

This weekly bulletin provides updates on threats monitored by ECDC.

Recommendations for enterovirus diagnostics and characterisation

Enteroviruses can cause severe neurological and respiratory infections, and occasionally lead to devastating outbreaks, as previously demonstrated with EV-A71 and EV-D68 in Europe. However, these infections are often underdiagnosed and enterovirus typing data is not currently collected at European level.

In order to improve enterovirus diagnostics, collate data on severe enterovirus infections and monitor the circulation of enterovirus types, the European non-polio enterovirus network (ENPEN) has been established. The first task of this cross-border network has been to ensure prompt and adequate diagnosis of enterovirus infections in Europe.

The network, consisting of a multidisciplinary team of experts from over 20 European countries, has drawn up recommendations for non-polio enterovirus detection and typing based on the consensus view. It recommends that in addition to cerebrospinal fluid (CSF) and blood samples, respiratory and stool samples should also be submitted for enterovirus testing from patients with suspected neurological infections. This is vital since it is rare that viruses such as EV-D68 are detected in CSF or stool samples.

Furthermore, due to the sensitivity, specificity and short reproduction time of enteroviruses, reverse transcriptase PCR (RT-PCR) targeting the 5'noncoding regions (5'NCR) should be used for detection. For enterovirus typing the sequencing of the VP1 capsid protein gene is recommended; 5'NCR sequencing should not be performed due to frequent recombination events.

Effective and standardised laboratory diagnostics and characterisation of circulating virus strains are the first step towards effective and continuous surveillance activities which, in turn, will be used to provide a better estimate of the enterovirus disease burden.

Link to article: [http://www.journalofclinicalvirology.com/article/S1386-6532\(18\)30008-8/pdf](http://www.journalofclinicalvirology.com/article/S1386-6532(18)30008-8/pdf)

I. Executive summary

EU Threats

New! Poliomyelitis – Portugal ex Cape Verde – 2017 - 2018

Opening date: 7 February 2018

Latest update: 9 February 2018

On 31 January 2018, Portugal notified through EWRS the isolation of polio virus type 1 from stool samples of a five-month-old child from São Vicente, Cape Verde

New! Hepatitis A - Denmark - 2017 - 2018

Opening date: 7 February 2018

Latest update: 9 February 2018

Denmark is investigating a domestic outbreak of hepatitis A. The disease onset of the cases ranged from December 2017 to January 2018. Interviews, case-case investigation and case-control study supports that the source of infection could be dates. The dates were recalled from the Danish market on [6 February 2018](#).

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

Opening date: 11 October 2017

Latest update: 9 February 2018

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

→Update of the week

Influenza activity in week 2018-5 (29 January – 4 February 2018) was widespread in the majority of reporting countries. While activity was increasing, intensity was reported as medium to high in most countries in the EU Region and sporadic or regional but with increasing numbers in the eastern part of the WHO European Region.

The conclusions of the ECDC [Rapid Risk Assessment of seasonal influenza, EU/EEA, 2017–2018](#) published on 20 December 2017 remain valid.

Rubella – Multistate (EU) – Monitoring European outbreaks

Opening date: 7 March 2012

Latest update: 9 February 2018

Rubella, caused by the rubella virus and commonly known as German measles, is usually a mild and self-limiting disease which often passes unnoticed. The main reason for immunising against rubella is the high risk of congenital malformations associated with rubella infection during pregnancy. All EU Member States recommend vaccination against rubella with at least two doses of vaccine for both boys and girls. The vaccine is given at the same intervals as the measles vaccine as part of the MMR vaccine. No new outbreaks have been detected in the EU since March 2017.

ECDC reports global outbreaks of rubella in the CDTR on a monthly basis or if there is a critical event.

→Update of the week

No new outbreaks have been detected since March 2017.

Measles – Multistate (EU) – Monitoring European outbreaks

Opening date: 9 February 2011

Latest update: 9 February 2018

Measles outbreaks continue to occur in a number of EU/EEA countries with a risk of spread and sustained transmission in areas with susceptible populations.

→Update of the week

Updates are provided for Bulgaria, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Poland, Romania, Spain, Sweden, the Netherlands, Switzerland and the United Kingdom. In 2017 and as of 5 February 2018, 37 deaths had been reported from Romania (26), Italy (4), Greece (2), Bulgaria (1), Germany (1), Portugal (1), France (1) and Spain (1).

Relevant updates outside EU/EEA countries are provided for Georgia, Moldova, Serbia and Ukraine as well as for countries with ongoing or upcoming mass gathering events such as the Winter Olympics in South Korea, the Carnival in Brazil and FIFA 2018 in Russia.

Non EU Threats

New! Meningitis - Africa - 2018

Opening date: 6 February 2018

Latest update: 9 February 2018

Meningococcal meningitis cases are reported worldwide. However, the meningitis belt in Africa, from Senegal in the west to Ethiopia in the east, reports around 30 000 cases yearly.

→Update of the week

This is the start of the meningitis transmission season. During the first three weeks of 2018, WHO has reported 1 074 meningitis cases, including 89 deaths (CFR: 8.3%).

Mass gathering monitoring – Multistate (World) – South Korea Winter Olympics 2018

Opening date: 27 November 2017

Latest update: 9 February 2018

This year, the [Winter Olympics PyeongChang 2018](#) are being held in South Korea between 9 and 25 February 2018, followed by the Paralympics from 9 to 18 March 2018. Over one million tickets are planned to be sold and of these, 320 000 are reserved for foreign citizens. The PyeongChang Olympic village will house up to 3 894 athletes and team officials during the Games, while a second village in Gangneung will accommodate more than 2 900 people. The 2018 Winter Olympics will feature 102 events in 15 sport disciplines.

→Update of the week

[Korea Centers for Disease Control and Prevention](#) are monitoring a norovirus outbreak in the Olympic village. Between 1 and 8 February 2018, 128 confirmed cases have been detected.

[WHO published travel advice in relation to the Olympic Games in the Republic of Korea.](#)

Yellow fever – Brazil – 2017

Opening date: 16 January 2017

Latest update: 9 February 2018

[Yellow fever](#) is a mosquito-borne viral infection occurring in some tropical areas of Africa and South America. Brazil experienced a major outbreak of yellow fever in 2016-2017. An upsurge of confirmed cases has been reported since December 2017.

→Update of the week

Since the previous report on 31 January 2018, [Brazil](#) has reported 140 cases and 17 deaths. The cases occurred in São Paulo (53), Minas Gerais (80) and Rio de Janeiro (7) states.

Since the previous report on 31 January 2018, [Brazil](#) has reported confirmed epizootics in non-human primates in São Paulo State (16), Rio de Janeiro State (6) and Espírito Santo State (1).

On 6 February 2018, the municipality of [São Bernardo do Campo](#) in São Paulo State, reported the first autochthonous case of yellow fever. The case is an unvaccinated 35-year-old man living in the city and investigation is ongoing to assess the form of transmission. As of 6 February 2018, several media quoting local authorities have been reporting this case as the first urban case, however according to the [Brazilian Ministry of Health](#), no urban cycle has been confirmed.

II. Detailed reports

New! Poliomyelitis – Portugal ex Cape Verde – 2017 - 2018

Opening date: 7 February 2018

Latest update: 9 February 2018

Epidemiological summary

On 31 January 2018, Portugal notified through EWRS the isolation of polio virus type 1 from stool samples of a five-month-old child from São Vicente, Cape Verde. The child had been vaccinated with oral polio vaccine and hepatitis B vaccines at birth as well as with Bacille Calmette-Guerin (BCG) on the second day of life. No additional vaccines had been administered as the child was diagnosed with severe immunodeficiency. Since arriving in Lisbon on 30 November 2017, the child has been in isolation at the hospital, waiting for bone marrow transplantation, having close contact with its mother and health professionals from the hospital. After being alerted to the case, action was initiated to identify contacts; take stool samples; reinforce measures for prevention and control of infection and vaccinate staff and relatives, in accordance with the "Portuguese Action Plan for Response to a possible imported case of polio virus".

On 6 February, Portugal posted the results of the investigation through EWRS. "The virus is a polio virus type 1 (PV1), with 6 fixed mutations in the VP1 gene from Sabin 1 plus 6 (isolate1) and 7 (isolate2) mixed bases where only a fraction of the consensus sequence at those sites belongs to the paternal Sabin 1. Such pattern of divergence is typical for OPV evolution in primary immuno-deficiency (PID) patients and is commensurate with the virus' age (OPV administered in August 2017)". WHO concluded that the virus had not diverged sufficiently to be classified as a VDPV, so it is a pre-iVDPV type 1 at this stage. Serial stool samples will be collected pre- and post-procedure to monitor virus divergence and duration of excretion post-BMT.

Currently, sampling of stools had been stopped and a check of the polio vaccination status of the healthcare workers in contact with the case has been sufficient. There is no need for any further action beyond the monitoring of the virus excretion of the child and the virus divergence for the duration of virus excretion.

ECDC assessment

Laboratory investigations have confirmed the nature of the isolated poliovirus in a severely immunocompromised infant and relatedness to parental Sabin type 1 vaccine virus. This is a case of prolonged vaccine virus shedding. Follow-up measures will include verification of polio vaccination status for the healthcare workers caring for the child and continuous monitoring of viral shedding through stool sampling.

New! Hepatitis A - Denmark - 2017 - 2018

Opening date: 7 February 2018

Latest update: 9 February 2018

Epidemiological summary

On 1 February 2018, Denmark notified through EWRS and EPIS FWD that there is an ongoing investigation of an outbreak of domestically acquired hepatitis A infections. As of 7 February 2018, 14 cases with disease onset from 22 December 2017 to 22 January 2018 have been associated with this outbreak. Interviews, case-case investigation and case-control study supports that the source could be dates. The dates were recalled from the Danish market on 6 February 2018. Seven isolates are typed to be type 3A.

TESSy background data:

In the period 2012-2016, between 12 500 and 14 100 confirmed cases of hepatitis A were reported annually by 30 EU/EEA countries. Romania accounted for 35% of the cases and Bulgaria for 15%. Cases were reported in all age groups with the most cases among children 5-14 years-olds (36%), followed by 25-44 years-olds (21%). Male cases were more frequent than female, particularly in age groups 15-24 and 25-44 (58%). The majority (89%) of infections were reported as domestically acquired. Among travel-associated cases, Egypt, Morocco and Turkey were the most common travel destinations.

Sources: [Danish food safety authorities](#) | [Statens Serum Institut](#) | [ECDC factsheet](#)

ECDC assessment

Denmark is experiencing a domestic outbreak of hepatitis A. Interviews, case-case investigation and case-control study supports the source as being dates from Iran. The dates have been recalled from the Danish market. This event is so far confined to Denmark.

Actions

ECDC is monitoring this event through EPIS FWD.

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

Opening date: 11 October 2017

Latest update: 9 February 2018

Epidemiological summary

Week 2018-5 (29 January–4 February 2018)

Influenza activity was widespread in the majority of reporting countries and while activity was increasing, intensity was reported as medium to high in most countries in the EU region and sporadic or regional but with increasing numbers in the eastern part of the WHO European Region.

Both influenza virus types A and B were co-circulating with a higher proportion of type B viruses. Different proportions of circulating influenza virus types and A subtypes were observed between countries. Proportions of specimens positive for influenza viruses were on the increase in the eastern part of Europe.

Of the individuals sampled who presented with ILI or ARI to sentinel primary healthcare sites, 57% tested positive for influenza viruses, a slight increase compared to the previous week (54%).

2017–2018 season overview

For the region overall, a much higher proportion of type B compared to type A viruses has been detected in sentinel sources, whereas in non-sentinel sources a slightly higher proportion of type B viruses has now been detected. Of the type A detections from sentinel sources, A(H1N1)pdm09 viruses have outnumbered A(H3N2) viruses, while in non-sentinel sources more A(H3N2) viruses were reported than A(H1N1)pdm09 viruses.

For type B viruses from both sentinel and non-sentinel sources, B/Yamagata lineage viruses have greatly outnumbered those of the B/Victoria lineage. No B/Yamagata lineage virus is included in the current trivalent seasonal influenza vaccine.

The majority of severe cases are in adults infected by influenza A(H1N1)pdm09 or type B virus.

While low in number, 58% of the genetically characterised A(H3N2) viruses belonged to clade 3C.2a, the clade of the vaccine virus described in the [WHO recommendations for vaccine composition for the northern hemisphere 2017–18](#), and 37% to clade 3C.2a1, with mammalian cell-cultured viruses in both clades being antigenically similar.

An early [risk assessment](#) based on data from EU/EEA countries was published by ECDC on 20 December 2017.

On 7 February 2018, ECDC and WHO Regional Office for Europe released a joint statement: [Low uptake of seasonal influenza vaccination in Europe may jeopardize capacity to protect people in next pandemic](#).

ECDC assessment

As expected for this time of year, influenza activity is increasing, putting pressure on healthcare systems and creating significant media attention. Vaccination programmes targeting the elderly, people with chronic diseases and healthcare workers should be continued and intensified in countries that have not reached the seasonal peak. Antiviral treatment with neuraminidase inhibitors should be advised for people at high risk of the complications of influenza, such as people with underlying chronic respiratory or cardiovascular diseases, and for people with severe or rapidly progressive symptoms. Antiviral prophylaxis should be considered during the early phases of outbreaks in closed settings such as nursing homes. Inter-personal distancing measures are also likely to provide protection for infants, the elderly and the frail.

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](#).

Rubella – Multistate (EU) – Monitoring European outbreaks

Opening date: 7 March 2012

Latest update: 9 February 2018

Epidemiological summary

No new outbreaks have been detected in the EU since March 2017.

Epidemiological summary for EU/EEA countries with updates since last month

Italy reported 65 rubella cases in 2017 with most of the cases reported in March (14), April (11) and May (12). Previously, Italy reported 65 cases in 2013, 26 cases in 2014, 26 cases in 2015 and 30 cases in 2016. About 29% of the cases were laboratory confirmed.

Relevant epidemiological information from countries with ongoing or planned mass gatherings

Winter Olympics in South Korea, 9-25 February 2018

South Korea has reported ten cases of rubella in 2018, as of 27 January. Between 2014 and 2017, 11 cases were reported annually and 18 cases in 2013.

Brazilian Carnival in Brazil, 9-14 February 2018

Brazil has reported three suspected cases of congenital rubella in 2018, as of 27 January. The last confirmed case of rubella in Brazil was reported in 2014, and the last confirmed case of congenital rubella in 2009.

FIFA 2018 in Russia, 14 June – 15 July 2018

Russia reported five cases of rubella between January and October 2017. Rubella cases were registered in Orenburg and Tomsk regions, Primorsky and Khabarovsk krajs, and the city of Moscow.

Web sources: [ECDC measles and rubella monitoring](#) | [ECDC rubella factsheet](#) | [WHO epidemiological brief summary tables](#) | [WHO epidemiological briefs](#) | [Progress report on measles and rubella elimination](#)

ECDC assessment

The World Health Organization (WHO) has targeted the elimination of measles and rubella in the 53 Member States of the WHO European Region. The progress towards elimination of rubella in the WHO European Region is assessed by the European Regional Verification Commission for Measles and Rubella Elimination (RVC). Member States of the WHO European Region are making steady progress towards the elimination of rubella. At the sixth meeting of the RVC for Measles and Rubella in June 2017, of 53 countries in the WHO European Region, 33 (21 of which are in the EU/EEA) were declared to have reached the elimination goal for rubella, and four countries (two in the EU/EEA) were deemed to have interrupted endemic transmission for between 12 and 36 months, meaning they are on their way to achieving the elimination goal. However, seven EU/EEA countries were judged to still have endemic transmission: Belgium, Denmark, France, Germany, Italy, Poland and Romania.

Web source: [European Regional Verification Commission for Measles and Rubella Elimination \(RVC\) \(2017\)](#)

Actions

ECDC monitors rubella transmission in Europe by analysing the cases reported to The European Surveillance System and through its epidemic intelligence activities. Twenty-four EU and two EEA countries contribute to the enhanced rubella surveillance. The purpose of the enhanced rubella surveillance is to provide regular and timely updates on the rubella situation in Europe in support of effective disease control, increased public awareness, and achieving the target of rubella and congenital rubella elimination.

Measles – Multistate (EU) – Monitoring European outbreaks

Opening date: 9 February 2011

Latest update: 9 February 2018

Epidemiological summary

According to national public health authorities, measles has caused 50 deaths in EU countries between 2016 and 2018. In 2016, 12 deaths occurred in Romania and one in the UK. In 2017, 36 deaths were reported from Romania (25), Italy (4), Greece (2), Bulgaria (1), Germany (1), Portugal (1), France (1) and Spain (1). In 2018, one death occurred in Romania.

Epidemiological summary for EU/EEA countries with updates since last month

6/13

Bulgaria has reported one case of measles in 2018 as of 28 January. In 2017, Bulgaria reported 166 cases.

France: since 1 November and as of 24 January 2018, 115 cases of measles, including 32 hospitalisations, have been reported from the Bordeaux area. This is an increase by over a hundred cases since the previous CDTR, published on 12 January.

Germany has reported seven measles cases in 2018, as of 25 January. During the same period in 2017, two cases were reported. In 2017, Germany reported 919 cases of measles.

Greece, as of 4 February 2018 and since the beginning of the outbreak in May 2017, has reported 1 463 cases of measles, 861 of which 861 have been laboratory confirmed. Among the laboratory confirmed cases, two deaths were reported. This is an increase by 495 cases since the previous CDTR on 12 January. Most of the cases occur in southern Greece among young Roma children, as well as Greek adults mainly 25-44 years of age.

Hungary reported one case of measles between weeks 1 and 3 in 2018. In 2017, Hungary reported 105 cases of measles, compared to none in 2016.

Ireland has reported 11 cases in 2018, as of 27 January. In **2017**, between October and 20 December, two outbreaks in Dublin and the North-East of Ireland resulted in 22 confirmed cases of measles. In 2016, Ireland reported 43 cases of measles.

Italy reported 4 991 cases of measles, including four deaths in 2017. This is an increase of 106 cases since the previous CDTR on 12 January. In 2016, there were 862 cases and in 2015, 258 cases of measles reported.

Latvia reported 11 confirmed cases, between 29 December 2017 and 29 January 2018. Six of these cases were reported in January 2018. This is an increase of seven cases since the previous CDTR on 12 January.

Poland, according to **media** quoting public health authorities as of 24 January 2018, has reported 11 cases of measles, and nine of these were confirmed. The outbreak occurred in Warmia and Mazury among ten adults from Ukraine and one resident of Poland. All cases were unvaccinated. In 2017, **Poland** reported 63 cases of measles, and 133 cases in 2016.

Romania has reported 316 cases and one death due to measles since the previous CDTR on 12 January. Since 1 January 2016 and as of 2 February 2018, Romania has reported 10 623 cases, including 38 deaths. Of these, 1 969 cases were reported in 2016 and 8 654 cases in 2017-2018.

Spain has reported two confirmed cases and one suspected case of measles in 2018, as of 21 January. In 2017, Spain reported 137 cases of measles.

Sweden has reported 28 cases of measles, related to an outbreak in Gothenburg as of 29 January 2018. The incubation period since the last measles case related to this outbreak, ended on 5 February. From January to October 2017, Sweden reported 39 cases of measles and three cases in 2016.

The **Netherlands** has reported ten measles cases in 2017. In 2016, the Netherlands reported four measles cases.

The **United Kingdom**, as of 30 January 2018, has reported 144 confirmed cases of measles in five areas across the country: in West Midlands (51), West Yorkshire (35), Cheshire and Liverpool (29), Surrey (22) and Greater Manchester (7). This is an increase of 76 cases since the CDTR on 12 January. From January to November 2017, the entire UK reported 232 cases. In 2016, according to TESSy, 570 cases were reported during the same time period.

Switzerland has reported two cases in 2018, as of 23 January. In 2017, 105 measles cases were detected compared to 65 in 2016.

Relevant epidemiological summary for countries outside EU/EEA since last month

Georgia reported 102 confirmed measles cases between August 2017 and 29 January 2018. Most of the cases are from Adjara (86). Among the cases are unvaccinated new-borns and elderly people. In 2013-2015, a large outbreak of measles with over 11 000 cases and four deaths was reported in Georgia. At the time mostly children and teenagers were affected. In 2016 there were 14 cases reported.

Moldova, according to media reports on 29 January 2018, a 7-month-old baby, developed measles symptoms after a visit to Ukraine. Test results for two other suspected cases are pending. In 2014, two imported measles cases were reported in Moldova.

Ukraine has reported 2 084 measles cases in 2018, as of 21 January, including three deaths in Odessa (two children and one

adult). The most affected regions are Ivano-Frankivsk (463), Chernivtsi (333), Zakarpattia (331) and Odessa (265). In 2017, Ukraine reported 4 782 cases of measles, including seven deaths of four children and three adults.

Relevant epidemiological information from countries with ongoing or planned mass gatherings

Winter Olympics in South Korea, 9-25 February 2018

[South Korea](#) has reported nine cases of measles in 2018 as of 27 January 2018. In 2017, South Korea reported 11 cases, in 2016 there were 18 cases, in 2015 seven cases, and in 2014, 442 cases.

FIFA 2018 in Russia, 14 June – 15 July 2018

[Russia](#) reported 367 cases of measles between January and October 2017, which is a four-fold increase compared to 86 cases in 2016. Most of the cases occurred in the Republic of Dagestan, the Chechen Republic, and the region and city of Moscow. An outbreak of measles has been ongoing in the [region of Moscow](#) since December 2017.

Brazilian Carnival in Brazil, 9-14 February 2018

[Brazil](#) has no confirmed cases of measles as of 27 January 2018. The last confirmed measles case in Brazil was reported in 2015.

ECDC links: [Measles web page](#) | [ECDC Communicable Disease Threats Reports \(CDTR\)](#) | [ECDC rapid risk assessment ongoing outbreak of measles in Romania, risk of spread and epidemiological situation in EU/EEA countries, 3 March 2017](#)

Sources: National Public Health Institutes | Ministries of Health | media

ECDC assessment

Measles outbreaks continue to occur in a number of EU/EEA countries as indicated by the current epidemiological situation. There is a risk of spread and sustained transmission in areas with susceptible populations. Current outbreaks are affecting various population groups, including healthcare workers caring for people at risk of severe disease and complications (e.g. infants under one year of age, immunosuppressed).

Prompt and targeted outbreak response to break chains of transmission is essential. This includes the isolation of suspected and confirmed cases and the close monitoring of previously unvaccinated contacts. Supplementary vaccination with measles-containing vaccines (MCV) is indicated for those not able to show proof of vaccination or immunity. All these interventions come at a high human and financial cost at a time of the year when healthcare systems are already under pressure.

Vaccination with at least two doses of a Measles-Containing-Vaccine (MCV) remains the most effective preventive measure. Every encounter with the healthcare system should be used to ensure that every resident in the EU has a documented history of MCV, as per national recommendation. If not, additional doses should be administered. Vaccination history needs to be readily available to healthcare workers in case of exposure or outbreak. Vaccination coverage of 95% of the general population at national as well as subnational levels with two doses of MCV is necessary to ensure that measles circulation is interrupted, and that the introduction of measles cases does not result in secondary cases.

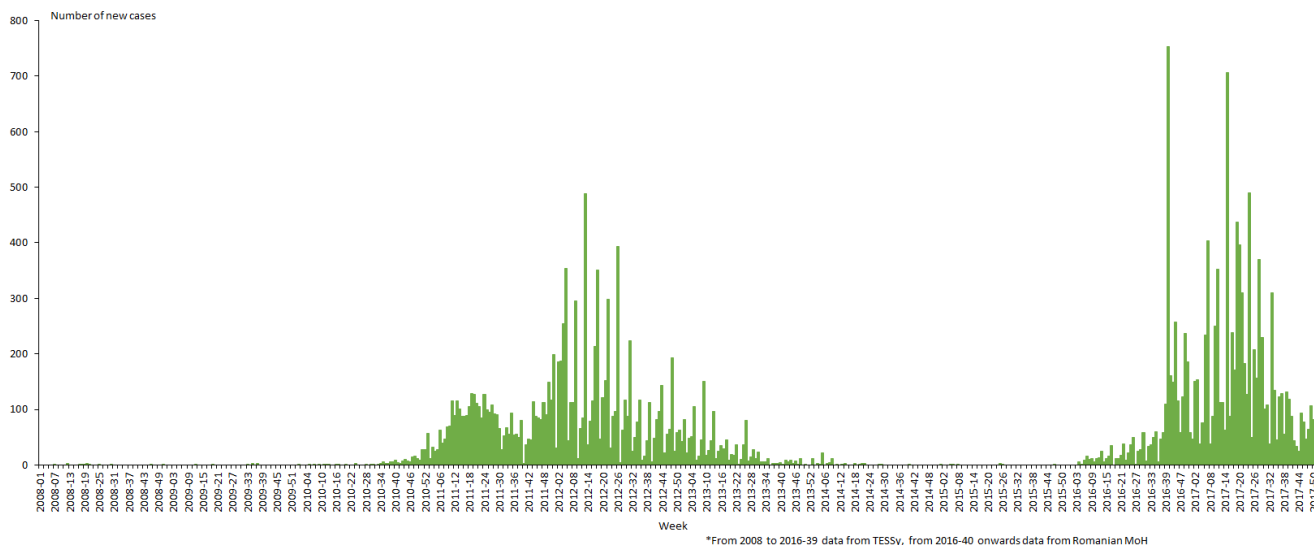
In the EU/EEA, only seven countries report having reached the target of 95% measles vaccination coverage necessary to prevent outbreaks and eliminate the disease. The current epidemiological events are putting the elimination status of some countries at stake and will require sustained efforts to increase population immunity to measles and halt transmission.

Actions

All EU/EEA countries report on a monthly basis measles cases through TESSy to ECDC and data are published monthly. ECDC monitors European outbreaks through epidemic intelligence activities.

New measles cases per week of reporting, week 2008-1 to 2018-1, Romania

Data source: National Institute of Public Health Romania and TESSy (ECDC)



New! Meningitis - Africa - 2018

Opening date: 6 February 2018

Latest update: 9 February 2018

Epidemiological summary

During the first three weeks of 2018, WHO has reported 1 074 meningitis cases, including 89 deaths (CFR: 8.3%). The Democratic Republic of the Congo is reporting more than 50% of the cases (434) followed by Burkina Faso (161), Nigeria (143), Ghana (129), Togo (36), Benin (27), Niger (25), Uganda (25), Chad (23), Ivory Coast (20), Central African Republic (18), Guinea (16), Senegal (16), Gambia (1) and South Sudan (1).

As of epidemiological week three of 2018, 412 samples had been tested in eight countries.

Neisseria meningitidis W135 was found in eight samples, *Neisseria meningitidis* C was found in two samples, *Neisseria meningitidis* X was found in one sample and *Neisseria meningitidis* B was found in one sample. *Streptococcus pneumoniae* was identified in 30 samples.

In 2017, for the entire year, WHO reported 34 103 cases including 2 278 deaths. Among these cases, 891 were positive for *Neisseria meningitidis* C, 333 for *Neisseria meningitidis* X and 263 for *Neisseria meningitidis* W135. *Streptococcus pneumoniae* was identified in 809 samples

In addition to the WHO meningitis weekly bulletin, WHO and media are reporting additional cases in two countries:

Liberia: Since December 2017, a cluster of undiagnosed illness and deaths has been reported from Lofa county, north-eastern Liberia bordering Guinea and Sierra Leone. Samples taken from two suspected cases were positive for *Neisseria meningitidis* serogroup W.

Cameroon: In January 2018, Cameroon reported three deaths in a family in Yaounde due to meningococcal meningitis infection.

Source: [WHO meningitis weekly bulletin](#) | [WHO-AFRO](#) | [MoH Cameroon](#)

ECDC assessment

The transmission season for meningococcal meningitis usually occurs during the dry season, from December to June in the African meningitis belt. The risk to EU citizens traveling in the meningitis belt at this time of the year remains low and vaccination should be considered prior to traveling.

Actions

ECDC is monitoring this event through epidemic intelligence and will report only if there is an increase in cases or geographical extension.

Mass gathering monitoring – Multistate (World) – South Korea Winter Olympics 2018

Opening date: 27 November 2017

Latest update: 9 February 2018

Epidemiological summary

The Korea Centers for Disease Control and Prevention (KCDC) reported 128 confirmed norovirus cases, which occurred between 1 and 8 February 2018 in PyeongChang, South Korea. According to media, athletes were not affected. These people have been quarantined and are being monitored in order to prevent any risk of spreading. The cases are from Horeb Youth Centre (97), PyeongChang (11) and Gangneung (20). [Norovirus](#) outbreaks are not unexpected during mass gathering events.

Currently, KCDC is reporting an increase in seasonal influenza with predominance of influenza type B and A(H3N2), mostly affecting children 7-18 years of age. Since 2017, several outbreaks of highly pathogenic avian influenza A(H5N6) have been detected in birds and poultry. Even though no human cases of A(H5N6) were detected during these outbreaks and the risk of human infection is considered very low, it is recommended that contact with birds should be avoided and poultry farms should not be visited. According to WHO an increase in seasonal influenza has also been observed in the Western Pacific Region.

[South Korea](#) has reported nine cases of measles in 2018 as of 27 January 2018. In 2017, South Korea reported 11 cases, in 2016 there were 18 cases, in 2015 seven cases, and in 2014, 442 cases.

Sources: [Korean Centres for Disease Control and Prevention](#) | [KCDC mobile app](#) | [ECDC CDTR](#) | [WHO travel advice](#) | media | [WHO](#) |

ECDC assessment

One week before and one week after the event, the ECDC epidemic intelligence team will enhance their monitoring activities related to the Winter Olympic Games, with a focus on infectious diseases that might pose a risk to public health.

The winter season in South Korea poses an increased risk of respiratory and gastrointestinal infections. Additionally, mass gatherings indoors during the Winter Olympics could increase the risk of spread of infections via aerosols and direct human contact. This could have an impact on tuberculosis, meningococcal infection, measles, diphtheria, mumps and other vaccine-preventable diseases. As mosquito and tick activity is very low or non-existent at the time, the risk of vector-borne diseases is considered low during the Winter Olympics and Paralympics.

People who plan to travel to South Korea are advised to consult their healthcare providers regarding vaccinations as there are currently multiple ongoing outbreaks of measles, diphtheria, and mumps, both in Europe and worldwide. The importation of these infections to South Korea should be avoided, as should the importation of infections to the travellers' countries of residence on return. If travellers need medical help upon their return, they should inform their consulting healthcare provider about their trip to South Korea.

The risk of food and water-borne outbreaks is, in general, increased during mass-gatherings when large numbers of people eat from commercial outlets, many of which may have been setup temporarily and some that may not meet food safety standards. Additionally, travellers should follow good hygiene practices and recommendations regarding food- and waterborne diseases.

Actions

To monitor the public health threat, ECDC is in contact with the [Korean CDC](#) and will report through the CDTR if any events are detected.

On 20 January 2018, ECDC published a news item related to the event in the [weekly communicable disease threat report](#). There are also dedicated filters for the Olympic Winter Games on MedISys, one for the [Olympic Games in general](#) and [one with a list of diseases](#).

Yellow fever – Brazil – 2017

Opening date: 16 January 2017

Latest update: 9 February 2018

Epidemiological summary

Between July 2017 and week 5 of 2018, the Ministry of Health in Brazil reported 353 confirmed human cases of yellow fever including 98 deaths. The cases occurred in São Paulo (161), Minas Gerais (157), Rio de Janeiro (34) and Distrito Federal (1).

Between July 2017 and week 5 of 2018, the Ministry of Health reported 499 confirmed epizootics in non-human primates. Of those, 433 were reported in São Paulo State, 50 in Minas Gerais, 12 in Rio de Janeiro State and one each in Mato Grosso and Espírito Santo. The majority (87%) of the confirmed epizootics were registered in the state of São Paulo.

On 15 January 2018, the Netherlands reported through EWRS one confirmed yellow fever case in an unvaccinated 46-year-old male returning from Brazil. The person had visited Brazil between 19 December 2017 and 8 January 2018 and stayed in an area about 50 kilometres north of São Paulo, in the villages of Mairiporã and Atibaia.

WHO has determined that, in addition to the areas listed in previous updates, the entire state of São Paulo should now be considered at risk of yellow fever transmission. Consequently, vaccination against yellow fever is recommended for international travellers visiting any area in the state of São Paulo.

Sources: [MoH](#) | [ProMED](#) | [WHO](#)

ECDC assessment

The detection of confirmed cases of yellow fever in São Paulo State and the identification of epizootics in the urban area of São Paulo City (12 million inhabitants) is of concern. Authorities are conducting a vaccination campaign in the urban area of São Paulo City, an area previously considered not at risk for yellow fever transmission. In this context, European citizens travelling to the city of São Paulo should be vaccinated.

Travellers planning to visit areas at risk for yellow fever in Brazil should receive yellow fever vaccine at least 10 days prior to travelling, follow measures to avoid mosquito bites, and be aware of yellow fever symptoms and signs.

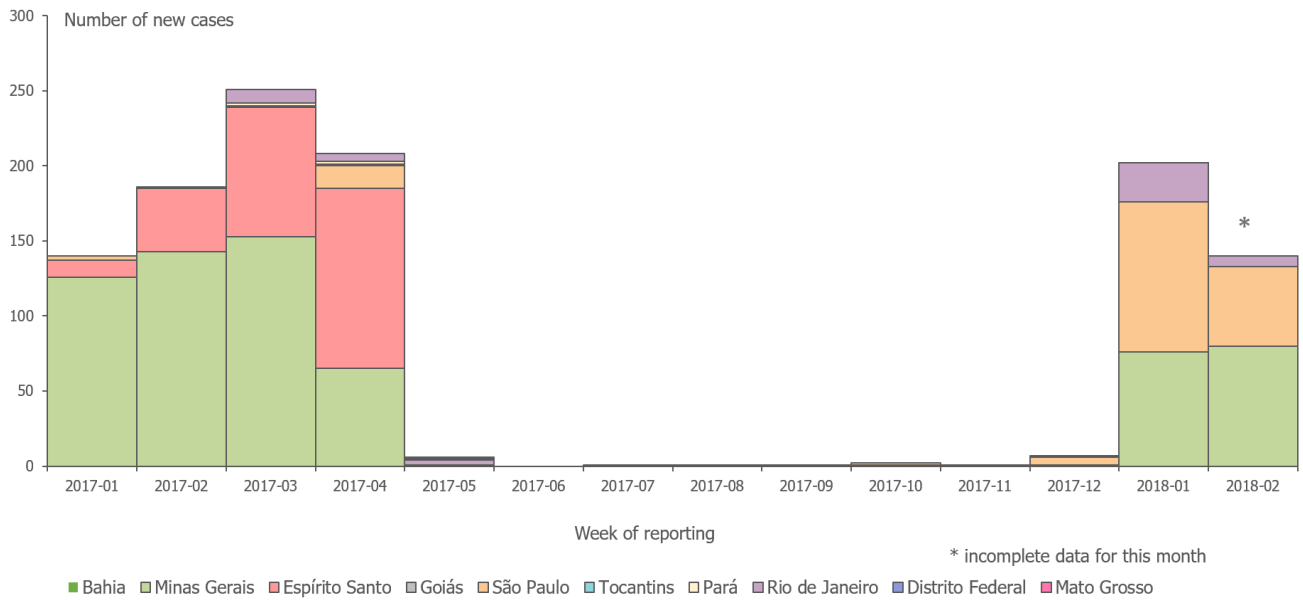
In Europe, *Aedes aegypti*, the primary vector of yellow fever in urban settings, has been established in Madeira, Portugal, since 2005. Presence of *Aedes aegypti* was first reported in 2017 in Fuerteventura, Canary Islands and Spain. The risk of the virus being introduced into local competent (or potentially competent) vector populations in the continental EU and the EU outermost region of Madeira and the Canary Islands through viraemic travellers from Brazil is considered to be very low.

Actions

ECDC published updates of its rapid risk assessment 'Outbreak of yellow fever in Brazil' on [13 April 2017](#) and [18 January 2018](#).

Distribution of confirmed human cases of yellow fever by month, Brazil, January 2017 - February 2018

ECDC



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