypt (see table 1). Of the new cases, there was one cluster which included two confirmed cases in siblings from Assiut governorate. Both of these cases had disease onset on the same day and both had exposure to backyard poultry. All cases had exposure to poultry or poultry markets, except for three cases in which the sources of infection are still under investigation.

Currently, there are reports of an increased number of outbreaks and detections of influenza A(H5N1) viruses in poultry in Egypt compared to previous months and compared to this month in previous years.

The number of laboratory confirmed human cases of avian influenza A(H5N1) virus infection reported by Egypt in December was the highest reported by any country in a single month. Although all influenza viruses evolve over time, preliminary laboratory investigation has not detected major genetic changes in the viruses isolated from the patients or animals compared to previously circulating isolates. The increase in the number of human cases is likely attributed to a mixture of factors, including increased circulation of influenza A(H5N1) viruses in poultry, lower public health awareness of risks in middle and upper Egypt and seasonal factors such as closer proximity to poultry because of cold weather and possible longer survival of the viruses in the environment. Epidemiological and virological investigation in humans and animals is ongoing.

Various other H5 subtypes, such as influenza A(H5N2), A(H5N3), A(H5N6) and A(H5N8), have recently been detected in poultry in Europe, North America, and Asia, according to reports received by OIE. Although these influenza A(H5) viruses might have the potential to cause disease in humans, so far no human cases of infection have been reported, with exception of the 2 human infections with influenza A(H5N6) virus detected in China in 2014.

Overall public health risk assessment for avian influenza A(H5) viruses: Whenever avian influenza viruses are circulating in poultry, sporadic infections and small clusters of human cases are possible in people exposed to infected poultry or contaminated environments. Human infections remain so far rare and these influenza A(H5) viruses do not currently appear to transmit easily among people. As such, the risk of community-level spread of these viruses remains to be low.

Figure 1: Epidemiological curve of avian influenza A(H5N1) cases in humans by reporting country and month of onset.

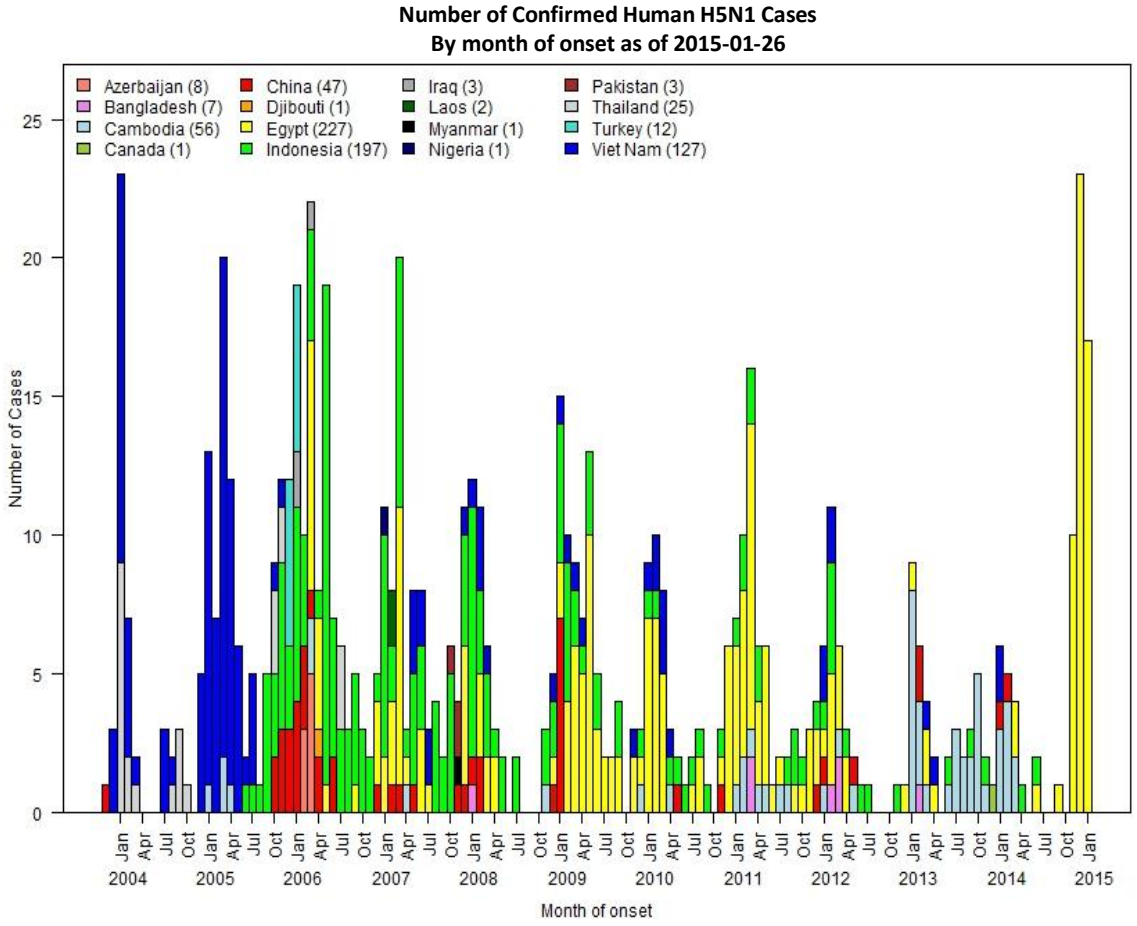


Table 1: Laboratory-confirmed human cases of avian influenza A(H5N1) virus infection (6 January – 26 January 2015)

Province	Age	Sex	Date of onset	Date of Hospitalisation	Oseltamivir treatment Start date	Date of death	Exposure to
Menia	30	M	30 Dec 2014	31 Dec 2014	31 Dec 2014	NA	Sick and dead backyard poultry
Menia	11	M	28 Dec 2014	1 Jan 2015	NA	NA	Dead birds
Qaliyoubia	58	F	31 Dec 2014	5 Jan 2015	5 Jan 2015	24-Jan-15	Backyard poultry
Gharbia	45	F	23 Dec 2014	1 Jan 2015	NA	2 Jan 2015	Under investigation

Cairo	6	F	27 Dec 2014	1 Jan 2015	NA	NA	Market poultry
Menoufiya	43	F	1 Jan 2015	5 Jan 2015	NA	NA	Sick and dead poultry
Aswan	10	M	4 Jan 2015	5 Jan 2015	NA	NA	Sick and dead backyard poultry
Cairo	20	F	2 Jan 2015	7 Jan 2015	7 Jan 2015	NA	Market poultry
Menoufiya	20	M	30 Dec 2014	8 Jan 2015	8 Jan 2015	NA	Sick and dead backyard poultry by slaughtering
Assiut	65	F	1 Jan 2015	4 Jan 2015	4 Jan 2015	9 Jan 2015	Backyard poultry
Beheira	3	M	29 Dec 2014	2 Jan 2015	2 Jan 2015	NA	Sick and dead poultry
Menia	7	M	7 Jan 2015	8 Jan 2015	8 Jan 2015	NA	Poultry
Menoufiya	27	F	7 Jan2014	11 Jan 2015	11 Jan 2015	NA	Sick and dead backyard poultry by slaughtering
Assiut	43	F	6 Jan 2015	12 Jan 2015	12 Jan 2015	16 Jan 15	Sick and dead backyard poultry by slaughtering
Sohag	35	F	8 Jan 2015	14 Jan 2015	14 Jan 2015	22 Jan 15	Backyard poultry (chickens and ducks)
Cairo	3	F	8 Jan 2015	15 Jan 2015	15 Jan 2015	NA	Backyard poultry (ducks)
Assiut	47	F	8 Jan 2015	14 Jan 2015	14 Jan 2015	18 Jan15	Sick and dead backyard poultry by slaughtering
Cairo	36	F	8 Jan 2015	11 Jan 2015	17 Jan 2015	20 Jan 2015	Under investigation
Menia	6	M	5 Jan 2015	13 Jan 2015	15 Jan 2015	16 Jan 2015	Poultry market near residence
Assiut	3	M	13 Jan 2015	18 Jan 2015	13 Jan 2015	24 Jan 15	Backyard poultry
Assiut	1	M	13 Jan 2015	20 Jan 2015	15 Jan 2015	NA	Backyard poultry
Assiut	1	F	13 Jan 2015	20 Jan 2015	20 Jan 2015	NA	Backyard poultry
Gharbia	37	F	12 Jan 2015	14 Jan 2015	14 Jan 2015	18 Jan 2015	Under investigation
Assiut	5	M	5 Jan 2015	18 Jan 2015	18 Jan 2015	20 Jan 2015	Backyard poultry

NA: not applicable or not available

Human infection with avian influenza A(H7N9) viruses

A total of 486 laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, including 185 deaths, have been reported to WHO: 469 cases by China National Health and Family Planning Commission, four cases by the Taipei Centers for Disease Control (Taipei CDC), 12 cases by the Centre for Health Protection, China, Hong Kong SAR, and one case in a Chinese traveler, reported from Malaysia.

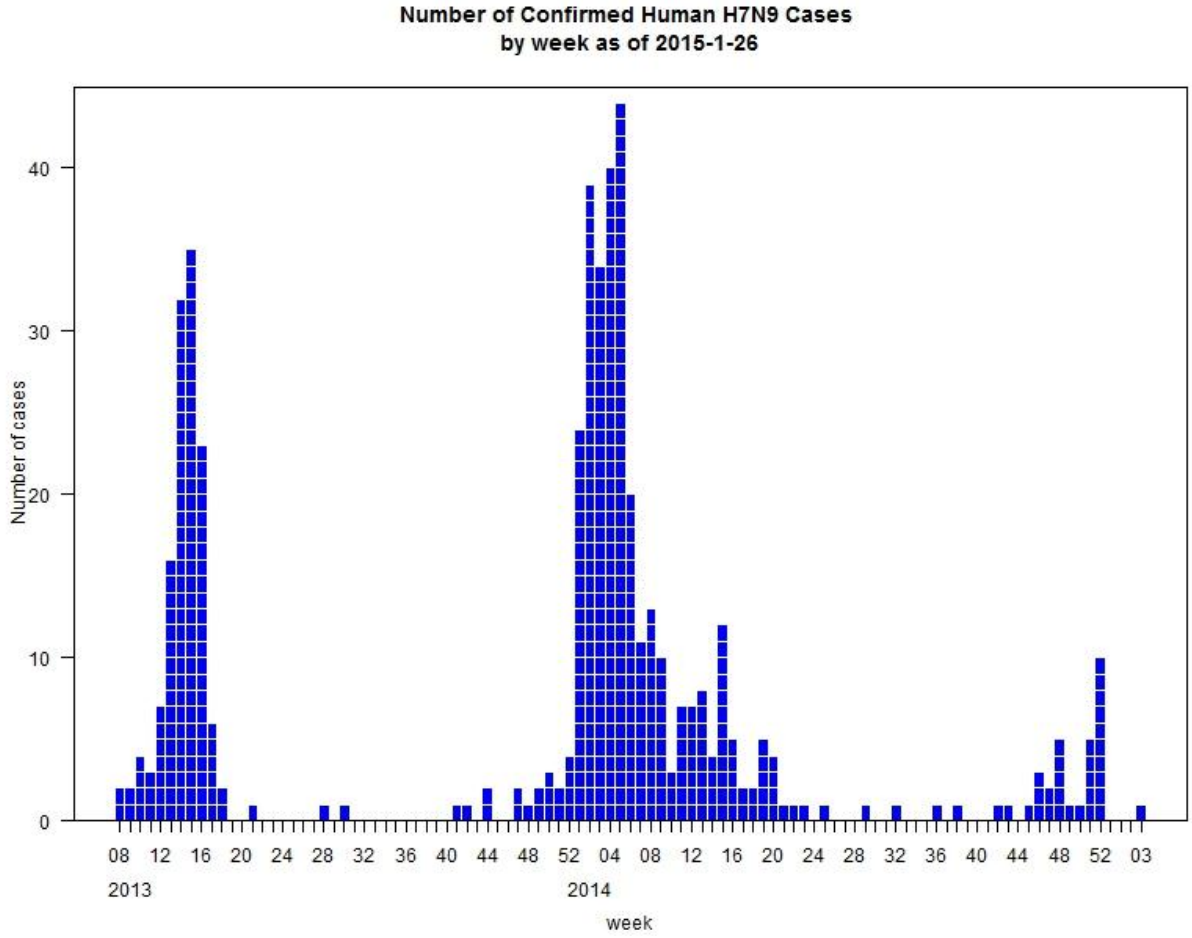
The majority of recently reported human cases are associated with exposure to infected live poultry or contaminated environments, including markets where live poultry are sold. A(H7N9) viruses continue to be detected in poultry and their environments in the areas where human cases are occurring. There have been no major genetic changes in the viruses isolated from recent patients compared to previously-isolated viruses from humans. Information to date suggests that these viruses do not transmit easily from human to human.

Overall public health risk assessment for avian influenza A(H7N9) viruses: Overall, the public health risk from avian influenza A(H7N9) viruses has not changed since the assessment published on 2 October 2014.

WHO is closely monitoring this event and separate risk assessments have been posted. Please find the most updated information at
http://www.who.int/influenza/human_animal_interface/influenza_h7n9/Risk_Assessment/en/index.html

http://www.who.int/csr/don/27-january-2015-avian-influenza/en/

Figure 2: Epidemiological curve of avian influenza A(H7N9) cases in humans by month of onset.



Due to the constantly evolving nature of influenza viruses, WHO continues to stress the importance of global surveillance to detect virological, epidemiological and clinical changes associated with circulating influenza viruses that may affect human (or animal) health, especially over the coming winter months. All human infections with non-seasonal influenza viruses are reportable to WHO under the IHR (2005). It is critical that influenza viruses from animals and people are fully characterized in appropriate animal or human health influenza reference laboratories and reported according to international standards.

Links:

WHO human-animal interface web page
http://www.who.int/influenza/human_animal_interface/en/

Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO
http://www.who.int/influenza/human_animal_interface/EN_GIP_LatestCumulativeNumberH5N1cases.pdf

Avian influenza A(H7N9) information
http://who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html

World Organisation of Animal Health (OIE) web page: Web portal on Avian Influenza
http://www.oie.int/animal-health-in-the-world/web-portal-on-avian-influenza/

Food and Agriculture Organization of the UN (FAO) webpage: Avian Influenza
http://www.fao.org/avianflu/en/index.html

OFFLU
http://www.offlu.net/index.html