

This weekly bulletin provides updates on threats monitored by ECDC.

### **West Nile fever summary for transmission season 2017**

The 2017 West Nile Fever transmission season in the European Union and European Economic Area (EU/EEA) and neighbouring countries is now over. During this season 203 West Nile fever cases were reported, with most cases being notified by Romania. For the first time this year, ECDC reported not only on human but also on equine cases. The last notified case in the EU/EEA had disease onset at the end of October (week 43). However, countries can still notify new or retrospective human and equine cases/outbreaks through respectively the European Surveillance System (TESSy) and Animal Disease Notification System (ADNS). ECDC will resume the monitoring at the start of the 2018 season, expected in June.

In the EU/EEA, the first cases of the 2017 season were notified by Greece at the end of July (week 30) and had a disease onset at the end of June. In the neighbouring countries, Israel notified the first West Nile fever cases early July (week 27).

During the 2017 West Nile fever transmission season, 203 human West Nile fever cases were reported in the EU/EEA: Romania (66 cases), Italy (57), Greece (48), Hungary (21), Croatia (5), Austria (4), France (1) and Bulgaria (1). Eighty-four cases were reported in neighbouring countries: Serbia (49), Israel (28) and Turkey (7). This season the case-fatality rate of West Nile fever was 9% with 26 reported deaths.

After two consecutive years with no West Nile fever cases reported in Greece, 48 cases were reported in the country in 2017, including cases in areas where West Nile fever transmission to humans was not observed before. This year, Italy also reported cases in newly-affected areas, along the western coast (i.e. Livorno) and in the North-East of the country (i.e. Asti). France reported one case in the Alpes-Maritimes, a region bordering Italy, which is an area that did not experience any human West Nile fever cases previously.

This year, for the first time, ECDC included in its weekly epidemiological updates three types of West Nile fever maps: 1) human West Nile fever cases; 2) equine West Nile fever cases; 3) combined human and equine West Nile fever cases. Human cases are collected through TESSy and equine cases are collected through ADNS of the European Commission. While the distribution of human cases covers EU/EEA countries and neighbouring countries, equine cases cover only EU/EEA countries. Following a One Health approach, the maps aimed to highlight areas, at the NUTS3 level, where West Nile virus circulates in incidental hosts.

This transmission season, 128 equine West Nile fever cases were reported by EU/EEA Member States through ADNS: 100 in Italy, 13 in Greece, nine in Spain, three in Hungary, two in Austria, and one in Portugal.

**More information:** [ECDC West Nile fever web page](#) | [ECDC: equine West Nile fever web page](#) | [ECDC atlas](#)

**Sources:** [TESSy](#) and [ADNS](#)

## I. Executive summary

## EU Threats

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### Influenza – Multistate (Europe) – Monitoring season 2017/2018

Opening date: 11 October 2017

Latest update: 24 November 2017

Influenza transmission in Europe shows a seasonal pattern, with peak activity during the winter months.

→ Update of the week

#### Update Week 2017-46 (13 - 20 November 2017)

Intensity of influenza activity across Europe for 43 countries reporting remained at a low level. For week 2017-46, 33 (3.7%) of 894 sentinel specimens tested positive for influenza viruses.

Additional information on global influenza activity is available from [WHO's biweekly global updates](#).

### West Nile virus – Multistate (Europe) – Monitoring season 2017

Opening date: 30 May 2017

Latest update: 24 November 2017

During the West Nile virus transmission season (June to November), ECDC monitors the occurrence of cases of West Nile fever in EU/EEA Member States and neighbouring countries on a weekly basis in order to inform blood safety authorities about areas with ongoing virus transmission.

→ Update of the week

Between 16 and 23 November 2017, Turkey reported two cases in newly affected areas, with onset dates in August and September. In addition, Spain reported three equine West Nile fever cases through the Animal Disease Notification System (ADNS) of the European Commission. As no cases with recent disease onset were reported in the past four weeks, the final 2017 weekly update is published today.

## Non EU Threats

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### Monkeypox – Nigeria – 2017

Opening date: 6 November 2017

Latest update: 24 November 2017

Since mid September 2017, the Nigerian authorities have been monitoring a monkeypox outbreak that is unusual in its magnitude and geographical extension.

→ Update of the week

As of 19 November, Nigeria reported 146 cases including 42 confirmed cases. This is an increase of 30 cases since the previous CDTR from 17 November. No fatalities are reported. Kaduna state is the only newly affected state since the previous report.

### Plague - Madagascar - 2017

Opening date: 15 September 2017

An outbreak of plague in Madagascar began in August 2017 and has expanded rapidly. More than half of the cases reported were due to pneumonic plague. The number of cases and deaths exceeds those in previous outbreaks and the majority of the cases have been recorded in the capital of Antananarivo and the main port of Toamasina, the largest cities in Madagascar. After a peak observed during the first two weeks of October 2017, the authorities are reporting a decreasing trend.

→ Update of the week

According to [WHO](#), since 1 August and as of 17 November 2017, 2 267 confirmed, probable and suspected cases of plague, including 195 deaths (case fatality rate 8.6%) have been reported from 55 of 114 districts in the country. Of these, 1 732 (76%) were clinically classified as pulmonary plague, 327 (14%) were bubonic plague, one was septicaemic and 207 were not yet classified. Among these cases there are 81 healthcare workers affected. This is an increase of 233 cases and thirty deaths since ECDC's last CDTR report released on 17 November 2017. To date, no cases outside of Madagascar related to this outbreak have tested positive for plague. The trend in the number of new cases of plague has been declining for more than a month, indicating that measures taken to contain the outbreak have been effective. The decline in case reports suggests that the epidemic phase of the outbreak is ending. However, it is critical to sustain ongoing operations to minimise bubonic plague infections and human-to-human transmission of pneumonic plague.

## Diphtheria - Multistate (World) - Monitoring global outbreaks - 2017

Opening date: 10 November 2017

Latest update: 24 November 2017

Due to crises in Venezuela and Yemen, there has been an interruption of vaccinations, resulting in the re-emergence of diphtheria in 2017.

→Update of the week

### Yemen

On 16 November 2017, WHO reports 120 clinical cases of diphtheria and 14 deaths in past weeks in Yemen, mostly in children. At least one million children are currently at risk of contracting diphtheria as a result of the unavailability of vaccines and medicines in Yemen.

### Venezuela

In Venezuela, in 2017, as of week 42, 511 probable diphtheria cases were reported. Samples were taken from 452 of the cases (88.5%), of which 146 (32.3%) were laboratory confirmed (69 by isolation and determination of toxin production by Elek test and 38 by Polymerase Chain Reaction). The confirmed cases were reported in 17 federal entities.

## Yellow fever – South America – 2016/2017

Opening date: 16 January 2017

Latest update: 24 November 2017

Yellow fever is a mosquito-borne viral infection occurring in some of the tropical areas of Africa and South America. Brazil experienced an outbreak of yellow fever January - September 2017. Bolivia, Colombia, Ecuador, Peru and Suriname have also reported cases of yellow fever in 2017.

→Update of the week

According to [WHO outbreak news](#), published on 24 November 2017, two confirmed and six suspected yellow fever cases were detected in São Paulo State between July and mid-October. The two confirmed cases were reported from Itatiba from 17 September through 7 October 2017.

In addition, between July and November 2017, 120 confirmed epizootics in non-human primates (NHPs) were reported in São Paulo State. In the week ending with 14 October 2017, epizootics in NHPs were reported in large parks located within the urban area of São Paulo City.

## Marburg virus disease - Uganda - 2017

Opening date: 9 November 2017

Latest update: 24 November 2017

On 17 October 2017, the Ugandan Ministry of Health gave notification of a confirmed outbreak of Marburg virus disease in Kween District, Eastern Uganda. The outbreak was officially declared on 19 October 2017.

→Update of the week

On 21 November 2017, authorities reported the admission of a suspected case in Kapchorwa Isolation Unit. This case, a 28-year-old woman, is a resident of Kween district. Additionally, one death which occurred on 19 November in the same district is under investigation.

## II. Detailed reports

### Influenza – Multistate (Europe) – Monitoring season 2017/2018

Opening date: 11 October 2017

Latest update: 24 November 2017

#### Epidemiological summary

##### 2017/2018 season overview

Since week 2017-40, small numbers of influenza viruses have been detected in sentinel and non-sentinel specimens. Most of the viruses subtyped or assigned to a lineage in both sentinel or non-sentinel surveillance systems were identified as A(H3N2) or B/Yamagata viruses.

##### 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 on the [ECDC website](#) and on the [World Health Organization's Regional Office for Europe website](#).

### West Nile virus – Multistate (Europe) – Monitoring season 2017

Opening date: 30 May 2017

Latest update: 24 November 2017

#### Epidemiological summary

Since the beginning of the 2017 transmission season and as of 23 November 2017, EU Member States reported 203 cases: Romania (66 cases), Italy (57), Greece (48), Hungary (21), Croatia (5), Austria (4), France (1) and Bulgaria (1).

Eighty-four cases were reported in neighbouring countries: Serbia (49), Israel (28) and Turkey (7).

Twenty-six deaths due to West Nile fever have been reported since the start of the transmission season: Romania (14 deaths), Greece (5), Hungary (2), Serbia (2), Italy (1), Croatia (1), and Turkey (1). In equids, EU Member States reported 128 West Nile fever cases through ADNS: 100 in Italy, 13 in Greece, nine in Spain, three in Hungary, two in Austria and one in Portugal. For comparison, in 2016, 225 human cases of West Nile fever were reported in EU Member States and 267 cases were reported in the neighbouring countries.

**ECDC link:** [ECDC West Nile fever web page](#) | [ECDC: equine West Nile fever web page](#) | [ECDC atlas](#)

Sources: [TESSy](#) and [ADNS](#)

##### ECDC assessment

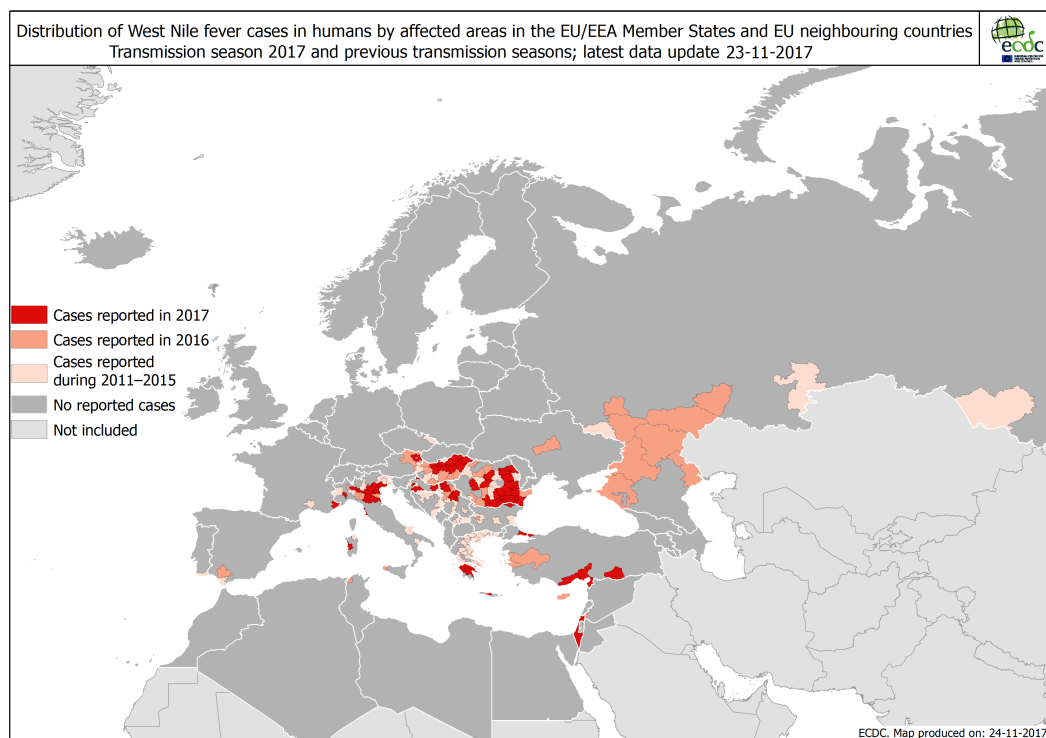
The current West Nile fever epidemiological situation is consistent with observations of seasonal virus transmission from previous years. In accordance with [Commission Directive 2014/110/EU](#), prospective donors should be deferred for 28 days after leaving a risk area for locally-acquired West Nile virus unless the results of an individual nucleic acid test (NAT) are negative.

#### Actions

As no new cases with recent disease onset have been reported in the last four weeks, this is the final weekly update for this transmission season. Since 6 October 2017, ECDC has been publishing three types of West Nile fever maps: 1) human West Nile fever cases, 2) equine West Nile fever cases, 3) combined human and equine West Nile fever cases. Human cases are collected through The European Surveillance System ([TESSy](#)) and equine cases are collected through the Animal Disease Notification System ([ADNS](#)) of the European Commission. While the distribution of human cases covers EU/EEA countries and neighbouring countries, equine cases cover only EU/EEA countries. Following a One Health approach, the new maps aim to highlight areas, at the NUTS3 level where West Nile virus circulates in incidental hosts. Currently, deferral or testing of prospective donors applies to blood donors for 28 days after leaving areas with one or more autochthonous human West Nile virus cases. This set of maps aims to provide better information for EU Member States so that they can implement preventive measures.

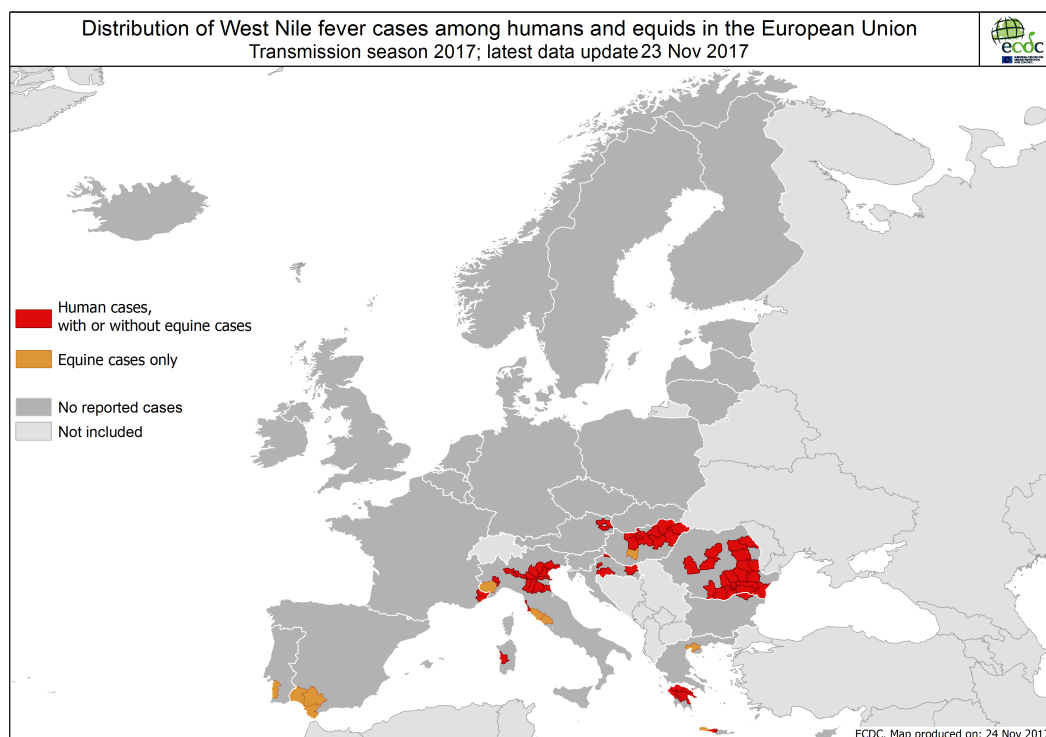
## Distribution of human West Nile fever cases by affected areas as of 23 November 2017.

ECDC



## Distribution of West Nile fever cases among humans and equids in the EU as of 23 November 2011.

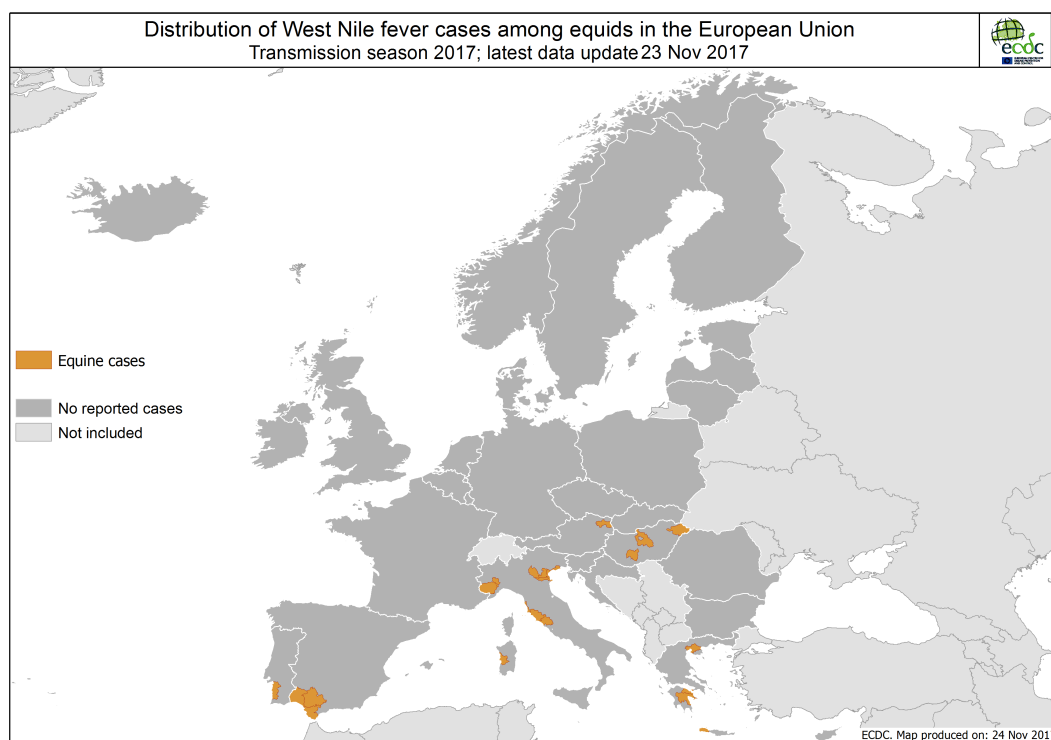
TESSy and ADNS



## Distribution of West Nile fever cases among equids in the EU as of 23 November 2017.

ADNS

5/11



## Monkeypox – Nigeria – 2017

Opening date: 6 November 2017

Latest update: 24 November 2017

### Epidemiological summary

The first case of monkeypox in Nigeria related to this outbreak was reported mid-September 2017. As of 19 November, Nigeria reported 146 cases including 42 confirmed cases. To date, no deaths have been reported. The cases are reported in 21 out of 36 states plus the Federal Capital Territory (FCT). The states affected are: Abia, Akwa-Ibom, Bayelsa, Benue, Cross River, Delta, Ekiti, Edo, Enugu, Imo, Kaduna, Kano, Katsina, Kwara, Kogi, Lagos, Ondo, Nasarawa, Niger, Oyo and Rivers. Among the 146 cases, 42 are laboratory-confirmed from ten states, Akwa-Ibom, Bayelsa, Cross River, Delta, Edo, Ekiti, Enugu, Imo, Lagos, Rivers and the FCT.

**Source:** [MoH](#) | [WHO AFRO](#) | [WHO](#)

### ECDC assessment

According to the Nigerian Ministry of Health, there has been a significant reduction in the number of cases reported over the past two weeks. Prior to this outbreak Nigeria reported two cases in 1971 and one case in 1978. Therefore, the current outbreak is unusual in its magnitude and geographical extension.

The risk of European citizens visiting or living in Nigeria contracting monkeypox is very low if the preventive measures listed below are taken into account:

- avoid contact with animals that could be infected;
- avoid contact with materials that have been in contact with a sick animal;
- avoid contact with people affected by monkeypox;
- practice hand hygiene after contact with infected animals or humans.

### Actions

ECDC is monitoring this event through epidemic intelligence and will report when there is additional information.

## Plague - Madagascar - 2017

Opening date: 15 September 2017



## Epidemiological summary

The outbreak began in August 2017 with the death from pneumonic plague of a 31-year-old man who had been travelling in a crowded minibus taxi toward the capital city of Antananarivo in the central highlands. The outbreak was initially recognised on 11 September by local authorities.

Since 1 August and as of 17 November 2017, 2 267 confirmed, probable and suspected cases of plague, including 195 deaths (case fatality rate 8.6%) have been reported from 55 of 114 districts in the country. Of these, 1 732 (76%) were clinically classified as pulmonary plague, 327 (14%) were bubonic plague, one was septicaemic, and 207 were not yet classified. At least 81 healthcare workers have contracted plague since the beginning of the outbreak. Of the 1 732 clinical cases of pneumonic plague, 389 (22%) have been confirmed, 612 (35%) are probable and 731 (42%) remain suspected.

Thirty strains of *Yersinia pestis* have been isolated and are sensitive to antibiotics recommended by the National Program for the Control of Plague.

Analamanga Region where the capital city of Antananarivo is located, has been the most affected, with 68% of all recorded cases. About 99% (7 166) of 7 270 contacts identified thus far have completed their seven-day follow up and a course of prophylactic antibiotics. Eleven contacts developed symptoms and became suspected cases. On 17 November 2017, all 33 contacts under follow-up were reached and provided with prophylactic antibiotics.

To date, no cases outside of Madagascar related to this outbreak have been confirmed for plague.

**ECDC links:** [Plague factsheet](#)

**Sources:** [WHO Africa](#), [MoH Seychelles](#), [media](#),

## ECDC assessment

While plague outbreaks in Madagascar are not unexpected, the high proportion of pneumonic plague cases is of concern. The current outbreak is the largest in the last decade in Madagascar. The risk of further transmission in the country remains high. The risk of international spread is mitigated by the short incubation period of pneumonic plague, implementation of exit screening measures, advice to travellers to Madagascar and the scaling up of preparedness and operational readiness activities in neighbouring Indian Ocean islands and other southern and east African countries. The overall global risk is considered to be low. The risk to travellers from the EU or for importation to the EU is considered low. WHO considers the risk for international spread of plague to be very low and advises against any restrictions to travel and trade with Madagascar based on the information to date. There is no restriction of movement in and out of Antananarivo, where cases have occurred, in accordance with the recommendations of the Malagasy authorities. However, Malagasy authorities are placing sanitary controls on the entry and exit from different cities in order to reduce the risk of epidemic propagation.

According to WHO, prophylactic treatment is only recommended for persons who have been in close contact with plague cases, or who have experienced other high-risk exposure such as flea bites or direct contact with bodily fluids or tissue from infected animals.

## Actions

ECDC published a [rapid risk assessment](#) on 9 October 2017 and an [update](#) on 13 October 2017.

ECDC has published the following documents:

- [Case definition and algorithm for initial assessment and management of cases related to the outbreak of plague in Madagascar](#)
- [Information leaflet for travellers to Madagascar](#)
- [Guidance for healthcare workers on the use of personal protective equipment in the management of bubonic and pneumonic plague patients](#)
- [Guidance for the management of suspected pneumonic plague cases identified on aircraft and ships](#)
- [Guidance for the management of suspected bubonic plague cases identified on aircraft and ships](#)

## Diphtheria - Multistate (World) - Monitoring global outbreaks - 2017

Opening date: 10 November 2017

Latest update: 24 November 2017

## Epidemiological summary

### Yemen

Diphtheria is endemic in Yemen. The last recorded cases were in 2013. According to [UNICEF](#), the percentage of surviving infants who received the 1st and 3rd dose of diphtheria and tetanus toxoid with pertussis containing vaccine (DTP1/DTP3) in the last ten years was between 81% and 88%.

## Americas

In 2017, from epidemiological week 1 to 45, five countries in the Americas have reported suspected or confirmed diphtheria cases: Brazil (39 of which five confirmed), Colombia (14 suspected), the Dominican Republic (three confirmed), Haiti (120 of which 51 confirmed), and Venezuela (511 of which 146 confirmed). This is an increase compared to 2016, when three countries in the Americas reported 78 confirmed diphtheria cases: Haiti (56 cases), Venezuela (20 cases) and the Dominican Republic (two cases). According to the report provided by Venezuelan authorities, from January to September 2017, vaccination coverage in children under one year of age reached 68%, and 42% of children aged five had the booster. The Venezuela Ministry of Health has intensified vaccination against diphtheria as part of the national plan. Nine million doses of the vaccine are available for this activity. In addition, national and local authorities are strengthening epidemiological surveillance, active search and investigation of cases and contact tracing. On 15 November 2017, the Venezuelan [media](#) reports that vaccination campaigns, targeting children and adults, is on-going.

**Sources:** [WHO](#) , [WHO PAHO](#)

## ECDC assessment

Poor sanitation, overcrowding, unsanitary living condition, low vaccination coverage, immunity gaps in adult are factors that favour the transmission of the disease. Also ongoing crises can disrupt health systems and interrupt treatment and vaccination activities.

The risk of spread to Europe is low, however Europeans living or travelling to the areas should consult their healthcare provider regarding their vaccination status. Travellers, international school-children and students, and those residing in affected countries should check whether they have completed primary vaccination series and booster doses against diphtheria before departure. Upon return from the affected countries to the EU, travellers with symptoms, such as tonsillitis, pharyngitis, erosanguinous nasal discharge, or skin lesions should seek healthcare for diphtheria testing. If tested positive, treatment should be in place including rapid investigation and management of close contacts.

Asymptomatic carriage of *C. diphtheriae* in unvaccinated and vaccinated healthy individuals is documented and will remain an important determinant of the risk of exposure to diphtheria. Those who are unimmunised are at risk regardless of setting. All EU/EEA Member States included diphtheria as part of their national immunisation schedule. According to the [WHO position paper](#) published in August 2017, all children should be immunised against diphtheria. According to [WHO](#), diphtheria toxoid and diphtheria containing vaccines are safe and effective. It is the responsibility of Member States to achieve timely vaccination with a complete primary vaccination series and booster doses.

## Actions

ECDC has prepared a [factsheet on diphtheria](#). ECDC monitors this threat through epidemic intelligence.

## Yellow fever – South America – 2016/2017

Opening date: 16 January 2017

Latest update: 24 November 2017

## Epidemiological summary

Between July and mid-October 2017, eight yellow fever cases were reported in São Paulo State, Brazil. Of these, two were confirmed and six are under investigation. The two confirmed cases, one of which was fatal, were reported from Itatiba from 17 September through 7 October 2017.

From July to early November, 427 epizootics in non-human primates (NHPs) were reported in São Paulo State, with an increase in the number of cases reported from 10 September 2017. Of these, 120 were confirmed for yellow fever, 233 are under investigation and 74 were classified as undetermined. The highest number of epizootics was registered in the health surveillance area of Campinas, where epizootic episodes were reported for the first time in the municipalities of Campo Limpo Paulista (in the week ending 23 September 2017), Atibaia (in the week ending 30 September 2017), and Jarinu (in the week ending 14 October 2017). Epizootics in NHPs were also recently reported in large parks located within the urban area of São Paulo City (in the week ending 14 October 2017).

**Sources:** [WHO DON](#)

## ECDC assessment

In Brazil, the decrease of the vector activity and the ongoing vaccination campaign has resulted in a reduction in the monthly number of reported yellow fever cases. However the outbreak should be carefully monitored, as the establishment of an urban cycle of yellow fever would have the potential to quickly affect a large number of people.



The detection of yellow fever confirmed cases in São Paulo State and the identification of epizootics in the urban area of São Paulo City with 10 million inhabitants is of concern.

Authorities are launching a vaccination campaign in this area, previously considered not at risk for yellow fever transmission.

According to WHO, travellers planning to visit areas at risk for yellow fever in Brazil should receive yellow fever vaccine at least 10 days prior to traveling, following measures to avoid mosquito bites, and being aware of yellow fever symptoms and signs as per international recommendations.

The risk of spread at the regional level is considered to be low given the high vaccination coverage in neighbouring countries. However, the detection of a human case of yellow fever in Oiapoque, the border river between French Guiana and Brazil in August 2017 by French health authorities indicates that the risk of regional spread exists.

In Europe, *Aedes aegypti*, the primary vector of yellow fever in urban settings, is present in Madeira. Recent studies have shown that *Aedes albopictus* can potentially transmit the yellow fever virus. The risk of the virus being introduced into local competent vector populations in the EU through viraemic travellers from Brazil is considered to be low.

## Actions

ECDC updated its [rapid risk assessment](#) on 13 April 2017.

## Marburg virus disease - Uganda - 2017

Opening date: 9 November 2017

Latest update: 24 November 2017

### Epidemiological summary

On 21 November 2017, authorities reported the admission of a suspected case in Kapchorwa Isolation Unit. This case, a 28-year-old woman, is a resident of Kween district. Additionally, one death which occurred on 19 November in the same district is under investigation. Since 17 October 2017 and as of 22 November, two confirmed cases, one probable and one suspected case have been reported. Both confirmed cases and one probable case have died. The three cases were from the same family. The death of the last confirmed case occurred on 26 October 2017. All cases are from Kween district in Uganda, bordering Kenya. One of the confirmed cases travelled to Kenya prior to his death. To date, no cases have been identified outside Uganda.

The Ugandan authorities, together with WHO, UNICEF and NGOs have implemented a response plan. Enhanced surveillance activities will continue for 21 days after the completion of the 21 day monitoring period of the last suspect case.

Uganda has previous experience in managing recurring Ebola and Marburg virus disease outbreaks. MVD cases have historically been reported among miners and travellers who have visited caves inhabited by bat colonies in Uganda. Marburg virus disease outbreaks have been documented as follows:

2007 – Four cases, including two deaths in Ibanda District, Western Uganda;

2008 – Two unrelated cases in travellers returning to the Netherlands and USA, respectively after visiting caves in Western Uganda;

2012 – Fifteen cases, including four deaths in Ibanda and Kabale districts, Western Uganda; and

2014 – One case in a healthcare professional from Mpigi District, Central Uganda.

**Source:** [ECDC factsheet](#)

**ECDC links:** [WHO](#) | [MoH](#)

### ECDC assessment

The affected area borders Kenya and is 300 km northeast of Kampala on the northern slopes of Mount Elgon National Park, which hosts colonies of cave-dwelling fruit bats, known to transmit the Marburg virus. The caves where the bats live and the national park are a tourist attraction.

According to WHO, the close proximity of the affected area to the Kenyan border, and cross-border movement between the affected district and Kenya and the potential transmission of the virus between colonies and to humans, increases the risk of cross-border spread. Therefore, there is a high risk at national and regional level. Tourists to Mount Elgon including the caves and surrounding areas should be informed, appropriate advice given and precautions taken.

The risk associated with the event at the global level is low.

The risk for importation into the EU is very low. EU travellers to Uganda and in particular to the Mount Elgon bat caves, should be made aware of the situation and should avoid contact with sick humans, sick or dead animals, avoid exposure to fruit bats and contact with non-human primates, and, to the extent possible, wear gloves and protective clothing, including masks.

## Actions

ECDC continues to monitor this threat, however, will not report unless there is a change in the epidemiology.

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