



This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

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

Opening date: 13 October 2016

Latest update: 20 January 2017

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

Influenza activity remained widespread across the region with high or very high intensity in 8 out of 44 reporting countries or regions and medium intensity in 26 countries.

Non EU Threats

New! Yellow fever - Brazil 2016-2017

Opening date: 16 January 2017

Latest update: 20 January 2017

Yellow fever is a viral infection that is present in some tropical areas of Africa and in South America. The virus is transmitted by mosquitoes, which also act as an important reservoir. An outbreak of yellow fever has been reported in Brazil in January 2017.

→ Update of the week

An outbreak of yellow fever is currently occurring in Brazil. As of 19 January 2017, the state of Minas Gerais has reported 206 cases, including 54 deaths, from 29 municipalities. As of 19 January 2017, the neighbouring state of Espírito Santo has reported eight cases. A vaccination campaign is ongoing in both states.

Increase in travel-associated Legionnaires' disease – Dubai, UAE

Opening date: 10 November 2016

Latest update: 20 January 2017

The ECDC ELDSNet surveillance scheme on travel-associated Legionnaires' disease (TALD) has observed an increase in the number of legionellosis cases associated with travel to Dubai in the past few months. Since the last update in the CDTR of 13 January 2017, three new cases with a recent travel history to Dubai prior to onset have been reported bringing the total to 34 cases as of 19 January 2017. The number of cases observed during the period October to November in 2016 are double than in the corresponding period in 2014 and 2015.

→ Update of the week

Since 13 January, three additional cases of Legionnaires' disease associated with travel to Dubai have been reported to ECDC.

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

Opening date: 15 June 2005

Latest update: 20 January 2017

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 5 January 2017 and 19 January, 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: 20 January 2017

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, and up to 19 January 2017, 918 cases have been reported, including at least 355 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

Since the previous update on 12 January 2017, WHO has acknowledged two additional human cases of A(H7N9) reported from China.

WHO Western Pacific Region ([WHO WPRO](#)) has published a detailed overview of the start of the fifth peak of A(H7N9) in China. According to the publication, the first case of the fifth epidemic had illness onset on 28 September 2016 in Zhejiang Province. In September, October and November 2016, a total of eight cases were reported in four provinces (Jiangsu, Zhejiang, Fujian, Guangdong), which is similar to the number of cases during the same period in prior epidemics. However, since 1 December 2016, the number of cases has substantially increased, with 106 cases reported in December 2016 alone. As of 31 December 2016, the number of reported cases in the fifth epidemic was 11.4, 2.7 and 6.1 times that observed in the corresponding periods in the second (10 cases), third (31 cases) and fourth (16 cases) epidemics, respectively.

Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015

Latest update: 20 January 2017

From 1 February to 18 November 2016, Zika virus infection and the related clusters of microcephaly cases and other neurological disorders constituted a public health emergency of international concern (PHEIC). Since 2015, and as of 19 January 2017, 71 countries and territories have reported evidence of mosquito-borne transmission of the virus. According to the [World Health Organization](#) (as of 4 January 2017), 29 countries or territories reported microcephaly and other central nervous system malformations in newborns which are potentially associated with Zika virus infection.

→Update of the week

ECDC maps

Fiji and Haiti have been removed from the map of countries and territories with autochthonous vector-borne transmission of Zika virus infection in the past three months.

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 20 January 2017

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 November 2016, at the eleventh [meeting of the Emergency Committee](#), the temporary recommendations in relation to the PHEIC were extended for another three months. WHO recently declared wild poliovirus type 2 (WPV2) eradicated worldwide.

→Update of the week

Two cases of wild poliovirus type 1 (WPV1) were reported by WHO this week: one in Afghanistan and one in Pakistan. These cases had onset of paralysis in 2016. A circulating vaccine-derived poliovirus type 2 (cVDPV2) has been detected in Nigeria in Sokoto state.

II. Detailed reports

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

Opening date: 13 October 2016

Latest update: 20 January 2017

Epidemiological summary

Week 2/2017 (9–15 January 2017)

Influenza activity remained widespread across the region with high or very high intensity in 8 out of 44 reporting countries or regions and medium intensity in 26 countries.

The proportion of influenza virus detections among sentinel surveillance specimens was 46%, a slight decline from 52% in the previous week.

The great majority of influenza viruses detected were type A and, of those subtyped, 99% were A(H3N2).

The number of influenza cases from hospital settings continued to increase, markedly for adults aged over 65 diagnosed with influenza A virus infection.

Excess all-cause mortality among the elderly has been observed in the past one to two months in most of the 18 countries that take part in [EuroMOMO](#).

Season overview Influenza activity started early this season compared with previous seasons.

Week 46/2016 is the earliest week that the overall influenza-positivity rate in sentinel specimens reached 10% since the emergence of A(H1N1)pdm09 viruses in the 2009 season; during the last 6 seasons this occurred between weeks 48 and 51. Since week 40/2016, influenza A viruses have predominated, accounting for 96% of all sentinel detections; the great majority (99%) of subtyped influenza A viruses from sentinel sites have been A(H3N2). This is in contrast to the same period during the 2015-2016 season in which influenza A(H1N1)pdm09 viruses predominated, but similar to the 2014–2015 influenza season, when influenza A(H3N2) was predominant.

In an influenza season in which A(H3N2) viruses predominate, elderly populations can be expected to be most severely affected. Indeed, confirmed cases of influenza A infection reported from hospitals have predominantly been in adults aged over 65 years. So far, circulating A(H3N2) viruses are antigenically similar to the vaccine strain. While about two-thirds of the A(H3N2) viruses characterised belong to a new genetic subclade (3C.2a1), these viruses are antigenically similar to the vaccine strain (clade 3C.2a).

Early monitoring of vaccine effectiveness in [Finland](#) and [Sweden](#) suggests levels of effectiveness similar to estimates from multi-country studies during the seasons 2011–2012 to 2014–2015 with 26% (95% CI 22%–30%) and 24% (95% CI 11%–34%) vaccine effectiveness, respectively, in persons aged 65 years and older with laboratory-confirmed influenza A. Given the partial effectiveness of influenza vaccines, rapid use of neuraminidase inhibitors for laboratory-confirmed or probable cases of influenza infection should be considered for vaccinated and non-vaccinated patients at risk of developing complications.

No reduced antiviral susceptibility has been observed among the viruses tested.

ECDC assessment

This season, influenza viruses, mainly A(H3N2), began circulating early in the EU/EEA. It is too early to predict the intensity in primary care and the severity in secondary care, but if A(H3N2) continues to predominate, there is a risk that people over 65 years of age will be the most severely affected, possibly increasing pressure on healthcare systems.

A risk assessment on seasonal influenza in EU/EEA countries was published by [ECDC](#) on 24 December 2016.

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.

New! Yellow fever - Brazil 2016-2017

Opening date: 16 January 2017

Latest update: 20 January 2017

Epidemiological summary

On 6 January 2017, Brazil notified the Pan-American Health Organization (PAHO) of the occurrence of 23 suspected and probable cases of yellow fever, including 14 deaths, from 10 municipalities in the state of Minas Gerais. The index case had onset of

symptoms on 18 December 2016.

As of 19 January 2017, Minas Gerais has reported 206 cases (34 confirmed and 172 suspected), including 54 deaths (23 confirmed and 31 suspected), from 29 municipalities. The case-fatality rate is 26.2% among all cases, and 67.6% among confirmed cases only. The most affected municipalities are Caratinga (40 cases, of which four are confirmed) and Ladainha (38 cases, of which seven are confirmed). Minas Gerais declared a state of emergency on 13 January.

On 17 January, the state of Espírito Santo reported four suspected cases of yellow fever. As of 19 January, a total of eight suspected cases have been recorded, from five municipalities.

Source: [Brazil MoH](#) | [WHO](#) | [Minas Gerais MoH](#) | [Espírito Santo Govt](#) | [Media](#)

ECDC assessment

Yellow fever is endemic in Brazil. The period from December to May is generally the period with the highest number of cases, with transmission considered possible in most of Brazil. However, after larger outbreaks before 2009, the number of confirmed cases has been below 10 per year for the whole country for the years 2010–2016 and no cases had been reported in the affected area since 2009. PAHO has issued an epidemiological alert on 9 January 2017. Travellers to Brazil should seek advice regarding vaccination prior to travel. The risk of yellow fever transmission in the EU/EEA is extremely low.

Actions

ECDC monitors closely this event, in collaboration with WHO. ECDC is preparing a rapid risk assessment.

Increase in travel-associated Legionnaires' disease – Dubai, UAE

Opening date: 10 November 2016

Latest update: 20 January 2017

Epidemiological summary

As of 19 January 2017, 34 TALD cases with a history of travel to Dubai within 2–10 days of onset of illness and onset since 1 October 2016 have been reported to ECDC from seven EU Member States (Figure 1). Thirty one cases associated with commercial accommodation sites were reported through the ELDSNet TALD surveillance scheme. Although private accommodation sites are not part of this surveillance scheme, three cases associated with stays in private accommodation sites in Dubai during this period were identified and reported by the United Kingdom. Cases were reported by the United Kingdom (16 cases), Sweden (5), the Netherlands (4), France (3), Denmark (2), Germany (3) and Belgium (1). The delay between week of onset and week of reporting to ELDSNet is around two weeks on average, ranging from one to six weeks. Therefore, the number of cases reported in the past six weeks may be underestimated.

All 34 cases were in Dubai during the incubation period of their Legionnaires' disease (ELDSNet TALD surveillance definition of 2–10 days prior to illness onset). The median time for the illness incubation period is six days, and 60% (20/33) of the reported cases stayed in Dubai for six or more days of the incubation period prior to the onset of illness. Seven cases (21%) were in Dubai during the nine days considered as their probable incubation period. More than 73% (22/30) of cases stayed four or more nights in commercial accommodations in Dubai. The three UK cases who stayed at private accommodation sites had a duration of stay between 11 and 18 days, including 7 to 9 days of their incubation period. Five cases spent time in a further location in the United Arab Emirates (UAE) or another country other than their home country during their incubation period. One of the notified cases was reported as a fatal case.

ECDC assessment

An increase in cases of Legionnaires' disease compared with previous years is reported in EU travellers returning from Dubai. It cannot be ruled out that some travellers might have acquired their infection elsewhere than in Dubai, if their travel stay in Dubai was shorter than the incubation period range. The increase in cases observed in October–December 2016 cannot be fully explained by the measured increase in the number of travellers to Dubai from the EU.

Actions

ECDC is in contact with EU Member States reporting cases and the ELDSNet network, WHO and UAE for information sharing and assessment.

ECDC published a [rapid risk assessment](#) on 23 December. An [Epi-update](#) was published on the ECDC website on 18 January 2017. ECDC prepared an investigation questionnaire that has been shared with EU Member States.

One ECDC expert and one Member State expert participated to a WHO assessment mission to Dubai from 26 December 2016 to 4 January 2017.

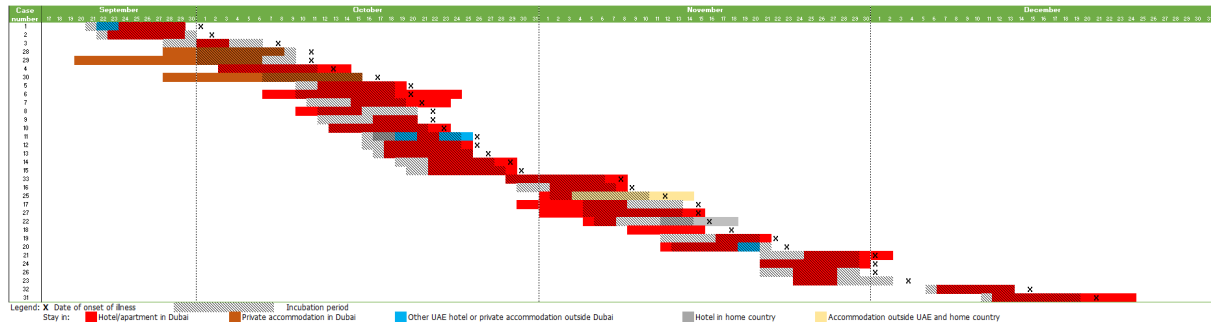
Distribution of TALD cases with history of stay in Dubai within 2–10 days of onset of illness, United Arab Emirates, by week of onset, accommodation site clustering, weeks 37–52/2016

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Distribution of TALD cases with a history of stay in Dubai, United Arab Emirates, within 2–10 days of onset of illness, by time period spent in accommodation sites, 17 September – 31 December 2016 (n= 33 cases)

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

Opening date: 15 June 2005

Latest update: 20 January 2017

Epidemiological summary

Influenza A(H5N1)

From 2003 to 19 January 2017, 856 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 452 deaths, were reported from 16 countries.

Influenza A(H5N6)

Since 2014 (as of January 7, 2017), 16 human cases of avian influenza A(H5N6) were reported globally and all occurred in Mainland China. The latest case was reported on 1 December 2016.

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

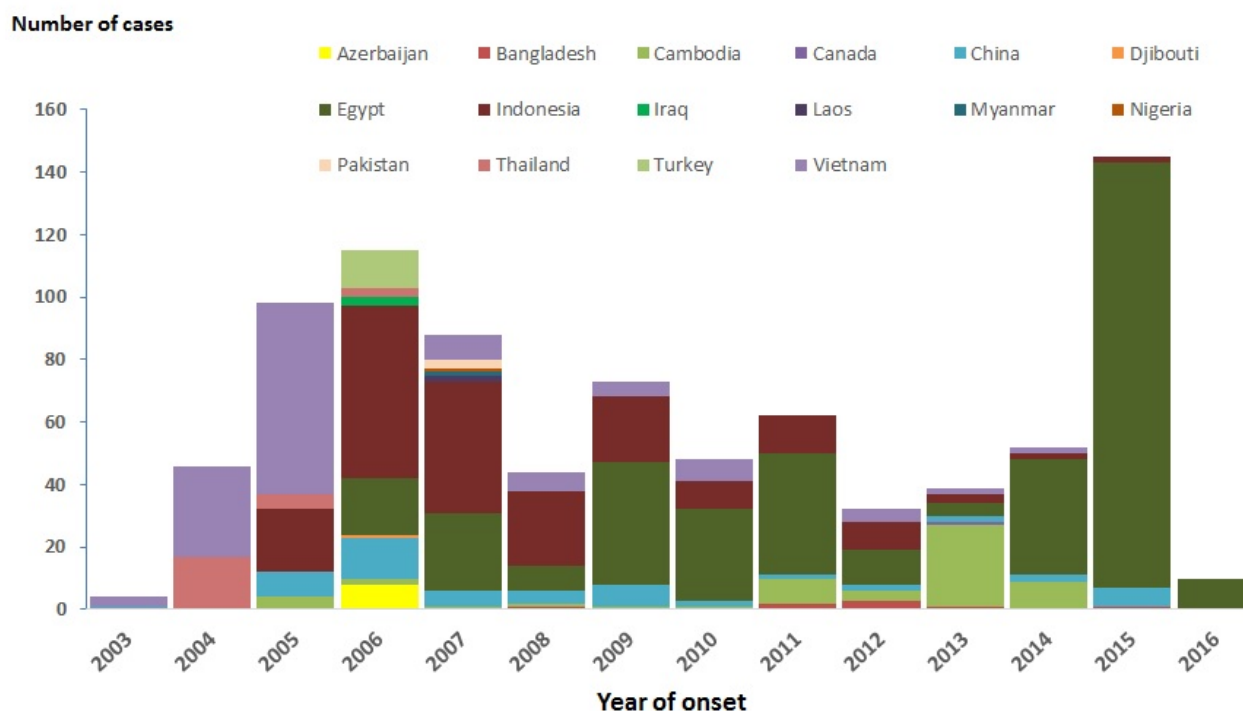
ECDC assessment

When avian influenza viruses circulate in poultry, sporadic infections or small clusters of human cases are possible 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 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: 20 January 2017

Epidemiological summary

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, and up to 19 January 2017, 918 cases have been reported, including at least 355 deaths.

The human cases of influenza A(H7N9) reported by China since March 2013 have the following geographical distribution: Zhejiang (241), Guangdong (210), Jiangsu (161), Fujian (77), Shanghai (53), Anhui (52), Hunan (35), Hong Kong (20), Jiangxi (14), Xinjiang Uyghur (10), Beijing (8), Shandong (8), Guangxi (4), Henan (4), Hebei (3), Tianjin (2), Jilin (2), Guizhou (2), Liaoning (1), and two cases in Macau 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

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. Information to date suggests that these viruses do not transmit easily from human to human and the information does not support sustained human-to-human transmission. The current increase correspond to the seasonal transmission seen in previous years.

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

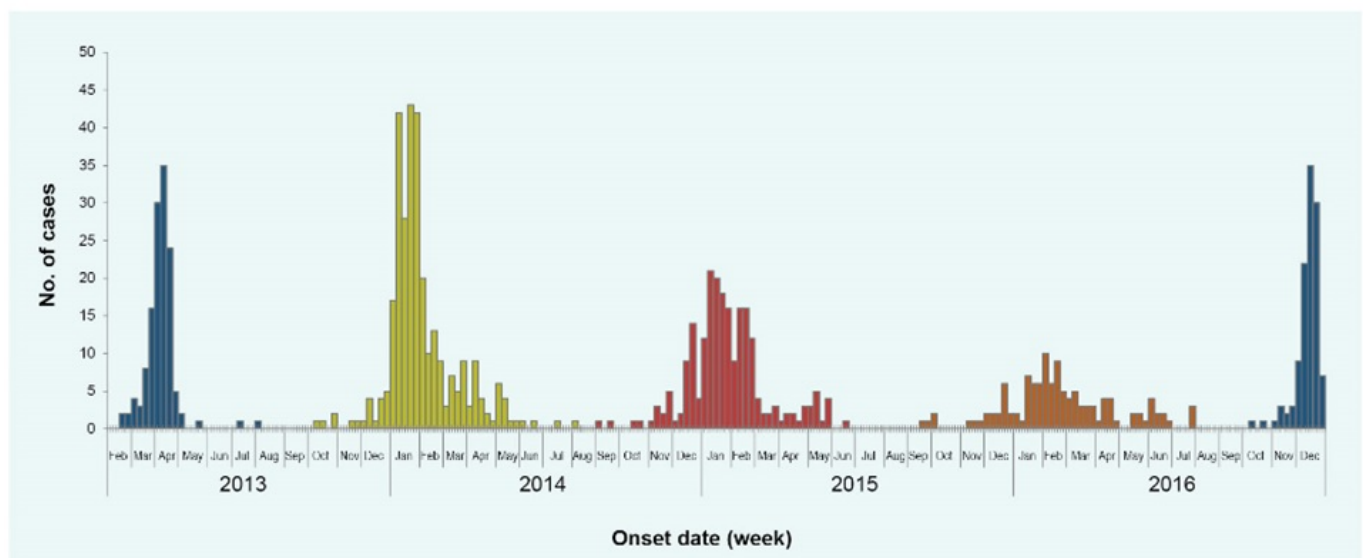
The Chinese health authorities continue to respond to this public health event with enhanced surveillance, epidemiological and laboratory investigation, and scientific research.

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

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

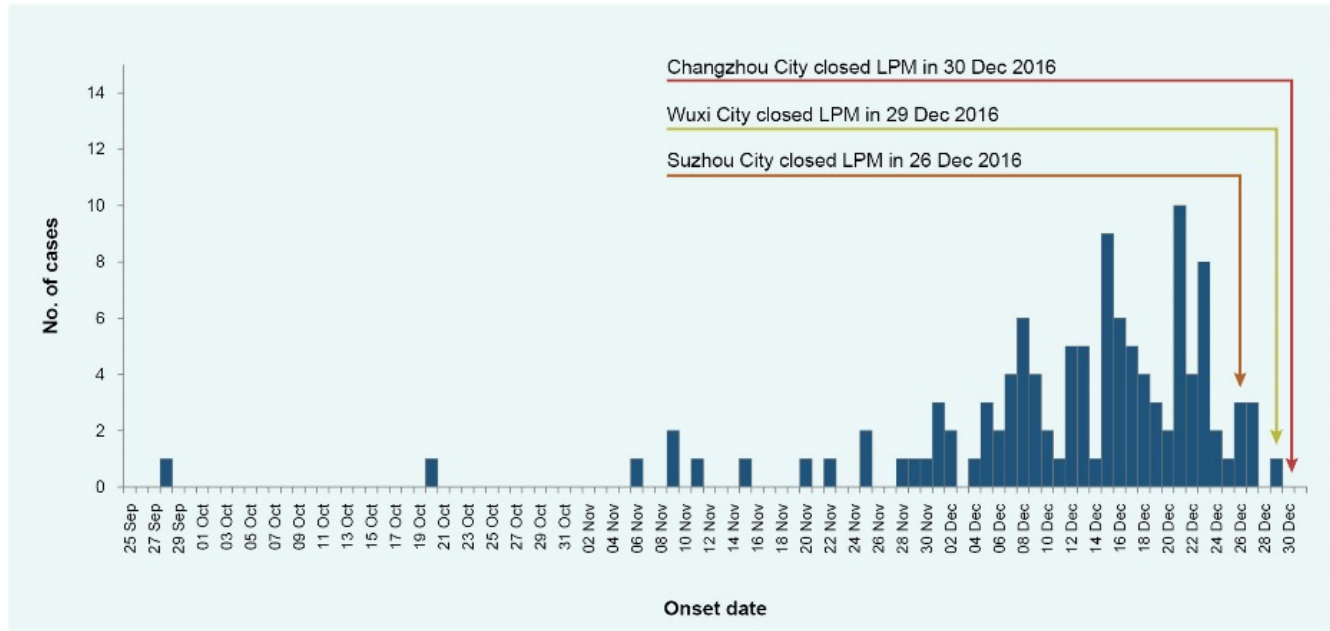
WHO <http://ojs.wpro.who.int/ojs/index.php/wpsar/article/view/521/733>

Figure 1b. Epidemic curve of human infection with H7N9 virus in China [excluding Hong Kong SAR (China), Macao SAR (China) and Taiwan, China] by week, February 2013–December 2016



WHO <http://ojs.wpro.who.int/ojs/index.php/wpsar/article/view/521/733>

Figure 1d. Epidemic curve of human infection with H7N9 virus in China [excluding Hong Kong SAR (China), Macao SAR (China) and Taiwan, China] by day, September 2016–December 2016



Distribution of confirmed cases of A(H7N9) by place of reporting and season (February 2013 to January 2017)

ECDC



Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015

Latest update: 20 January 2017

Epidemiological summary

Worldwide

Since 2015 and as of 19 January 2017, 71 countries and territories have reported evidence of mosquito-borne transmission of the virus. Since February 2016 and as of 4 January 2017, 13 countries or territories have reported evidence of person-to-person transmission of the virus, probably via sexual transmission.

USA

In Florida, 257 locally acquired and 1 026 travel-related cases have been reported as of 12 January 2017. In Texas, six locally acquired and 299 travel-related cases have been reported as of 17 January 2017.

EU/EEA imported cases

Since June 2015 (week 26), 21 countries (Austria, Belgium, the Czech Republic, Denmark, Finland, France, Greece, Hungary,

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Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom) have reported 2 078 travel-associated Zika virus infections through The European Surveillance System ([TESSy](#)). Over the same time period, nine EU/EEA Member States have reported 102 Zika cases among pregnant women.

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

As of 4 January 2017, 29 countries or territories have reported microcephaly and other central nervous system malformations in newborns which are potentially associated with Zika virus infection. Brazil is reporting the highest number of cases. As of 4 January 2017, 21 countries or territories have reported Guillain-Barré syndrome potentially associated with Zika virus infection.

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. ECDC is preparing an update of the [risk assessment](#) 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.

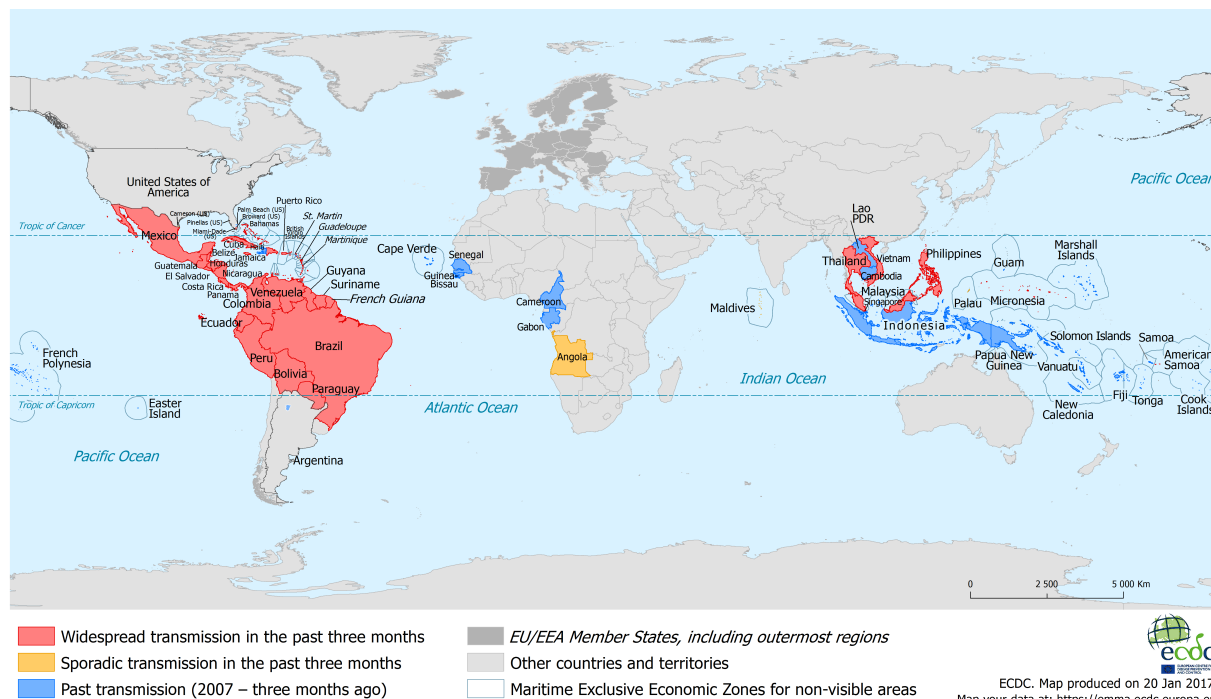
Actions

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).

Countries or territories with reported confirmed autochthonous cases of Zika virus infection in the past three months, as of 20 January 2017

ECDC



Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 20 January 2017

Epidemiological summary

As of 17 January 2017, no cases of WPV1 have been reported to WHO in 2017. In 2016, there were 37 officially reported WPV1 cases (compared with 72 for the same period in 2015), 13 from Afghanistan, 20 from Pakistan, and four from Nigeria. Five cases of cVDPV2 cases were detected in 2016: three from Lao People's Democratic Republic, one from Pakistan and one from Nigeria.

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

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

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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 into 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.