

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

West Nile virus - Multistate (Europe) - Monitoring season 2016

Opening date: 30 May 2016

Latest update: 22 July 2016

During the June to November transmission season, ECDC monitors the situation in EU Member States and neighbouring countries in order to inform blood safety authorities of West Nile fever (WNF)-affected areas and identify significant changes in the epidemiology of the disease.

→ Update of the week

During the past week, no human cases of West Nile fever have been reported in the EU Member States or neighbouring countries.

Monitoring environmental suitability of *Vibrio* growth in the Baltic Sea – Summer 2016

Opening date: 6 July 2015

Latest update: 22 July 2016

ECDC has developed a model to map the environmental suitability for *Vibrio* growth in the Baltic Sea ([ECDC E3 Geoport](#)).

→ Update of the week

As of 21 July 2016, the environmental suitability for *Vibrio* growth in the Baltic Sea for the next five days are considered low to medium, particularly the southern part of the Baltic.

Non EU Threats

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 22 July 2016

Global public health efforts are ongoing to eradicate polio, a crippling and potentially fatal disease, by immunising every child until transmission of the virus has completely stopped and the world becomes polio-free. Polio was declared a Public Health Emergency of International Concern (PHEIC) by WHO on 5 May 2014 due to concerns regarding the increased circulation and international spread of wild poliovirus during 2014. On 20 May 2016, at the ninth meeting of the emergency committee, the temporary recommendations in relation to the PHEIC were extended for another three months. The World Health Organization recently declared wild poliovirus type 2 eradicated worldwide.

→Update of the week

Neither new wild poliovirus cases nor any of circulating vaccine-derived poliovirus or positive environmental samples were reported in the past week.

Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015

Latest update: 22 July 2016

Since 1 February 2016, Zika virus infection and the related clusters of microcephaly cases and other neurological disorders constitute a public health emergency of international concern (PHEIC). Since 2015, and as of 20 July 2016, WHO has reported 62 countries and territories with mosquito-borne transmission. There is now a scientific consensus that Zika virus is a cause of microcephaly and Guillain-Barré syndrome.

→Update of the week

On 15 July, the island of [Saba](#) in the Caribbean reported its first local mosquito-borne Zika virus transmission.

On 15 July 2016, the first suspected female-to-male sexual transmission of Zika virus was reported by the [US CDC](#).

Since 18 July, the [CDC](#) has been supporting the investigation of a new case of Zika virus infection in a Utah resident who took care of a previously infected case who died in late June. Both cases were laboratory confirmed for Zika virus infection. This new case had not travelled to any affected areas and had not had sex with someone infected with Zika. Investigators are now trying to determine how this second resident became infected.

In the USA, Florida health officials are investigating possible non-travel-related cases of Zika virus in [Miami-Dade County](#) and [Broward County](#).

On 21 July, the [media](#) reported that the first Zika vaccine has been approved by Health Canada and the US Food and Drug Administration to begin Phase I clinical trials in humans.

In Brazil, on 21 July the [Ministry of Health](#) confirmed that further studies are needed to clarify the possible link between Zika virus and *Culex* mosquitoes following recent unpublished research by the Oswaldo Cruz Foundation (Fiocruz) which detected Zika virus in samples collected from *Culex quinquefasciatus* (the popular *muriçoca* or house mosquito) in the city of Recife. The preliminary results of field research identified the presence of *Culex quinquefasciatus* naturally infected with Zika virus in three of the 80 pools of mosquitoes analysed to date.

Yellow fever outbreak- Multistate (world) - Monitoring global outbreaks

Opening date: 17 March 2016

Latest update: 22 July 2016

An outbreak of yellow fever in Angola started in December 2015 in the municipality of Viana, Luanda province, and has spread to all 18 provinces of Angola. On 23 April 2016, the neighbouring Democratic Republic of Congo (DRC) officially declared a yellow fever outbreak linked to the one in Angola. Other countries (Brazil, Chad, Colombia, Ghana, Peru, Republic of Congo, and Uganda) are all currently reporting yellow fever outbreaks or sporadic cases not linked to the Angolan outbreak.

→Update of the week

As of week 28, the number of suspected and confirmed cases continues to decline in Angola. In DRC, according to the health cluster bulletin, the lack of laboratory capacity continues to jeopardise the identification of confirmed cases.

Influenza A(H5N1) and other strains of avian flu - Non EU/EEA countries

Opening date: 15 June 2005

Latest update: 22 July 2016

Highly pathogenic avian influenza viruses A(H5) of Asian origin are highly infectious for several bird species, including poultry. The human infections with influenza A(H5) viruses have been caused by influenza A(H5N1) virus in several non-EU/EEA countries and by influenza A(H5N6) virus in China. Other avian influenza subtypes, including H7N7 and H9N2, have infected people sporadically. Many of these infections have been mild or even subclinical in humans, but some have been severe and have resulted in deaths.

ECDC is following the development of these viruses and is monitoring infections in humans.

→Update of the week

One new laboratory-confirmed human case of avian influenza A(H5N1) virus infection was reported by [WHO](#) in their last update (as of 13 June). The case is a 50-year-old male resident of Dakahlia Governorate, Egypt, who had onset of symptoms on 2 May 2016. He was hospitalised on 10 May and died on 16 May. The case was in contact with apparently healthy domestic birds inside his house and poultry excreta collected from farms.

Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013

Latest update: 22 July 2016

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, and up to 21 July 2016, 793 cases have been reported to WHO, including at least 318 deaths. No autochthonous cases have been reported outside China. Most cases are isolated, and sporadic zoonotic transmission from poultry to humans is the most likely explanation for the outbreak.

→ Update of the week

During the past month 12 cases of A(H7N9) have been reported to WHO by China. The cases were from eight provinces; Jiangsu (3), Guangdong (1), Hebei (1), Beijing (2), Anhui (1), Tianjin (2), Liaoning (1), and Zhejiang (1). Onset dates ranged from 7 May and 23 June 2016. Cases ranged in age from 45 to 68 years. Of the 12 cases eight (67%) were male. The majority of the cases (9 cases, 75%) reported exposure to live poultry, slaughtered poultry, or live poultry markets.

II. Detailed reports

West Nile virus - Multistate (Europe) - Monitoring season 2016

Opening date: 30 May 2016

Latest update: 22 July 2016

Epidemiological summary

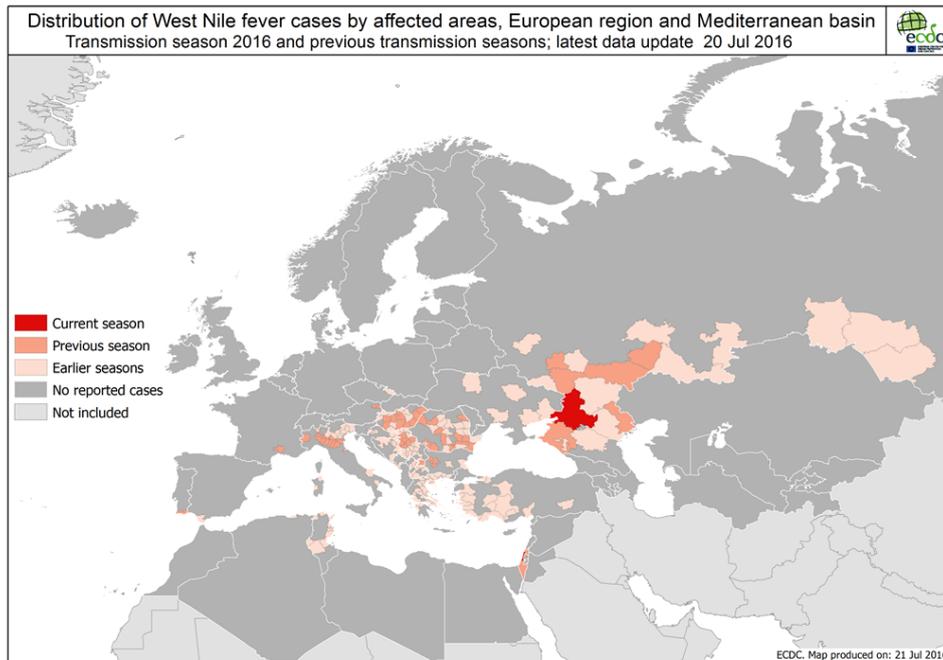
As of 21 July 2016, no human cases of West Nile fever have been reported in EU Member States and seven cases have been recorded in neighbouring countries since the beginning of the 2016 transmission season.

ECDC assessment

West Nile fever in humans is a notifiable disease in the EU. National health authorities consider the implementation of control measures important for ensuring blood safety when human cases of West Nile fever occur. In accordance with the [EU blood directive](#), blood donors should be deferred from donation for 28 days after leaving a risk area of locally-acquired West Nile Virus unless an individual Nucleic Acid Test (NAT) is negative.

Actions

From week 22 onwards, ECDC produces weekly West Nile fever (WNF) maps during the transmission season (i.e. June to November) to inform blood safety authorities about WNF-affected areas.



Monitoring environmental suitability of *Vibrio* growth in the Baltic Sea – Summer 2016

Opening date: 6 July 2015

Latest update: 22 July 2016

Epidemiological summary

Sea surface temperature (SST) in the Baltic Sea: http://www.ospo.noaa.gov/Products/ocean/sst/anomaly/anim_full.html

Vibrio suitability tool available on the E3 Geoportal: <https://e3geoportal.ecdc.europa.eu/SitePages/Vibrio%20Map%20Viewer.aspx>

Please note that this model has been calibrated to the Baltic Region in Northern Europe and might not apply to other worldwide settings prior to validation. For the Baltic Sea, the model parameters to be used in the map are the following values: number colour bands (20) scale method linear, legend range Min. value (0), and Max. value (28).

ECDC assessment

Elevated sea surface temperatures in marine environments with low salt content provide ideal environmental growth conditions for certain *Vibrio* species. These conditions can be found during the summer months in estuaries and enclosed water bodies with moderate salinity. These *Vibrio* species can cause vibriosis infections, particularly *V. parahaemolyticus*, *V. vulnificus* and non-

toxigenic *V. cholerae*. Vibriosis in humans caused by these species in the Baltic region have occurred in the past during hot summer months, particularly when the sea surface temperature has been elevated.

Actions

ECDC is monitoring this threat on a weekly basis during the summer of 2016 and report on increased environmental suitability for growth of *Vibrio* bacteria.

The *Vibrio* suitability tool is available on the [ECDC E3 Geoportal](#). Please note that this model has been calibrated to the Baltic region in northern Europe and might not be compatible with other regional settings prior to validation.

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 22 July 2016

Epidemiological summary

In 2016, 19 cases of wild poliovirus type 1 (WPV1) have been reported so far, compared with 33 for the same period in 2015. The cases were detected in Pakistan (13) and Afghanistan (6). As of 19 July 2016, three cases of circulating vaccine-derived poliovirus (cVDPV) have been reported to WHO in 2016, all from Laos. There were nine cVDPV cases during the same period in 2015.

Web sources: [Polio eradication: weekly update](#) | [MedISys Poliomyelitis](#) | [ECDC Poliomyelitis factsheet](#) | [Temporary Recommendations to Reduce International Spread of Poliovirus](#) | [WHO Statement on the Seventh Meeting of the International Health Regulations Emergency Committee on Polio](#)

ECDC assessment

The last locally acquired wild polio cases within the current EU borders were reported from Bulgaria in 2001. The most recent wild polio outbreak in the WHO European Region was in Tajikistan in 2010, when importation of WPV1 from Pakistan resulted in 460 cases.

References: [ECDC latest RRA](#) | [Rapid Risk Assessment on suspected polio cases in Syria and the risk to the EU/EEA](#) | [Wild-type poliovirus 1 transmission in Israel - what is the risk to the EU/EEA?](#) | [RRA Outbreak of circulating vaccine-derived poliovirus type 1 \(cVDPV1\) in Ukraine](#)

Actions

ECDC monitors reports of polio cases worldwide through epidemic intelligence in order to highlight polio eradication efforts and identify events that increase the risk of wild poliovirus being reintroduced to the EU. Following the declaration of polio as a PHEIC, ECDC updated its [risk assessment](#). ECDC has also prepared a background document with travel recommendations for the EU.

Following the detection of the cases of circulating vaccine-derived poliovirus type 1 in Ukraine, ECDC published a rapid risk assessment on its [website](#).

Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015

Latest update: 22 July 2016

Epidemiological summary

EU/EEA imported cases:

Since week 45/2015, 18 countries (Austria, Belgium, the Czech Republic, Denmark, Finland, France, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovenia, Spain, Sweden and the UK) have reported 1048 travel-associated Zika virus infections through The European Surveillance System (TESSy).

EU's Outermost Regions and Territories

As of 21 July 2016:

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Guadeloupe: 23 330 suspected cases have been detected, an increase of 1 230 suspected cases since last week. The weekly number of cases is slightly decreasing.

French Guiana: 9 090 suspected cases have been detected, an increase of 120 since last week. The weekly number of cases has been decreasing over the past three weeks.

Martinique: 33 460 suspected cases have been reported, an increase of 530 since last week. The weekly number of cases is stable compared to the previous week.

St Barthélemy: 270 suspected cases have been detected, an increase of 45 suspected cases since last week. The virus is still actively circulating.

St Martin: 1 580 suspected cases have been detected, an increase of 160 suspected cases since last week. The weekly number of cases remains stable compared to the previous week.

Update on microcephaly and/or central nervous system (CNS) malformations potentially associated with Zika virus infection

As of 20 July 2016, microcephaly and other central nervous system (CNS) malformations associated with Zika virus infection or suggestive of congenital infection have been reported by 13 countries or territories. Brazil has reported the highest number of cases. Between October 2015 and 20 July 2016, Brazil reported 8 571 suspected cases of microcephaly and other nervous system disorders suggestive of congenital infection. This represents an increase of 120 cases since the last update; 1 709 are confirmed cases of microcephaly, 267 of which are laboratory-confirmed for Zika virus infection, according to the [Ministry of Health](#).

In the EU, Spain (2) and Slovenia (1) reported congenital malformations associated with Zika virus infection after travel in the affected areas. Cases have also been detected in the EU's Outermost Regions and Territories in Martinique, French Guiana and French Polynesia.

Fifteen countries and territories worldwide reported an increased incidence of Guillain-Barré syndrome (GBS) and/or laboratory confirmation of a Zika virus infection among GBS cases.

Web sources: [ECDC Zika Factsheet](#) | [PAHO](#) | [Colombian MoH](#) | [Brazilian MoH](#) | [Brazilian microcephaly case definition](#) | [SAGE MOH Brazil](#)

ECDC assessment

The spread of the Zika virus epidemic in the Americas is likely to continue as the vectors (*Aedes aegypti* and *Aedes albopictus* mosquitoes) are widely distributed there. The likelihood of travel-related cases in the EU is increasing. A detailed risk assessment is available [here](#). As neither treatment nor vaccines are available, prevention is based on personal protection measures. Pregnant women should consider postponing non-essential travel to Zika-affected areas.

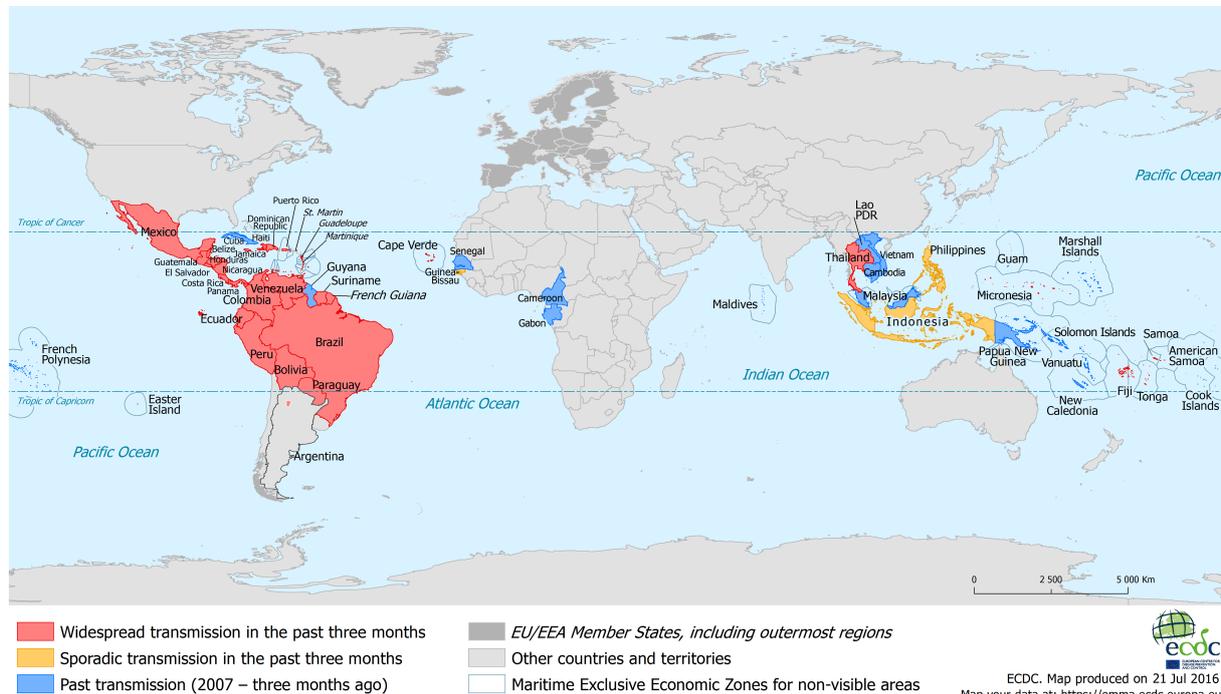
Actions

ECDC publishes an [epidemiological update](#) every Friday and [maps](#) with information on countries or territories which have reported confirmed autochthonous cases of Zika virus infection. A Zika virus infection atlas is now available on the ECDC [website](#).

ECDC published an updated [RRA](#) on 12 July 2016. ECDC published a [public health development](#) following the suspected female-to-male sexual transmission of Zika virus in New York City.

Countries or territories with reported confirmed autochthonous cases of Zika virus infection in the past three months, as of 21 July 2016

ECDC



Yellow fever outbreak- Multistate (world) - Monitoring global outbreaks

Opening date: 17 March 2016

Latest update: 22 July 2016

Epidemiological summary

In **Angola**, since 5 December 2015 and as of 15 July 2016, 3 682 suspected cases, including 361 deaths, have been reported nationally. Of these cases, 877 have been laboratory confirmed in 16 of the 18 provinces. Luanda province has reported the majority of confirmed cases (487), followed by Huambo (127) and Benguela (116). No laboratory-confirmed cases of yellow fever have been reported in Luanda or Huambo since May. The date of onset of the last confirmed case was 23 June.

Between the beginning of the year and 11 July 2016, the **Democratic Republic of Congo** has reported 1 798 cases of yellow fever, including 68 confirmed cases, 59 of which had a recent travel history to Angola. Of the 1 582 cases, 75 have died since the beginning of the outbreak. Among the cases without recent travel history to Angola, autochthonous cases are reported in Kinshasa province (6), Kongo- Central (1) and Kwango (2). In addition, since the beginning of the year, two independent sylvatic cases have been notified, one in Bas-Uele province and one in Tshuapa province. These two cases are not related to the current

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outbreak in Angola and other provinces in DRC. According to the [media](#), quoting the Ministry of Health, a new mass vaccination campaign against yellow fever was launched in Kinshasa on 20 July.

As of 15 July, the situation in **Chad, Ghana, Guinea, Republic of Congo and Uganda** remains stable and there are no changes since last week.

In Uganda, the [media](#), quoting local health authorities, report that a suspected outbreak of yellow fever in Bukomansimbi District has killed at least five people in the past week. Blood samples from parents and relatives of the deceased have been sent to the Uganda Virus Research Institute in Entebbe for laboratory confirmation.

The situation in **Brazil and Colombia** remains stable and there are no changes since last week. **Peru** has been experiencing an outbreak of yellow fever since the beginning of the year, with 50 confirmed and 24 probable cases including 17 deaths (as of 3 July 2016). The main affected department is Junin with 58 probable and confirmed cases.

Web sources: [ECDC factsheet / WHO yellow fever page](#) | [WHO AFRO](#) | [WHO-DRC](#) | [PAHO](#) | [MoH Peru](#) | [ECDC updated risk assessment](#) | [DRC Health Cluster bulletin](#) |

ECDC assessment

Yellow fever in an urban setting is a public health emergency that may result in a large number of cases. The outbreak in Angola is still of concern despite the number of cases decreasing. The outbreak is not under control in Democratic Republic of Congo (DRC). The risk of spread to other countries remains one of the highest challenges for this current epidemic.

In the DRC, the main challenges are currently:

- serious shortage of reagents, both IGM and PCR, for the laboratory confirmation of cases
- Cold chain management
- vaccine supply
- vaccine disposal and implementation of vaccination campaigns.

The risk of continuous spread in affected and non-affected countries in West-Central and East Africa is one of the main concerns with regard to the control of this epidemic.

In Europe, the *Aedes aegypti* mosquito is present on the island of Madeira, Portugal. In week 27, vector activity was still considered low in Madeira according to the latest entomological situation report published by [local health authorities](#).

Outbreaks of yellow fever have never been reported in Asia, but local conditions with a large distribution of *Aedes aegypti*, the main vector of urban yellow fever in Africa and in South America, are suitable for urban yellow fever outbreaks. In DRC, the confirmation of autochthonous circulation in the capital is a major concern as Kinshasa is highly populated, as is Brazzaville, the capital of the Republic of the Congo, which is located across the Congo River.

Actions

ECDC published a [rapid risk assessment](#) on 25 March 2016 and an updated [risk assessment](#) on 14 July 2016.

ECDC published the [report of the assessment of yellow fever in Angola](#) on 5 July 2016.

On 20 July, [the European Commission's Directorate-General for Health and Food Safety](#) acknowledged that EU mobile lab is ready for deployment in DRC under the European Medical Corps. The mobile laboratory is provided by Germany via the Bernhard Nocht Institute for Tropical Medicine. The laboratory technicians are from Germany and Italy. The team will stay in the Kahemba District Hospital in Kwango province for an initial duration of two months.

Influenza A(H5N1) and other strains of avian flu - Non EU/EEA countries

Opening date: 15 June 2005

Latest update: 22 July 2016

Epidemiological summary

From 2003 to 21 July 2016, 851 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 450 deaths, have been reported from 16 countries. In addition, 14 laboratory-confirmed cases of human infection with avian influenza A(H5N6) virus, including six deaths, have been detected in China since 2013.

Web sources: [ECDC Rapid Risk Assessment](#) | [Avian influenza on ECDC website](#) | [EMPRES](#) | [OIE](#) | [WHO](#)

ECDC assessment

The identification of sporadic cases in Egypt is not unexpected as avian influenza A(H5N1) viruses are known to be circulating in poultry in the country.

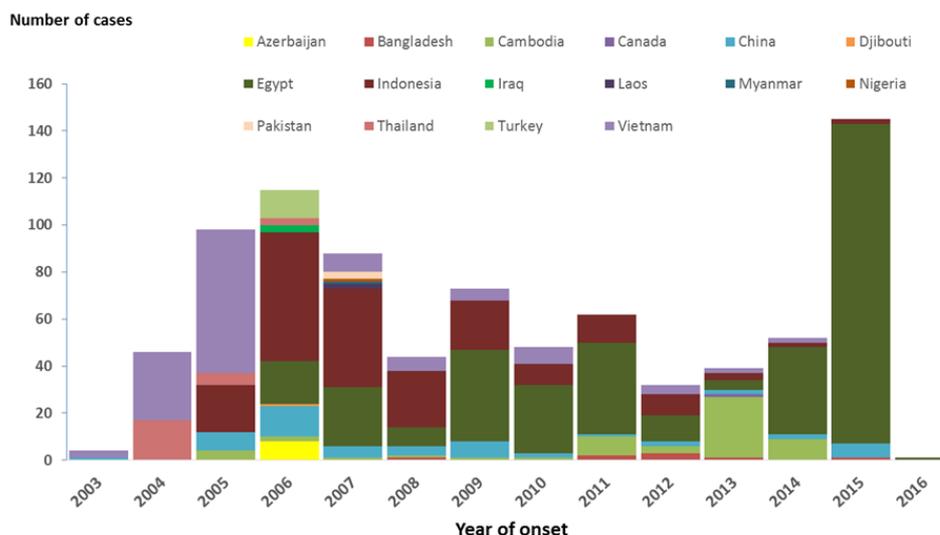
When avian influenza viruses circulate in poultry, sporadic infections or small clusters of human cases are possible in people exposed to infected poultry or contaminated environments, especially in households and at live bird markets. The viruses remain poorly adapted to humans and transmission from birds to humans is infrequent. Only limited clusters of human cases have been reported since the first human epidemics of A(H5N1). No sustained human-to-human transmission has been observed. The risk of foodborne transmission, e.g. through the consumption of eggs or meat, is considered extremely low.

Actions

ECDC monitors avian influenza strains through epidemic intelligence activities in order to identify significant changes in the epidemiology of the virus. ECDC re-assesses the potential of the A(H5N1) risk to humans on a regular basis.

Distribution of confirmed cases of influenza A(H5N1) by country of reporting

Adapted from WHO figures



Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013

Latest update: 22 July 2016

Epidemiological summary

The human cases of influenza A(H7N9) reported by China since March 2013 have the following geographical distribution: Zhejiang (219), Guangdong (194), Jiangsu (104), Fujian (72), Shanghai (51), Anhui (38), Hunan (34), Hong Kong (16), Jiangxi (13), Xinjiang Uyghur (10), Shandong (8), Beijing (8), Taiwan (4), Henan (4), Guangxi (4), Guizhou (2), Hubei (2), Jilin (2), Hebei (2), Tianjin (2) and Liaoning (1). Three imported cases have also been reported: one in Malaysia and two in Canada.

Web sources: [Chinese CDC](#) | [WHO](#) | [WHO FAQ page](#) | [ECDC](#) | [WHO avian influenza updates](#)

ECDC assessment

This outbreak is caused by a novel reassortant avian influenza virus capable of causing severe disease in humans. This is a zoonotic outbreak, in which the virus is transmitted sporadically to humans in close contact with the animal reservoir, similar to the influenza A(H5N1) situation.

In the past 12 months, there have been continued avian influenza A(H7N9) virus detections in the animal population in several provinces of China, indicating that the virus persists in the poultry population. If the pattern of human cases follows the trends seen in previous years, the number of human cases may rise over the coming months. Further sporadic cases of human infection with avian influenza A(H7N9) virus are therefore expected in neighbouring areas and in areas that are already affected.

Imported cases of influenza A(H7N9) may be detected in Europe. However, the risk of the disease spreading among humans following an importation to Europe is considered to be very low. People in the EU presenting with severe respiratory infection and a history of potential exposure in the outbreak area will require careful investigation.

Actions

The Chinese health authorities continue to respond to this public health event with enhanced surveillance, epidemiological and laboratory investigation, and scientific research.

ECDC published an updated [Rapid Risk Assessment](#) on 3 February 2015.

ECDC published a guidance document [Supporting diagnostic preparedness for detection of avian influenza A\(H7N9\) viruses in Europe](#) for laboratories on 24 April 2013.

Distribution of confirmed cases of A(H7N9) by four periods of reporting (weeks 07/2013 to 28/2016)



The Communicable Disease Threat Report may include unconfirmed information which may later prove to be unsubstantiated.