

Influenza at the human-animal interface

Summary and assessment as of 7 October 2013

Human infection with avian influenza A(H5N1) viruses

From 2003 through 7 October 2013, 641 laboratory-confirmed human cases with avian influenza A(H5N1) virus infection have been officially reported to WHO from 15 countries. Of these cases, 380 died.

Since the last WHO Influenza at the Human Animal Interface update on 26 August 2013, four new laboratory-confirmed human cases of influenza A(H5N1) virus infection were reported to WHO from Cambodia (3) and Indonesia (1).

All cases are considered to be sporadic, with no evidence of community-level transmission. As influenza A(H5N1) virus is thought to be circulating widely in poultry in Cambodia and Indonesia, additional sporadic human cases or small clusters might be expected in the future.

Table 1: Laboratory-confirmed human cases of avian influenza A(H5N1) virus infection (26 August 2013 – 7 October 2013)

Country	Province	Age	Sex	Date of onset	Date of Hospitalisation	Oseltamivir treatment Start date	Date of death	Exposure to
Cambodia	Phnom Penh	15 months	M	16/08/2013	26/08/2013	27/08/2013	NA	Under investigation
	Takeo	5 year	F	07/09/2013	12/09/2013	13/09/2013	NA	Sick and dead poultry
	Kampot	2 year	F	11/09/2013	15/09/2013	16/09/2013	17/09/2013	Under investigation
Indonesia	West Java	28	M	16/09/2013	20/09/2013	NA	27/09/2013	Song birds and pigeons

NA: not applicable or not available

Overall public health risk assessment for avian influenza A(H5N1) viruses: Whenever influenza viruses are circulating in poultry, sporadic infections or small clusters of human cases are possible, especially in people exposed to infected household poultry or contaminated environments. However, this influenza A(H5N1) virus does not currently appear to transmit easily among people. As such, the risk of community-level spread of this virus remains low.

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

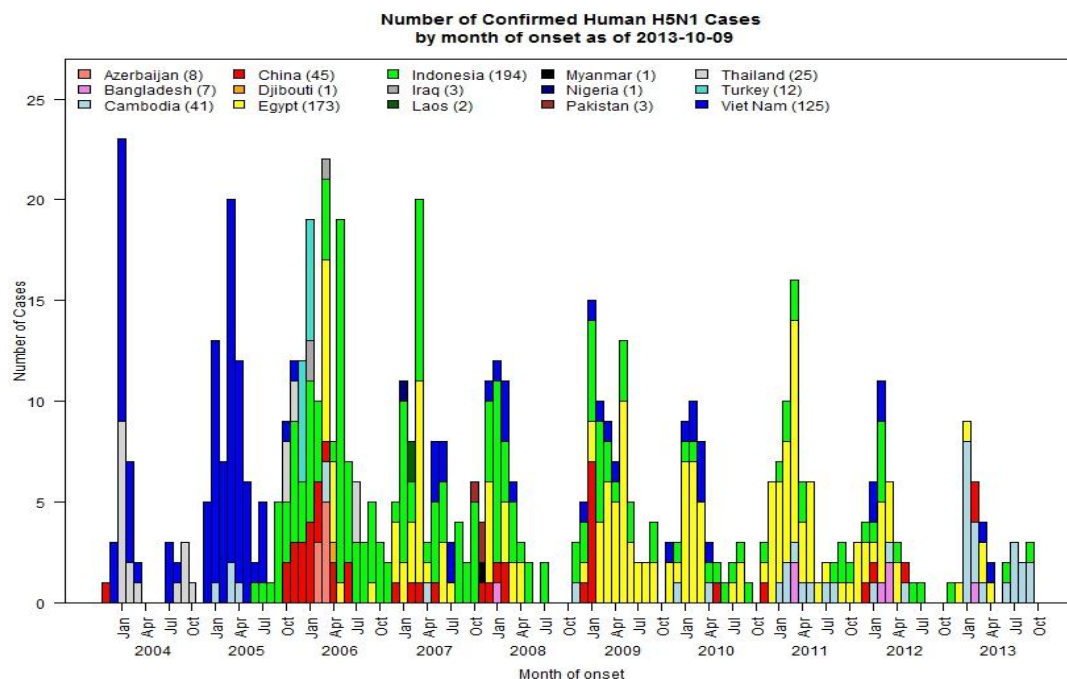
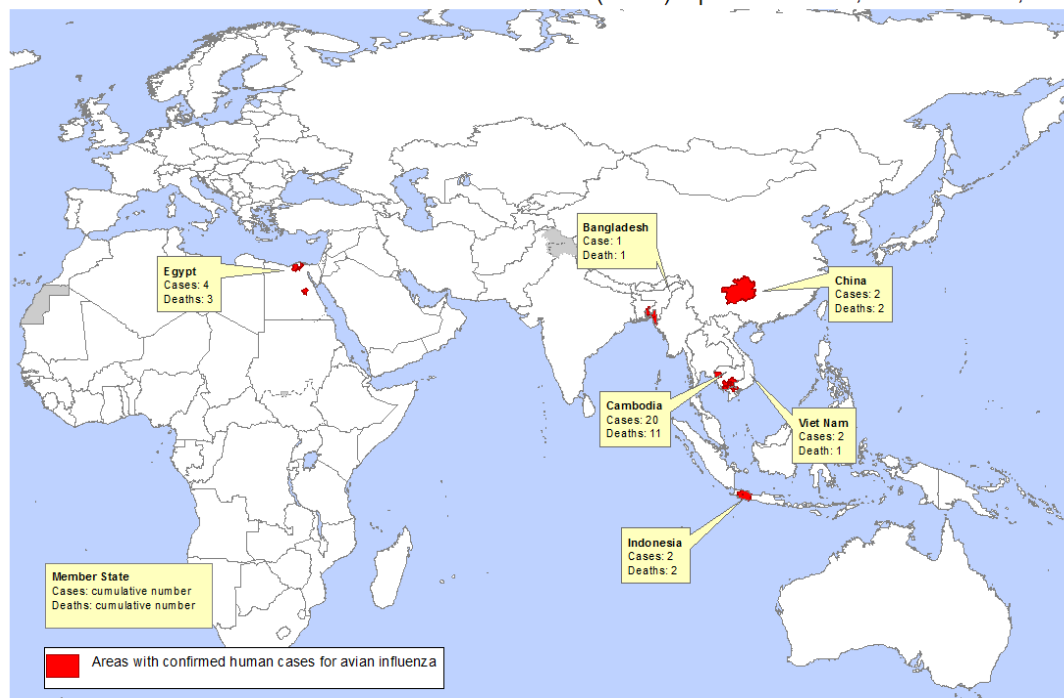


Figure 2: Map of avian influenza A(H5N1) cases in humans in 2013

Areas with confirmed human cases for avian influenza A(H5N1) reported to WHO, 2013- to-date*,



*All dates refer to onset of illness
Data as of 08 October 2013
Source: WHO/GIP

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Human infection with other non-seasonal influenza viruses

Avian influenza A(H7N9) in China

Since the last update of 26 August 2013, China has reported no new cases of human infection with avian influenza A(H7N9) virus, but reported one death in a previously reported case. As of 7 October 2013, 135 human cases of influenza A(H7N9) virus infection were reported to WHO. Of these cases, 45 died. Most human cases presented with pneumonia.

Most human A(H7N9) cases have reported contact with poultry or live animal markets. Knowledge about the main virus reservoirs and the extent and distribution of the virus in animals remains limited and, because it causes only subclinical infections in poultry, it is possible that the virus continues to circulate in China and perhaps in neighboring countries. As such, reports of additional human cases and infections in animals would not be unexpected, especially as the Northern Hemisphere autumn approaches.

Although four small family clusters have been reported among previous cases, evidence does not support sustained human-to-human transmission of this virus.

Overall public health risk assessment for avian influenza A(H7N9) virus: Sporadic human cases and small clusters would not be unexpected in previously affected and possibly neighboring areas/countries of China. The current likelihood of community level spread of this virus is considered low.

Continued vigilance is needed within China and neighboring areas to detect infections in animals and humans. WHO advises countries to continue surveillance and other preparedness actions, including ensuring appropriate laboratory capacity. All human infections with non-seasonal influenza viruses such as avian influenza A(H7N9) are reportable to WHO under the IHR (2005).

Current technical information as well as guidance related to avian influenza A(H7N9) can be found at: http://www.who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html

Influenza A(H7N7) virus infection in humans in Italy

On 14 August 2013, highly pathogenic avian influenza A(H7N7) was reported in poultry in Northern Italy. To date, a total of six outbreaks in poultry have been reported in this region, the last started on 4 September 2013, according to OIE¹ Three human cases of infection with influenza A(H7N7) virus were identified in men involved in culling operations². All three men developed conjunctivitis, one had also chills and muscle aches. All individuals recovered without treatment. Genetically, these A(H7N7) viruses are similar to low pathogenic viruses circulating in wild birds in Europe and those causing sporadic and limited outbreaks in poultry in Central and Northern Europe. Antigenically, the A(H7N7) virus reacted well to post-infection ferret antisera raised against existing candidate A(H7) vaccine viruses.

¹

http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=14031

²

http://ec.europa.eu/food/committees/regulatory/scfcah/animal_health/presentations/1011092013_avian_italy_en.pdf

Influenza A(H7) viruses have been detected in poultry populations in many countries throughout the world. Occasionally, human cases of infection with A(H7) viruses have been detected, mainly in people directly exposed to infected poultry or contaminated environments. Generally, these infections cause conjunctivitis or mild influenza like illness, however in rare cases of human A(H7) infections, notably with A(H7N9), severe and fatal disease was reported.

Overall public health risk assessment for this influenza A(H7N7) virus: Further human cases and small clusters may be expected if the virus continues to circulate in poultry. The current likelihood of community level spread of this virus is considered low.

Any country experiencing outbreaks of influenza virus infection in animals should implement appropriate biosafety measures to protect people working with or living nearby infected and potentially infected animals. Collaboration with animal health partners is necessary to optimally control this disease and decrease risks to public health.

Close monitoring of people at risk (cullers, people working on affected farms, veterinarians) and their close contacts is warranted to detect potential human to human transmission.

Influenza A(H3N2) variant virus infections in humans in the USA

To date in 2013, the United States of America (USA) reported 18 cases of human infection with influenza A(H3N2)v from Illinois (1), Indiana (14), Michigan (2) and Ohio (1). Only one person was hospitalized and no deaths have occurred. All cases reported close contact with swine in the week before illness onset and no ongoing human-to-human transmission has been identified.

Limited serological studies indicate that adults may have some pre-existing immunity to this virus but children do not. Seasonal vaccines do not provide cross-protection to influenza A(H3N2)v viruses in adults or children. Three candidate vaccine viruses specific for A(H3N2)v have been developed in the USA and could be used to produce an (H3N2)v vaccine if needed.

Overall public health risk assessment for influenza A(H3N2)v viruses: Further human cases and small clusters may be expected as this virus is circulating in the swine population in the USA and the season of agricultural fairs is ongoing. The current likelihood of community level spread and public health impact of this virus is considered low.

Close monitoring of the situation, including continued characterization of viruses to detect any changes, is warranted.

Non-seasonal A(H1N1) virus infections in humans in the USA

The USA announced two new human infections with a non-seasonal influenza A(H1N1) virus. The cases had contact with swine in the week before illness onset. Both patients recovered fully.

These viruses are genetically similar to viruses circulating in swine in the region and to non-seasonal A(H1N1) viruses detected in humans in previous years.

It is expected that the human populations are largely protected by existing immunity except for young children, and by the seasonal influenza vaccine.

Overall public health risk assessment for non-seasonal influenza A(H1N1) viruses: Further human cases and small clusters may be expected as this virus is circulating in the swine population in the USA. The current likelihood for community level spread and public health impact of this virus is considered low.

Outbreaks in animals with highly pathogenic avian influenza viruses with potential public health impact

Overall, official reports of animal influenza outbreaks are at their expected seasonal level (http://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI). Owing in part to the emergence of avian influenza A(H7N9) virus and infections of humans with this virus in China, there is enhanced surveillance for various subtypes of avian influenza in both humans and animals in China, the countries neighboring China, and globally. It is therefore expected that more influenza A(H5) and A(H7) events in humans and animals will be detected and reported, as well as identification and reporting of infections with a variety of other influenza subtypes and reassortant viruses. It is critical that all influenza events be reported through the appropriate channels and that viruses be collected and fully characterized in appropriate animal or human health influenza reference laboratories in order to detect changes that may affect public (or animal) health.

Due to the constantly-evolving nature of influenza viruses, WHO continues to stress the importance of global monitoring of influenza viruses in animals and people and recommends that all Member States strengthen routine influenza surveillance. All human infections with non-seasonal influenza viruses are reportable to WHO under the IHR (2005).

Relevant 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

H5N1 avian influenza: timeline of major events

http://www.who.int/influenza/human_animal_interface/avian_influenza/H5N1_avian_influenza_update.pdf

Avian influenza A(H7N9) information

http://who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html

World Organization 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>