

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

Listeria monocytogenes IVb, ST6 - Multistate (Europe) - 2017

Opening date: 30 November 2017

Latest update: 8 December 2017

A multi-country outbreak involving 26 *Listeria monocytogenes* cases including four fatal cases in five Member States (Austria, Denmark, Finland, Sweden and the United Kingdom) is currently ongoing. Human isolates belonging to the same genomic cluster were reported since 2015.

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

Opening date: 11 October 2017

Latest update: 8 December 2017

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

→ Update of the week

Update of the week 2017-48 (27 November - 3 December 2017)

Influenza activity across Europe remained at low levels. For week 2017-48, 8.8% of the sentinel specimens tested positive for influenza viruses, which is higher than the previous week (7%). Data from 16 countries or regions reporting to the EuroMOMO project indicated that all-cause excess mortality was within normal range for this time of year.

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

Rubella – Multistate (EU) – Monitoring European outbreaks

Opening date: 7 March 2012

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: 8 December 2017

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. Since 15 September 2017, ECDC has been reporting EU and global outbreaks of measles in the CDTR on a monthly basis unless new developments are taking place.

→Update of the week

There is a decreasing trend of measles cases in Italy and Romania. Greece continues reporting a substantial number of cases, particularly in the south of the country. Updates are provided for Austria, Germany, Greece, Ireland, Italy, Romania, Spain and the UK. Updates outside EU/EEA countries are provided for Kosovo*, Serbia and Ukraine.

*This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence

Non EU Threats

Poliomyelitis – Multistate (World) – Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 8 December 2017

Global public health efforts are ongoing to eradicate polio 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 14 November 2017, WHO agreed that the spread of poliovirus remains a public health event of international concern and extended the temporary recommendations for an additional three months. The last locally-acquired wild polio cases within the current EU borders were reported from Bulgaria in 2001. In June 2002, the WHO European Region was officially declared polio-free.

→Update of the week

On 14 November 2017 the fifteenth [IHR emergency committee](#) regarding the international spread of poliovirus unanimously agreed that the risk of international spread of poliovirus remains a Public Health Emergency of International Concern (PHEIC), and recommended the extension of revised Temporary Recommendations for further three months. Based on the current situation regarding WPV1 and cVDPV, and reports by Afghanistan, the Democratic Republic of Congo, Nigeria, Pakistan, and the Syrian Arab Republic, the Director-General accepted the Committee's assessment and on 20 November 2017 determined that the situation relating to poliovirus continues to constitute a PHEIC, with respect to WPV1 and cVDPV.

Since the last CDTR on 3 November 2017 and as of 5 December 2017, Afghanistan has reported three cases of wild poliovirus type 1 (WPV1). Syria has reported 17 cases of type 2 circulating vaccine-derived poliovirus (cVDPV2). An advance notification was received of one new wild poliovirus type 1 (WPV1) case in Sindh province, Pakistan. The case will be officially reflected in next week's global data reporting.

In 2017, as of 5 December, 16 wild poliovirus cases have been reported, 11 cases from Afghanistan and five cases from Pakistan. In addition, 80 circulating cVDPV2 cases have been reported in 2017, ten from the Democratic Republic of Congo, and 70 from Syria.

Plague - Madagascar - 2017

Opening date: 15 September 2017

Latest update: 8 December 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 port of Toamasina, the largest cities in Madagascar. Since the peak in the first two weeks of October 2017, a decreasing trend has been observed.

→Update of the week

According to [WHO](#), since 1 August and as of 26 November 2017, 2 417 confirmed, probable and suspected cases of plague, including 209 deaths (case fatality rate 8.7%) have been reported from 57 of 114 districts in the country. This is an increase by 33 cases and two deaths since the previous CDTR published on 1 December. Of the 2 417 cases, 1 854 (77%) were clinically classified as pulmonary plague, 355 (15%) were bubonic plague, one was septicaemic, and 207 were not classified. Among the cases, 81 are healthcare workers.

To date, no cases outside of Madagascar related to this outbreak have been detected. The number of reported cases has been declining over the past month, suggesting that the control measures implemented have been effective.

Influenza A(H7N9) – China – Monitoring human cases

Opening date: 31 March 2013

Latest update: 8 December 2017

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, cases continue to be reported from China. 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

On 2 December 2017, the first case of the sixth season of influenza A(H7N9) was reported. A 64-year-old man, from Yunnan province, [China](#), reported contact with dead poultry prior to the onset of symptoms on 21 November.

[ECDC/EFSA joint report: Avian influenza overview October 2016–August 2017](#), published on 16 October 2017, provides a comprehensive overview and assessment of the avian influenza outbreaks during this season.

Middle East respiratory syndrome coronavirus (MERS-CoV) – Multistate

Opening date: 24 September 2012

Latest update: 8 December 2017

Since the disease was first identified in Saudi Arabia in September 2012, approximately 2 000 MERS-CoV cases have been detected in over 20 countries. In Europe, eight countries have reported confirmed cases, all with direct or indirect connection with the Middle East. The majority of MERS-CoV cases continue to be reported from the Middle East. The source of the virus remains unknown, but the pattern of transmission and virological studies point towards dromedary camels in the Middle East as being a reservoir from which humans sporadically become infected through zoonotic transmission. Human-to-human transmission is amplified among household contacts and in healthcare settings.

→Update of the week

Between 31 October and 5 December, [Saudi Arabia](#) reported 17 MERS-CoV cases. Of the 17 cases, 13 were male and four were female. Sixteen are primary cases of which six reported direct or indirect camel contact. One case is a household contact.

On 1 November, WHO reported one case in [Oman](#). The case, a 27-year-old male living in Sharqiyah Region, reported contact with dromedaries prior to symptom onset on 21 October 2017. Prior to this case, the most recent case of MERS-CoV from Oman was reported on 30 August 2017. This is the tenth case reported by Oman since 2013.

Sources: [WHO](#) | [MoH Saudi Arabia](#)

Yellow fever - Nigeria - 2017

Opening date: 14 November 2017

Latest update: 8 December 2017

Nigeria has reported its first yellow fever outbreak since 2002. Yellow fever is a mosquito-borne viral infection occurring in some of the tropical areas of Africa and South America. The last major outbreaks notified in Africa were in Angola and the Democratic Republic of the Congo in 2016.

→Update of the week

Since 12 September 2017 and as of 21 November 2017, [Nigeria](#) has reported 276 cases, including 45 deaths. This is an increase by 97 cases and 14 deaths since the previous update on 7 November.

II. Detailed reports

Listeria monocytogenes IVb, ST6 - Multistate (Europe) - 2017

Opening date: 30 November 2017

Latest update: 8 December 2017

Epidemiological summary

On 3 November 2017, Finland reported in EPIS-FWD a cluster of 13 cases of *Listeria* serogroup IIa, MLST 451, from different parts of Finland. The cases were reported between January 2016 to September 2017. As of 29 November 2017, four Member States have reported human isolates with close genetic matches with the Finnish cluster (zero to one allelic differences based on cgMLST or zero to one SNP difference). As such, a multi-country foodborne outbreak has been verified in five countries, involving 26 confirmed cases, of which four were fatal.

Austria reported two human isolates from 2016 with zero and one allelic difference from the Finnish outbreak reference strain. Denmark reported two human isolates with sampling dates in January and May 2017 with one allelic difference to the reference strain. Sweden reported a cluster of five human isolates matching the Finnish outbreak reference strain with zero SNP difference. The United Kingdom reported four human isolates between 2015 and 2017 with zero or one SNP difference from the Finnish outbreak reference strain.

From 2012 to 2016, between 1 754 and 2 555 *Listeria monocytogenes* annual cases were reported to TESSy by 30 EU/EEA countries. PCR serogroup IVb is the most commonly reported serogroup, with an annual number of notifications from 332 to 403 (44% of known data) reported by 13 EU/EEA countries. France, Germany and the United Kingdom accounted for 45%, 23% and 17%, respectively, of the reported *Listeria monocytogenes* PCR serogroup IVb cases in this period. Cases of PCR serogroup IVb did not differ significantly in gender distribution (52% in males) and were more common among persons over 65 years (61% of cases) for both genders. The majority (99%) of the PCR serogroup IVb cases were of domestic origin.

ECDC assessment

WGS analyses have confirmed that the isolates from human cases are genetically related and most likely associated with a common source of infection. As there is no definitive evidence to implicate one or several food sources, the source (or sources) may still be active and new cases associated with this outbreak may therefore continue to occur. ECDC and the affected countries are preparing an EU/EEA questionnaire to gather epidemiological information from the different investigations.

Since only a minority of EU Member States use WGS to characterise isolates for invasive listeriosis or routinely perform and report PFGE data it is possible that more countries are affected by the outbreak. In order to monitor circulation of this strain and to assess the spread of the outbreak strain across countries, Member States should consider enhancing surveillance of invasive listeriosis. To identify the source of the outbreak, Member States should consider interviewing recent and new listeriosis patients using a standard questionnaire. Countries are encouraged to report new cases and/or critical developments in the Epidemic Intelligence Information System for Food- and Waterborne Diseases and Zoonoses (EPIS-FWD).

Actions

In collaboration with the affected countries, ECDC has formed an international outbreak investigation team. ECDC and Member States have prepared an EU/EEA outbreak case definition. An EU/EEA questionnaire is under preparation to gather information on cases associated with this event. The WGS data from Denmark, Finland and the United Kingdom are collated in a joint multi-country analysis.

ECDC produced a rapid risk assessment on this event.

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

Opening date: 11 October 2017

Latest update: 8 December 2017

Epidemiological summary

2017/2018 season overview

Since week 2017-40, a relatively low number of influenza viruses have been detected in sentinel and non-sentinel specimens. From sentinel sources, a slightly higher proportion of type B viruses compared to type A viruses has been detected. Approximately equal proportions of A(H1N1)pdm09 and A(H3N2) viruses have been detected. With regard to type B viruses from both sentinel

and non-sentinel sources, B/Yamagata lineage viruses have greatly outnumbered those of the B/Victoria lineage. While low in number, of the A(H3N2) viruses genetically characterised, 61% belonged to clade 3C.2a, the vaccine virus clade, as described in the [WHO recommendations for vaccine composition for the northern hemisphere 2017–18](#), and 39% to clade 3C.2a1 of which the viruses are antigenically similar to those of clade 3C.2a.

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](#).

Rubella – Multistate (EU) – Monitoring European outbreaks

Opening date: 7 March 2012

Epidemiological summary

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

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 closely monitors rubella transmission in Europe by analysing the cases reported to The European Surveillance System and through its epidemic intelligence activities. Twenty-eight EU/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: 8 December 2017

Epidemiological summary

According to national public health authorities, measles has caused 48 deaths in EU countries in 2016 and 2017. In 2016, 12 deaths occurred in Romania and one in the UK. In 2017, 35 deaths were reported from Romania (24), Italy (4), Greece (2), Bulgaria (1), Germany (1), Portugal (1), France (1) and Spain (1). All EU/EEA countries have reported measles cases in 2017, except for Latvia, Liechtenstein and Malta. Updates for non EU/EEA countries are provided for Kosovo*, Serbia and Ukraine.

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

[Austria](#) has reported eight cases since the previous update on 10 November 2017. In 2017, as of 1 December, Austria has reported 93 cases. In 2016, Austria reported 27 cases during the year (source: [TESSy](#)).

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[Germany](#) has reported six cases since the previous report on 10 November 2017. In 2017, as of 12 November, Germany has reported 904 cases. During the same time period in 2016, Germany reported 291 cases.

[Greece](#) has reported 322 cases and one additional death since the previous report on 10 November 2017. Between 17 May and 3 December 2017, Greece reported 690 cases, with a higher incidence in southern Greece. Two deaths were reported. Most cases were children between one and nine years of age, followed by adults (25-44 years of age), unvaccinated or incompletely vaccinated.

[Ireland](#) has reported 23 cases since the previous report on 10 November 2017. In 2017, as of 26 November, Ireland has reported 39 cases. During the same period in 2016, Ireland reported 43 cases.

[Italy](#) has reported 79 cases since the previous report on 10 November 2017. In 2017, as of 28 November, Italy has reported 4 854 cases, including four deaths. Of these cases, 313 are healthcare workers. The median age is 27 years; 88% of the cases were not vaccinated, and 6% received only one dose of vaccine. In 2016, Italy reported 862 cases during the whole year (source: [TESSy](#)).

[Romania](#) has reported 282 cases and one death since the previous report on 10 November 2017. Since 1 January 2016 and as of 1 December 2017, Romania has reported 10 010 cases, including 36 deaths. Of these, 1 969 cases were reported in 2016 and 8 041 cases were reported in 2017.

[Spain](#) has reported 162 cases as of 26 November in 2017. In 2016, Spain reported 38 cases during the year (source: [TESSy](#)).

[The UK](#): As of 29 November 2017, England has reported 16 confirmed cases in Leeds, 11 confirmed cases in Liverpool and nine confirmed cases in Birmingham. All of the cases have been reported in children and adults who have not received two doses of the MMR vaccine.

Epidemiological summary for countries outside EU/EEA since last month

[Kosovo*](#) has reported over 800 cases including two deaths, a 13-month-old baby and a 37-year-old adult as of 21 November in 2017, according to media.

*This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence

[Serbia](#) has reported 257 cases since the previous report on 10 November 2017. Between the beginning of October and 1 December 2017, Serbia has reported 322 cases, of which 77 were confirmed. Most of the cases (91%) were unvaccinated, incompletely vaccinated or have unknown vaccination status.

Ukraine has reported outbreaks in several regions in 2017: [Zaporozhye](#) (122 cases), [Ivano-Frankivsk](#) (731 cases), [Zakarpattya](#) (116 cases), [Odessa](#) (812 cases, including two deaths, according to media), [Lviv](#) (61), [Bukovina](#) (190 cases, according to media), [Kiev](#) (79 cases, according to media), [Volyn](#) (34 cases), [Ternopil](#) (70 cases, and 10, according to [media](#) reports).

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

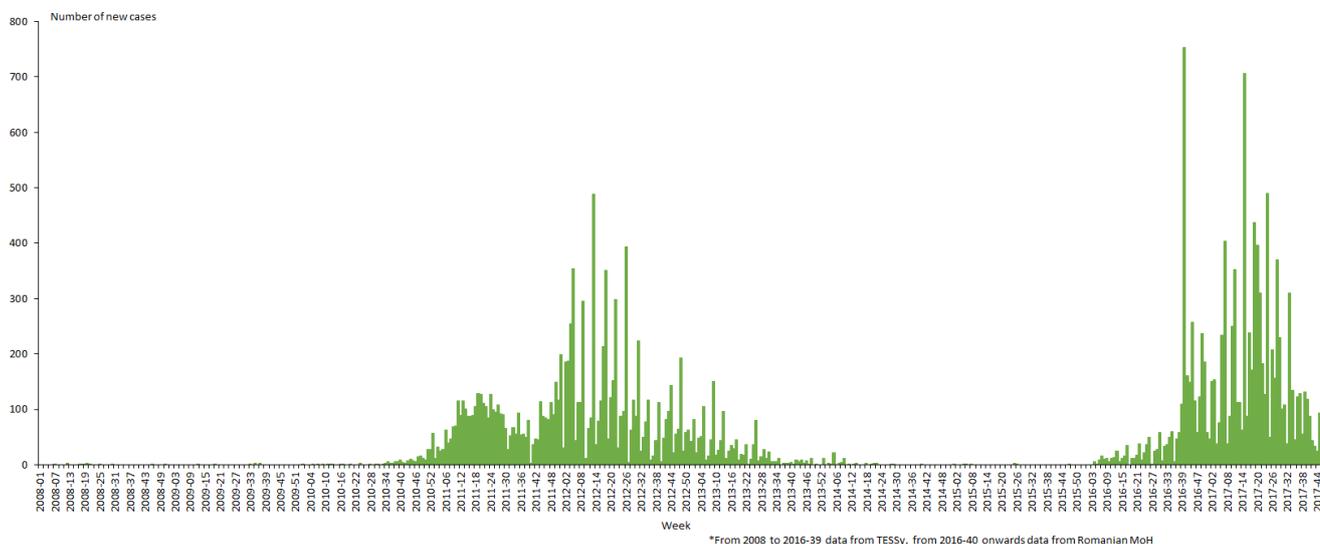
Measles outbreaks continue to occur in a number of EU/EEA countries. There is a risk of spread and sustained transmission in areas with susceptible populations. Vaccination with at least two doses remains the most effective measure. The progress towards elimination of measles in the WHO European Region is assessed by the European Regional Verification Commission for Measles and Rubella Elimination (RVC). At the [sixth meeting of the RVC](#) for measles and rubella in June 2017, 33 of the 53 countries in the WHO European Region, 22 of which in the EU/EEA, were declared to have reached the elimination goal for measles. Nine countries, of which four in the EU/EEA, were deemed to have interrupted endemic transmission for between 12 to 36 months, meaning they are on their way to achieving the elimination goal. However, four EU/EEA countries were considered to still experience endemic transmission: Belgium, France, Italy and Romania.

Actions

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

New measles cases per week of reporting, week 2008-1 to 2017-48, Romania

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



Poliomyelitis – Multistate (World) – Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 8 December 2017

Epidemiological summary

In 2017, as of 5 December, 16 wild poliovirus cases have been reported, 11 cases from Afghanistan and five cases from Pakistan. In 2016, 34 cases were reported during the same period. In addition, 80 circulating cVDPV2 cases have been reported in 2017, ten from the Democratic Republic of Congo and 70 from Syria. The onset of paralysis in the Syrian cases was between 3 March and 9 September 2017. Sixty-seven of the cases are from Deir-Ez-Zour governorate (with the bulk of the cases from Mayadeen district), two cases are from Raqqa governorate (one from Talabyad district and one from the newly infected Thawra district), and one is from Homs governorate (Tadmour district). In 2016, only three cVDPV2 cases were reported during the same period worldwide.

ECDC links: [ECDC poliomyelitis web page](#) | [Information to travellers to polio-infected countries](#)

Sources: [WHO IHR Emergency Committee](#) | [Polio eradication: weekly update](#)

ECDC assessment

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

ECDC links: [Rapid Risk Assessment on suspected polio cases in Syria and the risk to the EU/EEA](#) | [ECDC poliomyelitis web page](#)

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.

Plague - Madagascar - 2017

Opening date: 15 September 2017

Latest update: 8 December 2017

Epidemiological summary

The outbreak began in August 2017 with the death due to pneumonic plague of a 31-year-old man who travelled in a crowded minibus taxi towards the capital city of Antananarivo. On 11 August the outbreak was recognised by the local authorities. Since 1 August and as of 26 November 2017, 2 417 confirmed, probable and suspected cases of plague, including 209 deaths (case fatality rate 8.7%) have been reported from 57 of 114 districts in the country. Of these, 1 854 (77%) were clinically classified as pulmonary plague, 355 (15%) were bubonic plague, one was septicaemic and 207 were not classified. At least 81 healthcare workers have contracted plague since the beginning of the outbreak. Of the 1 854 clinical cases of pneumonic plague, 390 (21%) have been confirmed, 618 (33%) are probable and 846 (46%) remain suspected.

Thirty-three strains of *Yersinia pestis* have been isolated and all are sensitive to the antibiotics recommended by the National Program for the Control of Plague. The Analamanga region, where the capital city of Antananarivo is located, has been the most affected with 68% of recorded cases.

All 7 318 contacts identified to date have completed the seven-day follow-up and a course of prophylactic antibiotics.

On 26 November 2017, thirteen people were still hospitalised due to plague. The latest confirmed bubonic case had the date of onset on 18 November 2017, and the latest confirmed pneumonic plague case had the date of onset on 19 November 2017. This was a secondary pneumonic plague case with a primary bubonic form.

To date, no cases outside of Madagascar related to this outbreak have been detected. On 27 November, WHO published a [news release](#) stating that the pneumonic plague outbreak in Madagascar was slowing down but that the response measures must be sustained. Therefore, it is critical to sustain ongoing operations to minimise bubonic plague infections and human-to-human transmission of pneumonic plague. On 27 November 2017, the Ministry of Health of Madagascar officially announced the containment of the acute urban pneumonic plague outbreak.

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 in this outbreak has been of concern. This outbreak is the largest in Madagascar for a decade. The risk of further transmission in the country is now considered to be moderate. 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 very low and the risk to travellers from the EU or for importation to the EU is also considered to be very 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. 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 will close this threat and will report if there are changes in the epidemiology.

Influenza A(H7N9) – China – Monitoring human cases

Opening date: 31 March 2013

Latest update: 8 December 2017

Epidemiological summary

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then and up to 5 December 2017, 1 565 cases have been reported, including 568 deaths. The outbreak shows a seasonal pattern. The first wave in spring 2013 (weeks 2013-7 to 2013-40) resulted in 135 cases, the second wave (weeks 2013-41 to 2014-40) led to 320 cases, the third wave (weeks 2014-41 to 2015-40) caused 223 cases, the fourth wave (weeks 2015-41 to 2016-40) caused 120 cases, the fifth wave (weeks 2016-41 to 2017-40) resulted in 766 cases, and the sixth wave which started on week 2017-40 has resulted in one case as of 5 December. During the fifth wave, 28 human cases with highly pathogenic avian influenza (HPAI) A(H7N9) virus were reported in [China](#).

The 1 565 cases were reported from Zhejiang (310), Guangdong (258), Jiangsu (253), Fujian (108), Anhui (101), Hunan (95), Shanghai (56), Jiangxi (50), Sichuan (38), Beijing (35), Guangxi (32), Hubei (31), Hebei (29), Henan (28), Shandong (27), Hong Kong (21), Guizhou (20), Xinjiang (13), Chongqing (9), Gansu (5), Shaanxi (7), Yunnan (8), Taiwan (5), Tianjin (5), Liaoning (5), Jilin (3), Tibet (3), Shanxi (3), Inner Mongolia (2), and Macau (2). Three imported cases were reported in Canada (2) and Malaysia (1).

ECDC links: [Zoonotic influenza web page](#) | [ECDC rapid risk assessment Influenza A\(H7N9\) virus in China - implications for public health - 7th update, 3 July 2017](#) | [ECDC/EFSA joint report: Avian influenza overview October 2016–August 2017](#)

Sources: [Chinese CDC](#) | [Hong Kong CHP](#) | [WHO](#) | [WHO FAQ page](#) | [ECDC](#)

ECDC assessment

Based on the seasonal pattern of avian influenza (H7N9) viruses, more human cases are expected as the influenza activity increases during the winter months. The possibility of humans infected with influenza A(H7N9) returning to the EU/EEA cannot be excluded. However, the risk of the disease spreading in Europe through humans is still considered low, as there is no evidence of sustained human-to-human transmission.

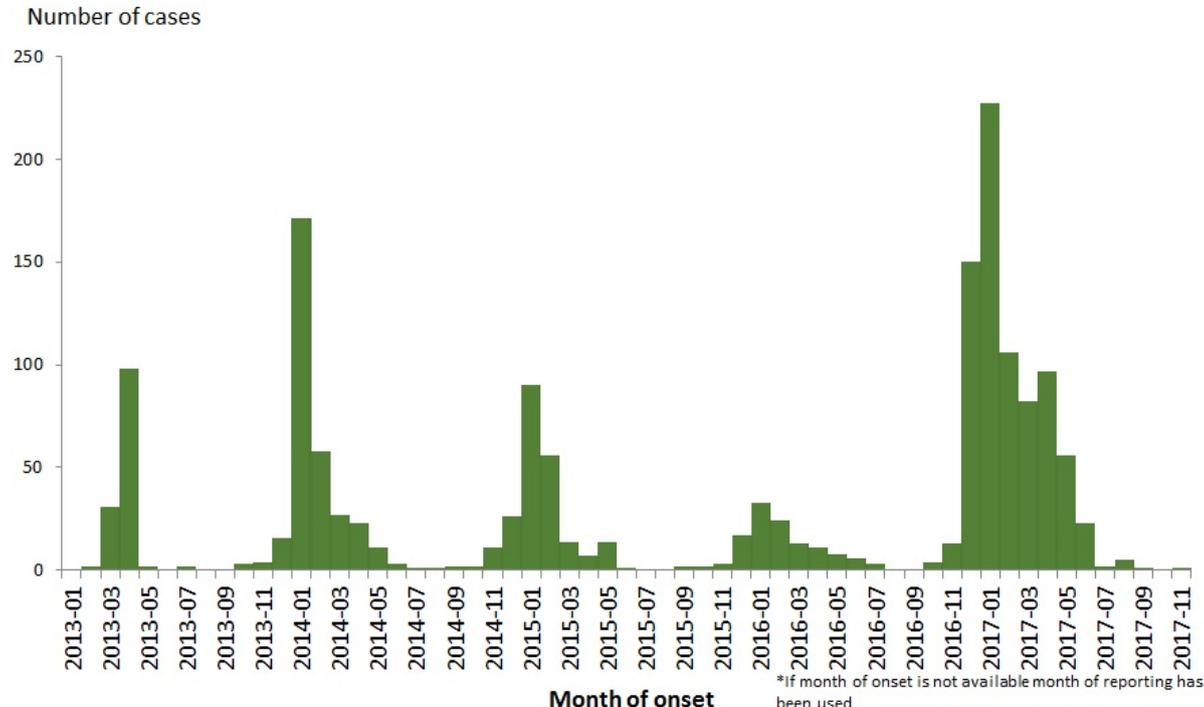
Sources: [WHO](#)

Actions

ECDC published the seventh update of its [rapid risk assessment](#) on 3 July 2017, addressing the genetic evolution of influenza A (H7N9) virus in China and the implications for public health. ECDC monitors this event through epidemic intelligence and will report monthly.

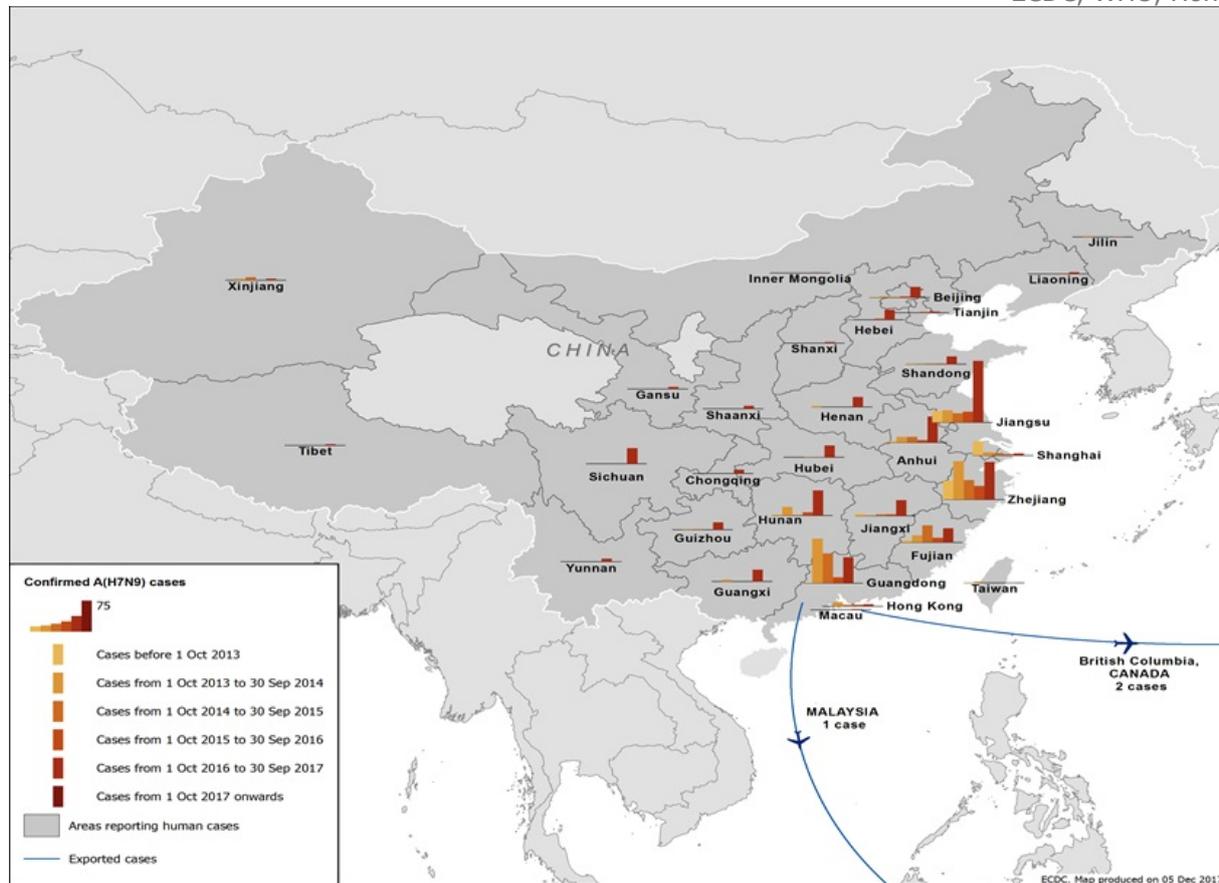
Distribution of confirmed human cases of A(H7N9) by first available month February 2013 – 4 December 2017 (n= 1 565)

ECDC, WHO, Hong Kong



Distribution of confirmed cases of A(H7N9) by season, February 2013 to 4 December 2017

ECDC, WHO, Hong Kong



Middle East respiratory syndrome coronavirus (MERS-CoV) – Multistate

Opening date: 24 September 2012

Latest update: 8 December 2017

Epidemiological summary

Since April 2012 and as of 5 December 2017, 2 138 cases of MERS, including 799 deaths, have been reported by health authorities worldwide.

Web sources: [ECDC's latest rapid risk assessment](#) | [ECDC novel coronavirus webpage](#) | [WHO](#) | [WHO MERS updates](#) | [Saudi Arabia MoH](#) | [ECDC factsheet for professionals](#)

ECDC assessment

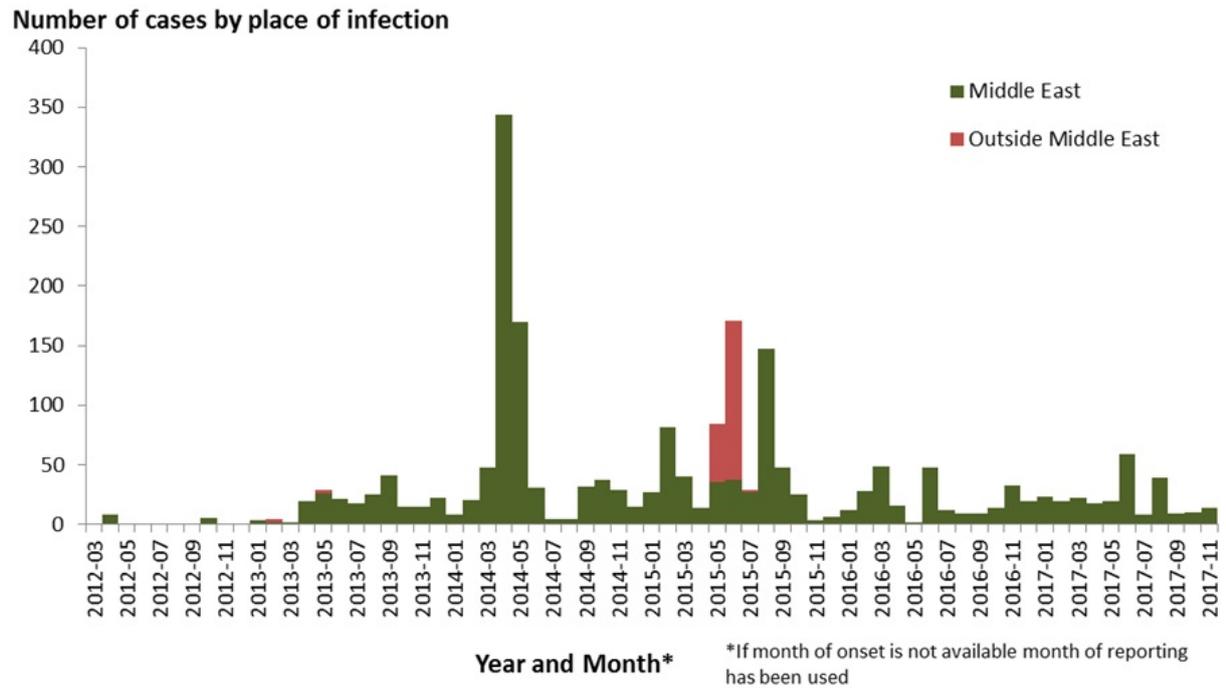
The risk of sustained human-to-human transmission in Europe remains very low. ECDC's conclusion continues to be that the MERS-CoV outbreak poses a low risk to the EU, as stated in a [rapid risk assessment](#) published on 21 October 2015, which also provides details on the last case reported in Europe.

Actions

ECDC published the 21st update of its MERS-CoV [rapid risk assessment](#) on 21 October 2015.

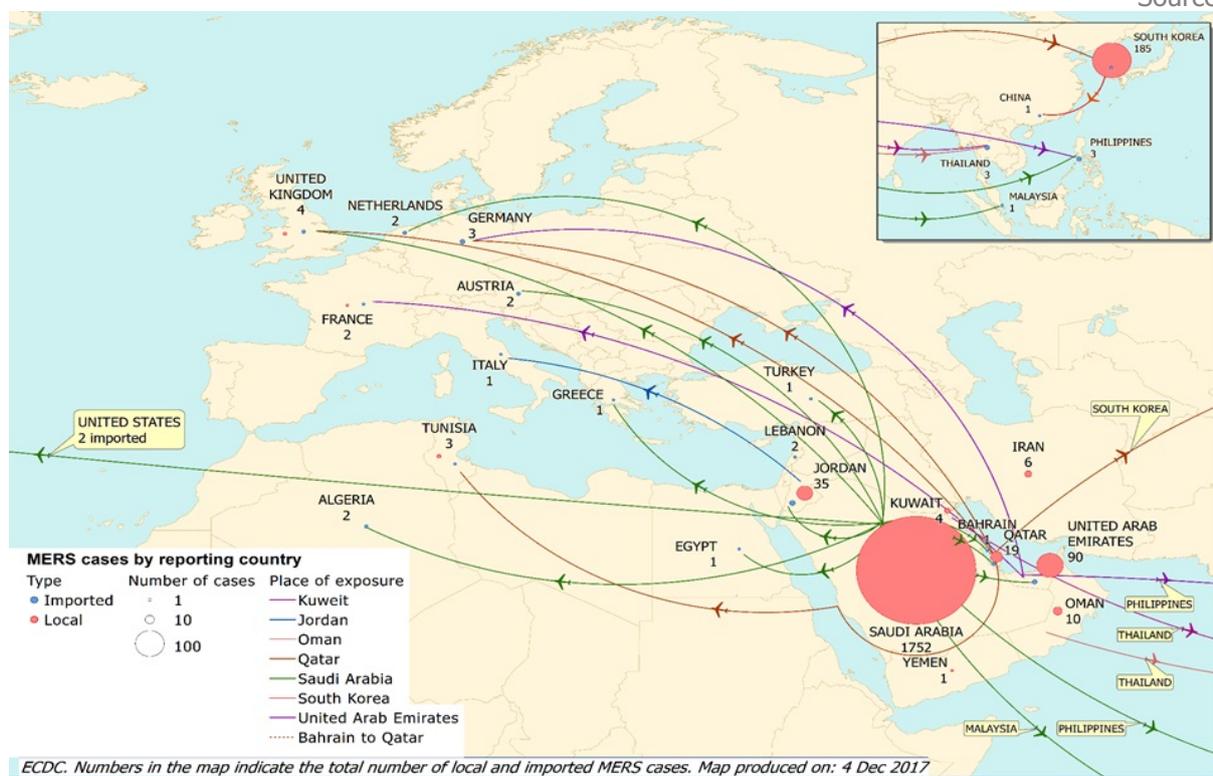
Distribution of confirmed cases of MERS-CoV by first available month and region, from March 2012 and as of 30 November 2017

ECDC, Saudi Arabia, WHO



Distribution of confirmed cases of MERS-CoV by country of probable infection and country of report from March 2012 and as of 4 December 2017

Source: ECDC



Yellow fever - Nigeria - 2017

Opening date: 14 November 2017

Latest update: 8 December 2017

Epidemiological summary

As of 21 November 2017, Nigeria has reported 276 cases, including 45 deaths. Samples have been collected from 133 patients; 66 tested positive for yellow fever and one was inconclusive according to test results in Nigeria. Fourteen of Nigeria's 36 states have reported suspected cases, and four states have reported confirmed cases (Kwara, Kogi, Kano and Zamfara). The first yellow fever case was confirmed on 12 September 2017 in a seven-year-old girl in Kwara State in the western part of Nigeria. According to WHO, the International Coordinating Group (ICG) on vaccine provision for yellow fever has provided 1.4 million vaccine doses for an immunisation campaign that has started on 2 December 2017 to help control the ongoing yellow fever outbreak in Nigeria. Previously, a vaccination campaign in Nigeria was carried out in October 2017 targeting 874 000 people.

Sources: [WHO](#) | [GAVI](#) | [NathNac](#) | [Nigerian CDC](#)

ECDC assessment

12/14

This outbreak is unusual as the last outbreak in this country was reported in 2002; this outbreak resulted in 20 cases, including 11 deaths. The current geographical extension of the outbreak and the low vaccination coverage are of concern. According to GAVI, in 2012, WHO and UNICEF estimated that only 25% of the six million children born each year received yellow fever vaccines as part of a routine infant package. The risk for EU travellers is very low and according to NathNac, vaccination is recommended for all travellers over nine months of age.

Actions

ECDC is monitoring this threat through epidemic intelligence.

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