

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

New! Highly pathogenic avian influenza virus A(H5N8) - Multistate - 2016

Opening date: 14 November 2016

Latest update: 18 November 2016

During November 2016, Austria, Croatia, Denmark, Germany, Hungary, the Netherlands, Poland, the Russian Federation and Switzerland have reported detections of highly pathogenic avian influenza (HPAI) virus A(H5N8) in birds and outbreaks in poultry holdings. Outside of Europe, India and Israel are also currently affected.

→Update of the week

No human cases have been detected.

Influenza - Multistate (Europe) - Monitoring 2016-2017 season

Opening date: 13 October 2016

Latest update: 18 November 2016

Influenza transmission in Europe shows a seasonal pattern, with peak activity during winter months. ECDC monitors influenza activity in Europe during the winter season and publishes its weekly report on the [Flu News Europe website](#).

→Update of the week

During the past week, the activity remained low in the region.

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

Opening date: 30 May 2016

Latest update: 18 November 2016

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

→Update of the week

This week no new cases have been reported in EU Member States. In the neighbouring countries, Israel reported one new case in the already affected southern district.

Through the Animal Disease Notification System (ADNS), Portugal reported three new infections in horses in the inter-municipal communities of Baixo Alentejo (Beja district) and Algarve (Faro district).

Enteroviruses detections with severe neurological symptoms among children and adults in European countries

Opening date: 4 August 2016

Latest update: 18 November 2016

On 6 October 2016, Scotland reported four cases of acute flaccid paralysis in the east of Scotland due to Enterovirus D-68 (EV-D68) infection. The cases are all children, and two have required ventilation. These cases occurred against a backdrop of low levels of EV-D68 detections across the UK in 2016, with a peak in activity in summer. On 2 November 2016, Sweden reported eight cases with symptoms similar to acute flaccid myelitis (AFM), including four cases with EV-D68 laboratory confirmation. Of the eight cases, four were genotyped and belonged to the new B3 lineage.

Non EU Threats

Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015

Latest update: 18 November 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 17 November 2016, there have been 71 countries and territories reporting mosquito-borne transmission of the virus. According to WHO and as of 16 November 2016, 28 countries or territories have reported microcephaly and other central nervous system (CNS) malformations in newborns potentially associated with Zika virus infection.

→Update of the week

In the USA, eight new locally-acquired cases have been reported in Florida since the last CDTR.

According to [WHO](#), both Argentina and Guadeloupe have reported the first case of microcephaly probably linked to Zika virus infection.

ECDC Zika map: Solomon Islands have been removed from the three months map.

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

Opening date: 15 June 2005

Latest update: 18 November 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

Between 3 October and 17 November 2016 no new human infections with A(H5N1) viruses were reported by [WHO](#).

Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013

Latest update: 18 November 2016

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, and up to 17 November 2016, 800 cases have been reported to WHO, including at least 320 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

From 3 October to 17 November 2016, China reported two cases of A(H7N9) both with the date of onset in October 2016. These two cases mark the start of the fifth season of A(H7N9) transmission in China.

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 18 November 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 the World Health Organization (WHO) on 5 May 2014 due to concerns regarding the increased circulation and international spread of wild poliovirus during 2014. On 11 August 2016, at the [tenth 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 (WPV2) eradicated worldwide.

→ Update of the week

No new cases of wild poliovirus and no new circulating vaccine-derived poliovirus (cVDPV) were reported in the past week. In Pakistan three new WPV1 positive environmental samples were reported in the past week.

II. Detailed reports

New! Highly pathogenic avian influenza virus A(H5N8) - Multistate - 2016

Opening date: 14 November 2016

Latest update: 18 November 2016

Epidemiological summary

During November 2016, Austria, Croatia, Denmark, Germany, Hungary, the Netherlands, Poland, the Russian Federation and Switzerland have reported detections of HPAI virus A(H5N8) in wild birds and outbreaks in domestic poultry. Outside of Europe, India and Israel are also currently reporting outbreaks in birds.

Outbreaks in poultry caused by HPAI A(H5N8) viruses have been reported from Asia since 2010, with a continued circulation of the virus in birds in Asian countries. This is a reintroduction of the virus into Europe after outbreaks of HPAI A(H5N8) in birds or commercial poultry farms have been reported in Germany, Hungary, Italy, the Netherlands, Sweden and the UK in the winter 2014–2015.

ECDC assessment

HPAI virus A(H5N8) has been detected among wild birds in Asia and has caused several outbreaks on commercial poultry farms in South Korea, Japan and China.

This is the second time HPAI A(H5N8) viruses have been introduced to Europe, affecting wild birds and domestic poultry. It remains unclear how this virus was introduced into closed indoor holdings in Europe in regions far from each other and in different poultry production sectors at the same time. The ability of this HPAI virus to sub-clinically infect wild birds increases the risk of geographical spread and subsequent outbreaks, as observed in South Korea. The ongoing monitoring and testing of wild birds and domestic poultry in the EU therefore plays an important role in the early detection of further virus occurrences.

To date, no human infections with this virus have ever been reported worldwide. The risk for zoonotic transmission to the general public in the EU/EEA countries is considered to be extremely low. However, given the evolutionary history of the virus, with the HA gene having evolved from the widely circulating A(H5N1) viruses, people in direct contact with/handling diseased birds or poultry, or their carcasses (e.g. farmers, veterinarians and labourers involved in the culling and rendering) might be at risk of infection. Given this potential zoonotic risk, contingency plans for the control of avian influenza in poultry and birds should be developed in collaboration with public health and occupational health authorities to ensure that persons at risk are sufficiently protected from infection. The use of appropriate personal protective equipment and vaccination with seasonal influenza vaccine are recommended, and antiviral prophylaxis could be considered.

Web sources: [ECDC Avian Influenza](#) | [RKI](#) | [RIVM](#) | [PHE](#) | [FAO](#) | [OIE](#) | [FAO](#)

Actions

ECDC published an updated [rapid risk assessment](#) on 20 November 2014.

Influenza - Multistate (Europe) - Monitoring 2016-2017 season

Opening date: 13 October 2016

Latest update: 18 November 2016

Epidemiological summary

Week 45/2016 (7–13 November 2016):

The activity remained low in the region, with few samples testing positive for influenza viruses (3% of sentinel samples), and is at a level similar to that observed for the same period in recent seasons.

Since week 40/2016, influenza A viruses have predominated, with most of those subtyped being A(H3N2).

Global update:

Influenza activity in temperate southern hemisphere countries is back at inter-seasonal levels. Influenza activity in the temperate

zone of the northern hemisphere has not yet picked up and remained at inter-seasonal levels.

ECDC assessment

As is usual for this time of year, influenza activity is low in the European Region.

Actions

ECDC monitors influenza activity in Europe during the winter season and publishes its weekly report on the [Flu News Europe website](#). Risk assessments for the season are available from the European Centre for Disease Prevention and Control ([ECDC](#)) and the [WHO Regional Office for Europe](#) websites.

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

Opening date: 30 May 2016

Latest update: 18 November 2016

Epidemiological summary

Since the beginning of the 2016 transmission season and as of 18 November 2016, 206 cases of West Nile fever in humans have been reported in EU Member States. A total of 264 cases were reported from neighbouring countries.

Source: [ECDC WNF page](#) | [MoH Israel](#)

ECDC assessment

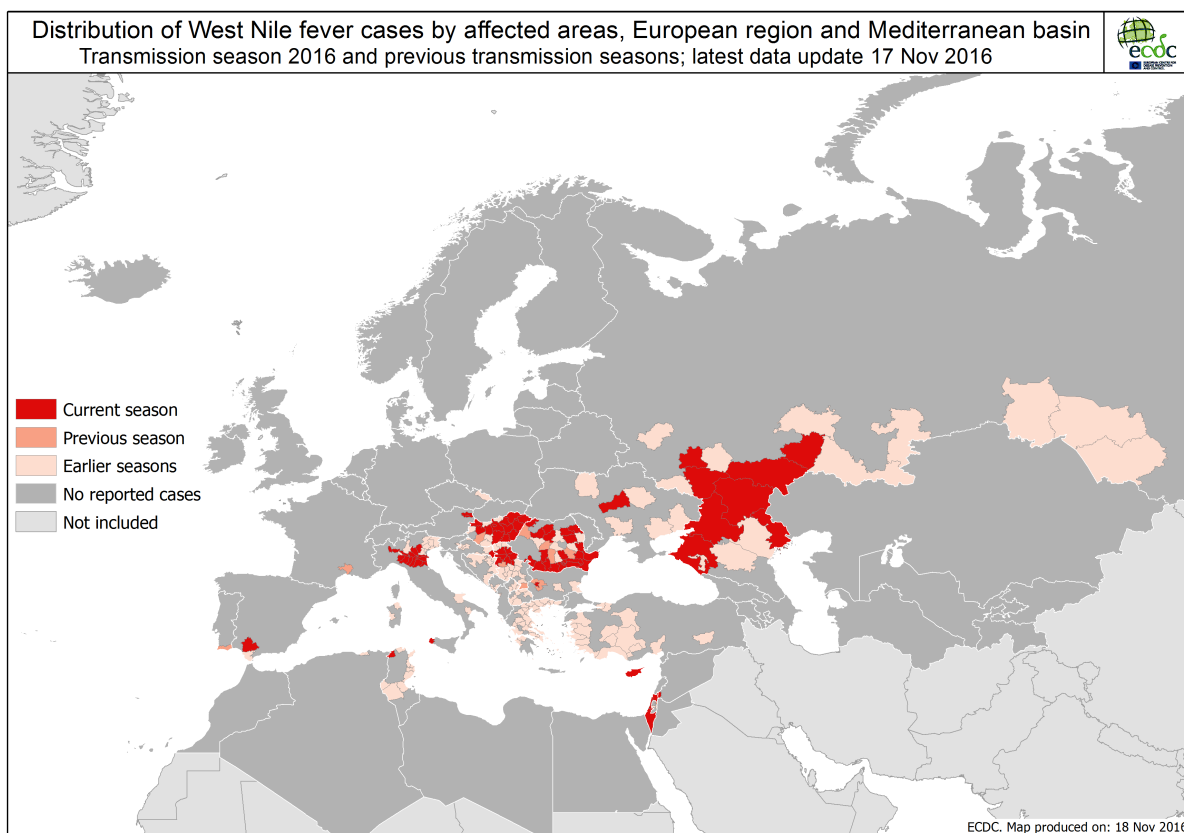
As expected at this time of the year, the weekly number of cases has started to decrease.

Actions

Since the beginning of June 2016, ECDC produces weekly WNF maps during the transmission season to inform blood safety authorities of WNF-affected areas.

Distribution of West Nile fever cases by affected areas, European region and Mediterranean basin

ECDC



Enteroviruses detections with severe neurological symptoms among children and adults in European countries

Opening date: 4 August 2016

Latest update: 18 November 2016

Epidemiological summary

In October 2016, Health Protection Scotland confirmed a cluster of four community-acquired EV-D68 infections in children presenting with acute flaccid paralysis in the east of Scotland. Two of the four cases progressed to require ventilation. Clinical and public health colleagues received briefings to allow rapid investigation and infection control measures to limit further cases. The EV-D68-associated AFP cases in the UK occurred against a backdrop of low levels of EV-D68 detections across the UK in 2016, which had appeared to indicate a peak in activity during summer. The situation is being closely monitored to assess whether the cases represent a UK tail of infection for 2016 or herald a further increase as we move into the autumn.

In early November, Sweden confirmed eight cases with symptoms similar to AFM, four of which were confirmed EV-D68 cases. Of the eight cases, four were genotyped and belonged to the new B3 lineage.

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Sweden has no surveillance system for EV-D68. At Karolinska University Laboratory, which covers the clinical diagnostic needs for most Stockholm county hospitals, a study performed between 22 August and 25 September 2016 showed that 74 of 495 (15%) of respiratory samples received for routine viral diagnostics were positive for EV-D68. The EV-D68 frequency peaked during the week of 29 August when 30 of 91 (33%) samples were EV-D68 positive. The total number of respiratory samples submitted for routine analysis during the study period in 2016 was similar to the numbers in 2014 and 2015, and the proportion of samples positive for enterovirus was higher in autumn 2014 and autumn 2016 than in 2015. All EV-D68 samples genotyped by VP4/VP2 sequencing (n=43) belonged to the new lineage B3. Eleven patients were hospitalised with severe respiratory or neurological symptoms, including three patients with AFM. Even more patients, mainly paediatric, were hospitalised with milder symptoms.

In July 2016, France reported an increase of severe acute neurological conditions, probably associated with enterovirus infection in one of the main academic paediatric hospitals in Paris. Following this alert, on 6 July 2016, the authorities initiated a retrospective case review that identified 18 children presenting with rhomboencephalitis, encephalitis, cerebellitis or myelitis and four with facial nerves radiculitis since April 2016. The patients' ages ranged from three months to 15 years with a median age of three years. As of 28 July, enterovirus infection has been confirmed in eight of these patients. The types of enterovirus detected were EV-A71 belonging to the subgenotype C1 (n=3), EV-D68 (n=2), Coxsackievirus A10 (n=1) and Coxsackievirus A2/EV68 co-infection (n=1). The VP1 sequence of the EV-A71/C1 displayed close genetic relationships with available sequences of EV-A71/C1 strains collected in Germany in 2015. Further investigations are ongoing.

Since April 2016, Denmark, the Netherlands, Spain, Sweden and United Kingdom (Wales) have reported various severe enterovirus infections and some have also increased enterovirus detections (the Netherlands and Germany) compared to previous years.

ECDC assessment

The increased detections of enteroviruses associated with neurological symptoms in EU/EEA countries are notable in terms of the severity of symptoms of the reported cases. The magnitude of the current epidemics is yet to be assessed in comparison with previous enterovirus seasons. The timing closely follows the usual pattern (i.e. an increase in summer), but also shows an early start (i.e. in April 2016).

There is evidence to suggest that the epidemiological pattern of EV-A71 and EV-D68 and possibly other enteroviruses in Europe is going through a change, both due to virus molecular evolution and an increasing likelihood of importation of new virus strains from outside the EU. Full molecular characterisation of the isolates from the outbreaks will enhance the understanding of the pattern of enterovirus epidemiology in Europe, including trends in subgenotypes associated with more severe clinical disease and molecular epidemiological links to strains between countries and from outside Europe.

Increased numbers of EV-A71 and EV-D68 detections reinforce the need for vigilance for enterovirus infections, especially if patients present with more severe clinical syndromes. Clinicians should be encouraged to obtain stool and respiratory specimens for enterovirus detection and characterisation from all patients presenting with symptoms suggestive of meningitis, encephalitis, HFMD, AFM or AFP. In addition to non-polio enterovirus laboratory surveillance, AFP surveillance for purposes of polio surveillance or surveillance of meningoencephalitis are likely to be the most sensitive clinical surveillance systems to pick up such signals.

Actions

ECDC published a [rapid risk assessment](#) on 8 August 2016.

Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015

Latest update: 18 November 2016

Epidemiological summary

1. Update on number of cases

USA

In the USA, eight new locally-acquired cases have been reported in Florida since the last CDTR. To date, 230 locally-acquired and 933 imported cases of Zika have been reported in Florida.

EU/EEA imported cases

Since July 2015 (week 26), 20 countries (Austria, Belgium, the Czech Republic, Denmark, Finland, France, Hungary, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom)

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have reported 1 974 travel-associated Zika virus infections through The European Surveillance System (TESSy). Over the same time period, eight EU countries reported 96 Zika cases among pregnant women.

EU's Outermost Regions and Territories

As of epidemiological week 42, the overall number of cases has been decreasing in all the French Outermost Territories with 40 suspected cases reported in Martinique, 30 in French Guiana, 50 in Guadeloupe, 30 in St Barthelemy, 40 in St Martin.

Since February 2016, 12 countries have reported evidence of person-to-person transmission of Zika virus, probably via a sexual route.

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

As of 16 November 2016, microcephaly and other central nervous system (CNS) malformations associated with Zika virus infection or suggestive of congenital infection have been reported by 28 countries or territories. Brazil reports the highest number of cases. Nineteen countries and territories worldwide have 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](#) | [Florida Health department](#)

ECDC assessment

The spread of the Zika virus in the Americas and Asia 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](#) was published on 28 October 2016. 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.

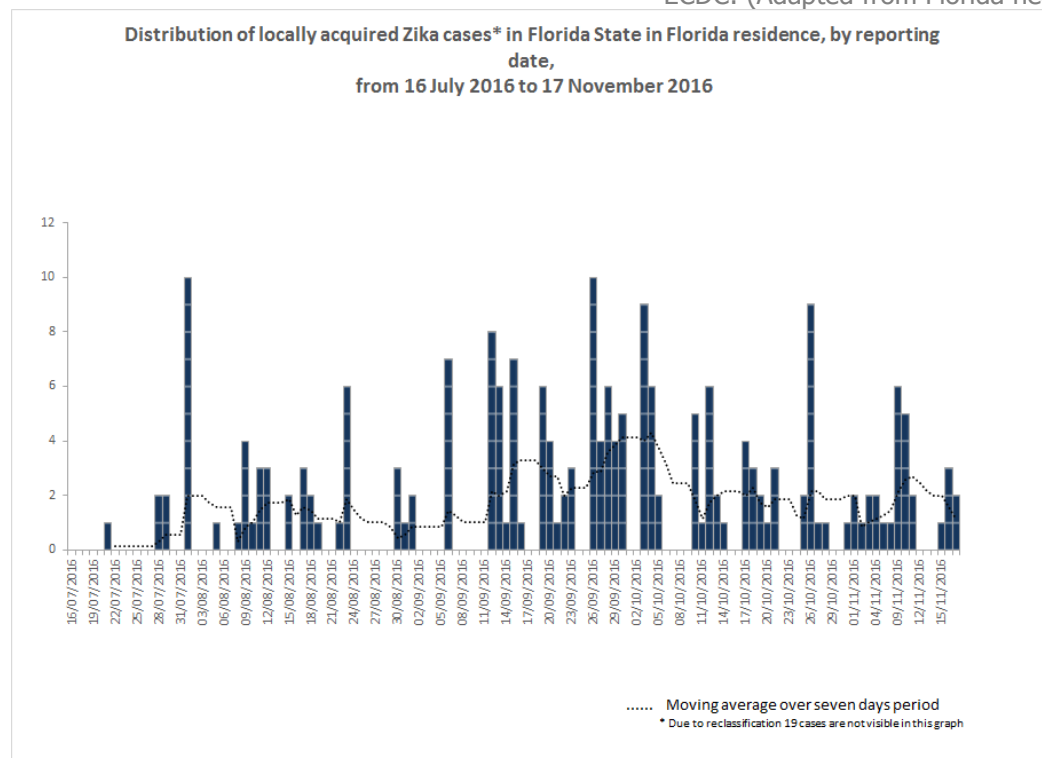
Actions

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

ECDC publishes information concerning vector distribution on the [ECDC website](#), showing the distribution of the vector species at 'regional' administrative levels (NUTS3).

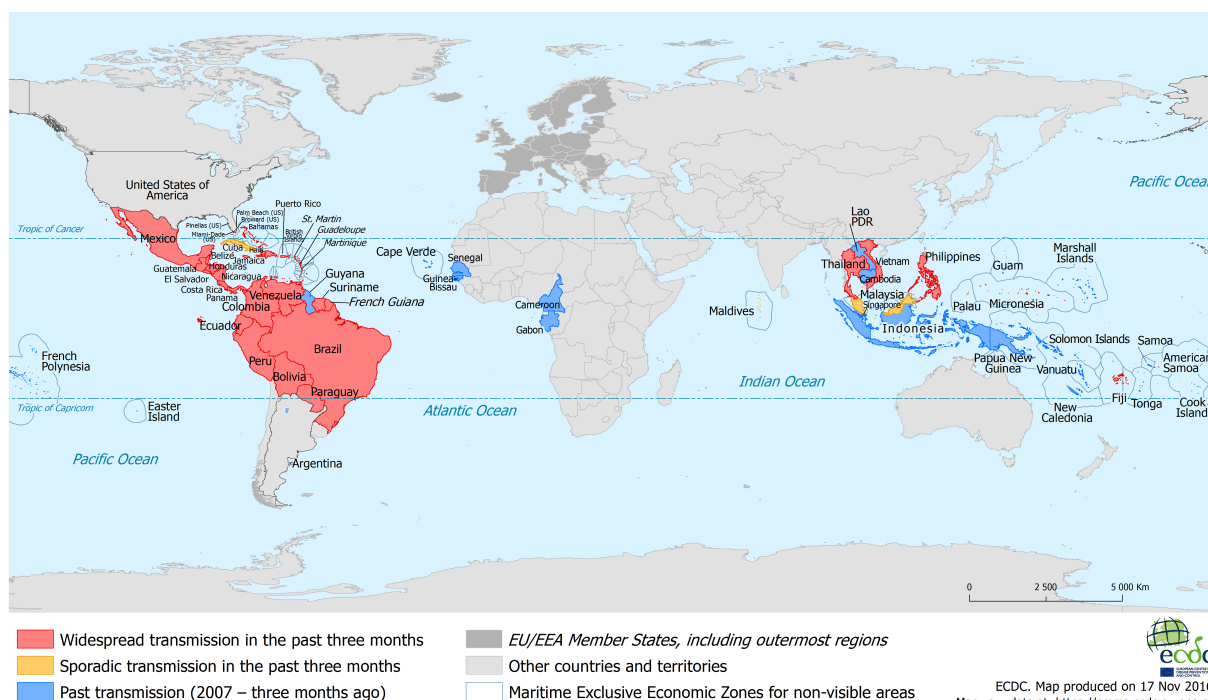
Distribution of locally acquired Zika cases in Florida State (US), by reporting date, from 16 July 2016 to 17 November 2016

ECDC: (Adapted from Florida health department and media)



Countries or territories with reported confirmed autochthonous cases of Zika virus infection in the past three months, as of 17 November 2016

ECDC



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

Opening date: 15 June 2005

Latest update: 18 November 2016

Epidemiological summary

Influenza A(H5N1)

From 2003 to 17 November 2016, 856 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 452 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

When avian influenza viruses circulate in poultry, sporadic infections or small clusters of human cases are possible among people

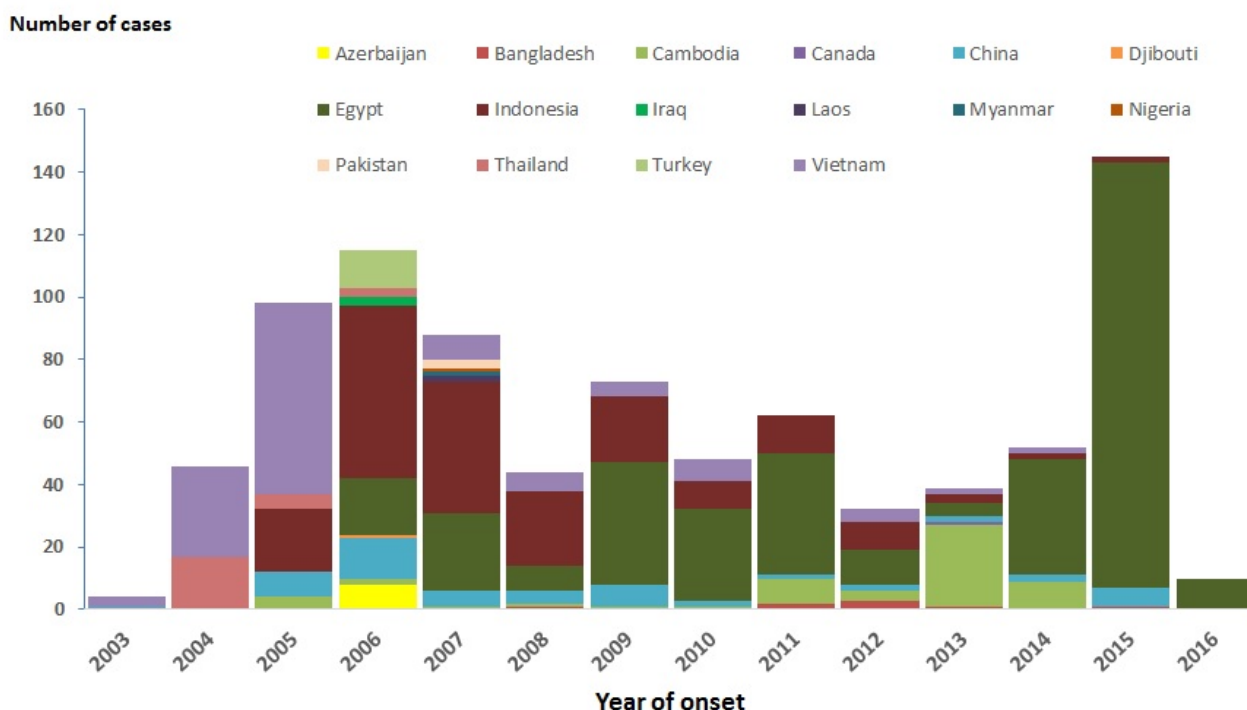
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exposed to infected poultry or contaminated environments, especially in households and at live bird markets. The viruses remain poorly adapted to humans, and transmission from birds to humans is infrequent. Only limited clusters of human cases have been reported since the first human epidemic 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 to be 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 A(H5N1) by country of reporting 2003 - 2016



Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013

Latest update: 18 November 2016

Epidemiological summary

The human cases of influenza A(H7N9) reported by China since March 2013 have the following geographical distribution: Zhejiang (220), Guangdong (195), Jiangsu (105), Fujian (71), Shanghai (51), Anhui (38), Hunan (34), Hong Kong (16), Jiangxi (15), Xinjiang Uyghur (10), Beijing (9), Shandong (8), Guangxi (4), Henan (4), Hebei (4), Hubei (2), Jilin (2), Tianjin (2), Guizhou (2) and Liaoning (1) and four cases in Taiwan. Three imported cases have also been reported: one in Malaysia and two in Canada.

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

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.

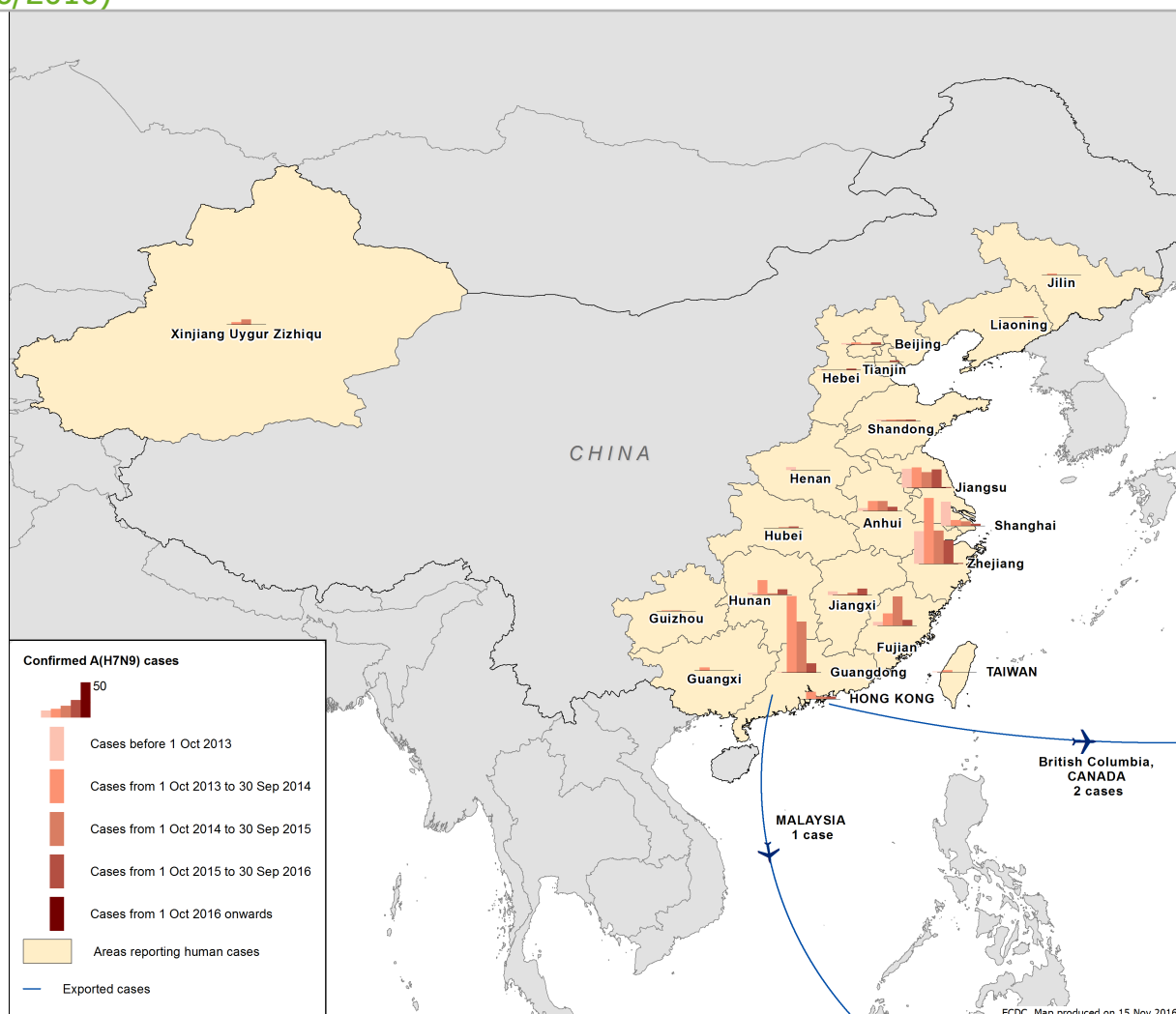
Actions

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 46/2016)



Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 18 November 2016

Epidemiological summary

As of 15 November 2016, 32 cases of WPV1 have been reported to WHO in 2016, compared with 56 for the same period in 2015. The cases were detected in Pakistan (16), Afghanistan (12) and Nigeria (4). Three cases of cVDPV have been reported in 2016, compared with 20 for the same period in 2015. The three cases were all reported from Laos.

Web sources: [Polio eradication: weekly update](#) | [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

Continued detection of positive environmental samples throughout 2016 in Pakistan confirms that virus transmission remains geographically widespread across the country, despite strong improvements in response measures.

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.

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