Influenza at the human-animal interface

Summary and assessment as of 23 June 2015

Human infection with avian influenza A(H5) viruses

From 2003 through 23 June 2015, 842 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 16 countries. Of these cases, 447 have died.

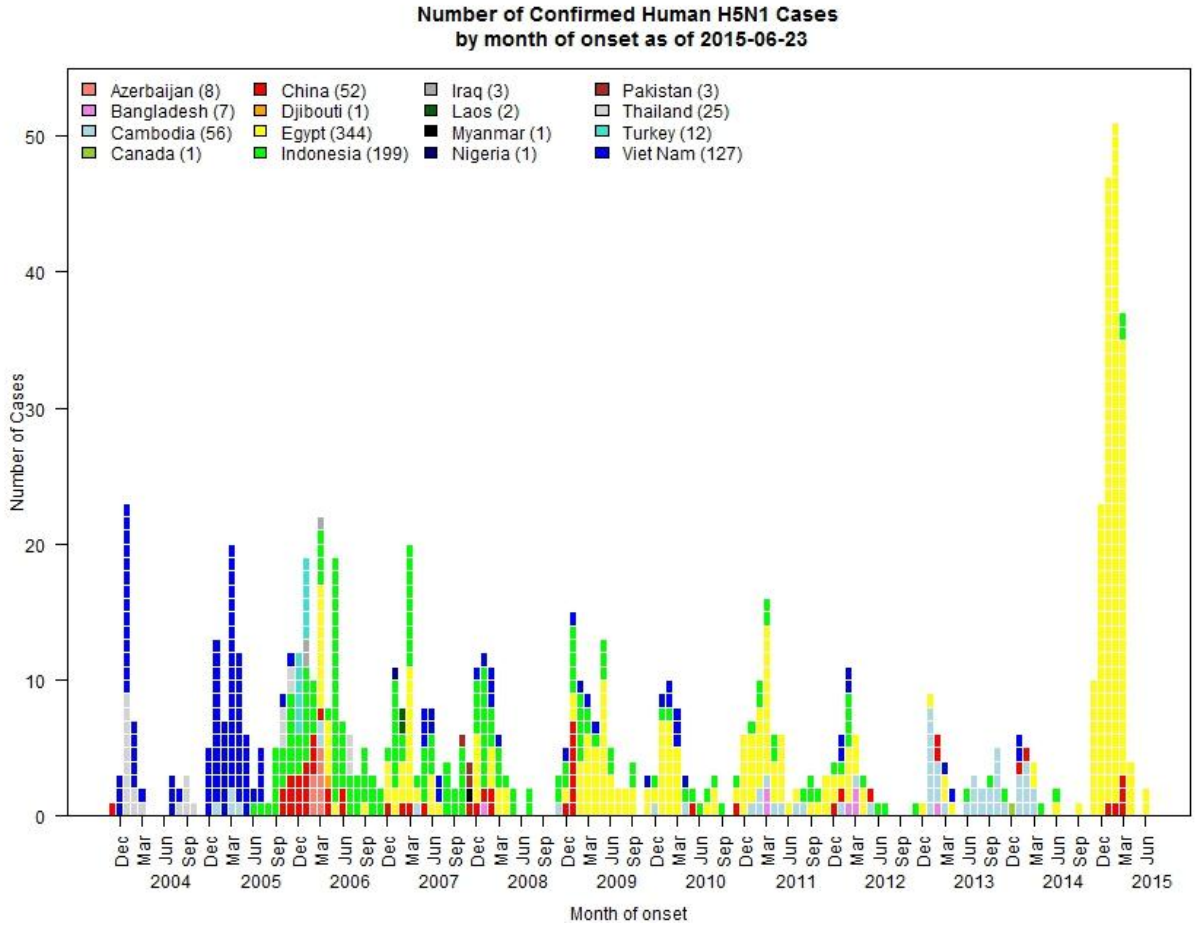
Since the last WHO Influenza update on 1 May 2015, two new laboratory-confirmed human cases of avian influenza A(H5N1) virus infection was reported to WHO from Egypt, both from Fayoum governorate. A three-year-old female, with illness onset on 8 June was hospitalized on 10 June, and had laboratory-confirmation of infection with an avian influenza A(H5N1) virus on 16 June 2015. A two and a half-year-old male with illness onset on 13 June, was hospitalized on 16 June, and had laboratory-confirmation of infection with avian influenza A(H5N1) on 20 June 2015. Both had exposure to poultry, were given oseltamivir, and remain under treatment.

Various influenza A(H5) subtypes, such as influenza A(H5N1), A(H5N2), A(H5N3), A(H5N6) and A(H5N8), continue to be detected in birds in west Africa, Asia, Europe, and North America, 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 human infections with influenza A(H5N1) viruses and the three human infections with influenza A(H5N6) virus detected in China since 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, therefore sporadic human cases would not be unexpected.

With the rapid spread and magnitude of avian influenza outbreaks due to existing and new influenza A(H5) viruses in poultry in areas that have not experienced this disease in animals recently, there is a need for increased vigilance in the animal and public health sectors. Community awareness of the potential dangers for human health are essential to prevent infection in humans. Surveillance should be enhanced to detect human infections if they occur and to detect early changes in transmissibility and infectivity of the viruses.

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



Human infection with other non-seasonal influenza viruses

Human infections with avian influenza A(H7N9) viruses in China

A total of 672 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 271 deaths[1], have been reported to WHO. 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. Influenza 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.

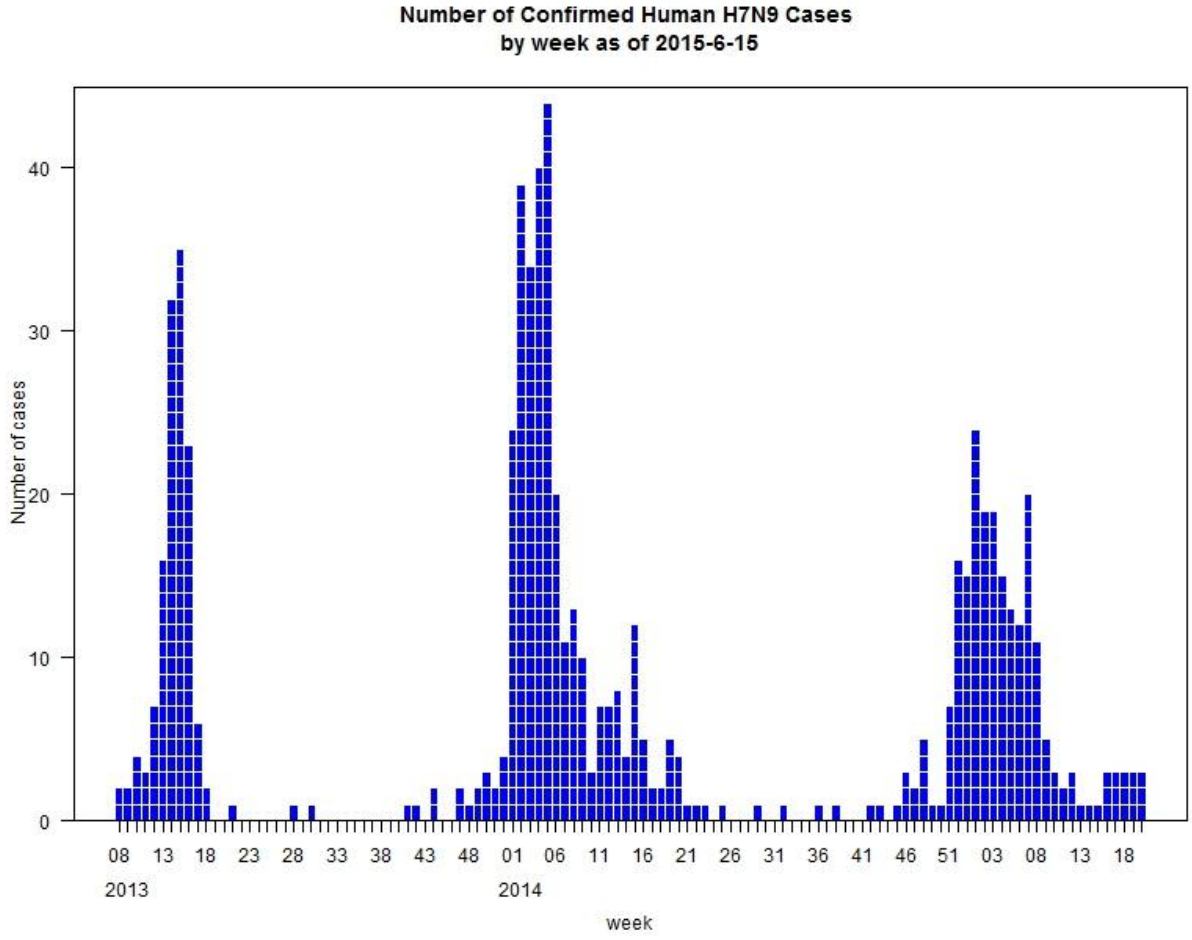
Overall public health risk assessment for avian influenza A(H7N9) viruses: Overall, the public health risk from avian influenza A(H7N9) viruses has not changed since the assessment of 23 February 2015.

[1] The total number of fatal cases is published on a monthly basis by China National Health and Family Planning Commission.

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

Please find the most updated information at
http://www.who.int/csr/don/15-june-2015-avian-influenza-china/en/
http://www.who.int/influenza/human_animal_interface/avian_influenza/archive/en/ and
http://www.who.int/influenza/vaccines/virus/201502_zoonotic_vaccinevirusupdate.pdf?ua=1

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



Human infections with avian influenza A(H9N2) viruses in Egypt

Two laboratory-confirmed cases of human infection with avian influenza A(H9N2) virus were reported to WHO from Egypt. Both cases occurred in children (a seven-year-old female and a nine-month-old female) from Cairo governorate and both were detected through influenza-like illness (ILI) surveillance. The cases had mild illnesses, were not treated with antiviral medications, and were not hospitalized. One case had exposure to poultry and the second had likely exposure to an environment contaminated with poultry waste.

These are the second and third cases of human infection with influenza A(H9N2) viruses reported from Egypt. Avian influenza A(H9N2) viruses are known to be circulating in poultry populations in Egypt.

Overall public health risk assessment for avian influenza A(H9N2) viruses: Further human cases and small clusters could occur as this virus is circulating in poultry populations across Asia and Middle East. This virus does not seem to transmit easily between humans and tends to result in mild clinical disease, therefore the current likelihood of community-level spread and public health impact of this virus is considered low.

Human infections with influenza A(H1N1)v viruses

One case of human infection with influenza A(H1N1)v virus was reported to WHO from the United States of America (USA) since the last risk assessment, bringing the total number of human infections detected in the USA since December 2005 to 18. The case was an adult who had an onset of illness, was hospitalized, and passed away due to complications resulting from the infection in April 2015. Although the case worked at a livestock facility, there was reportedly no direct contact with swine in the week prior to illness. No further cases were detected among the contacts of this case. This was the first reported case of human infection with an influenza A(H1N1)v virus in 2015 in the USA and was the first fatality associated with infection with this virus.

Overall public health risk assessment for avian influenza A(H1N1)v viruses: Further human cases and small clusters may be expected as this virus is circulating in the swine population in the USA. So far, human cases have been associated with close contact to potentially infected swine populations. The current likelihood of community level spread and public health impact of this virus is considered low.

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/H5N1_cumulative_table_archives/en/

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

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
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