COMMUNICABLE DISEASE THREATS REPORT

CDTR
Week 50, 6-12 December 2015

All users

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

Influenza - Multistate (Europe) - Monitoring 2015-2016 season

Opening date: 2 October 2015 Latest update: 11 December 2015

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

➔Update of the week

In week 49, the intensity of influenza activity across the WHO European Region was at a low level in all 42 countries reporting. A total of 20 countries reported sporadic geographic spread.

Non EU Threats

Public health risks - Multistate - Refugee movements

Opening date: 4 November 2015 Latest update: 10 December 2015

Europe is experiencing its largest influx of refugees since the Second World War. According to the UN Refugee Agency (UNHCR), more than 944 000 refugees have arrived in Europe in 2015. To date, there have been reports of cases of louse-borne relapsing fever, cutaneous diphtheria, scabies, measles, shigellosis, tuberculosis and malaria among refugees. While these cases do not represent a significant disease burden for the host countries, the diseases pose a potential threat, particularly to the health of the refugees themselves. The health conditions of the refugees may worsen with the wintery weather due to low temperatures and overcrowding in shelters.

➔Update of the week

On 7 December, Finland reported a case of toxigenic diphtheria in a non-vaccinated asylum seeker. During the past few weeks, Norway has reported cases of seasonal influenza among asylum seekers attending medical centres.

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Influenza A(H5N1) and other strains of avian flu - Multistate (world) - Monitoring globally

Opening date: 15 June 2005 Latest update: 11 December 2015

The influenza A(H5N1) virus, commonly known as bird flu, is fatal in about 60% of human infections. Sporadic cases continue to be reported, usually after contact with sick or dead poultry from certain Asian and African countries. No human cases have been reported from Europe. From 2003 through 10 December 2015, 844 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 16 countries. Of these cases, 449 have died. Of these cases, 143 were notified in 2015 by China (5 cases), Egypt (136 cases) and Indonesia (2 cases). The last case reported to WHO occurred in Egypt in July 2015.

Various influenza A(H5) subtypes, such as influenza A(H5N1), A(H5N2), A(H5N6), A(H5N8) and A(H5N9) continue to be detected in birds in Africa, Europe, Americas and Asia, according to recent reports received by the World Organization for Animal Health (OIE).

➔Update of the week
No new human cases of A(H5N1) have been reported since 17 July 2015.

ECDC published a risk assessment on 4 December 2015 on the poultry outbreak in France.
Outbreaks in poultry have been detected over the past weeks in several EU Member States.

France
As of 10 December 2015, France has detected 12 outbreaks of highly pathogenic avian influenza (HPAI) virus in poultry in four departments of the south-west of France: Dordogne (7), Les Landes (3), Haute-Vienne (1) and Gers (1). The first outbreak was detected on 24 November 2015 and reported to OIE.

In addition, two outbreaks of low pathogenic avian influenza A(H5N2) in poultry were detected in the Aquitaine region in France, the same region that also reported highly pathogenic avian influenza.

Germany
On 7 December 2015, Germany reported an outbreak of low pathogenic avian influenza of subtype A(H5N2) in Cham, Bavaria.

United States
On 4 December 2015 the United States Department of Agriculture reported that as part of enhanced surveillance activities, H5 avian influenza was recently detected in genetic material collected from a wild duck in Oregon, USA. Testing was unable to determine the exact strain of the virus or whether it was high or low pathogenic.

Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013 Latest update: 10 December 2015

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, 681 cases have been reported (as of 10 December 2015), including 275 deaths. No autochthonous cases have been reported outside China. Most cases are isolated, and sporadic zoonotic transmission from poultry to humans is the most likely explanation for the outbreak.

➔Update of the week
During the past week, no new cases of A(H7N9) were detected in humans. The last human case was reported from China and had onset of symptoms on 3 October 2015, according to WHO.

Ebola Virus Disease Epidemic - West Africa - 2014 - 2015

Opening date: 22 March 2014 Latest update: 10 December 2015

An epidemic of Ebola virus disease (EVD) has been ongoing in West Africa since December 2013, mainly affecting Guinea, Liberia and Sierra Leone. On 8 August 2014, WHO declared the Ebola epidemic in West Africa a Public Health Emergency of International Concern (PHEIC). As of 9 December 2015, WHO has reported 28 601 cases of Ebola virus disease related to the outbreak in West Africa, including 11 300 deaths. The number of cases in the most affected countries peaked in autumn 2014 and has been slowly decreasing since then. Sierra Leone was declared Ebola-free by WHO on 7 November 2015. The risk of spread, regionally and globally, remains until all the countries in West Africa are declared Ebola-free. The need to maintain effective surveillance even after EVD-free status is declared is underlined by the recent events of re-emergence of cases in previously Ebola free countries.

➔Update of the week

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According to WHO, no new confirmed cases were reported from Guinea and Liberia in the week leading up to 6 December.

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

Opening date: 24 September 2012 Latest update: 10 December 2015

Since April 2012 and as of 10 December 2015, 1 640 cases of MERS, including 637 deaths, have been reported by health authorities worldwide. The source of the virus remains unknown, but the pattern of transmission and virological studies point towards dromedary camels in the Middle East 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

During the past week, no new cases were reported. The last case was reported by Saudi Arabia on 1 December 2015.
During the past week, one new death was reported in Saudi Arabia in a previously reported case.

As of 10 December 2015, 1 640 cases of MERS, including 637 deaths, have been reported by local health authorities worldwide.

Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015 Latest update: 10 December 2015

Zika virus infections are still spreading in previously unaffected areas of the world. Indigenous circulation of Zika virus has been detected in the Americas since 2014. In February 2014, the public health authorities of Chile confirmed the first case of autochthonous transmission of Zika virus infection on Easter Island (Chile) and reported cases until June 2014. Since then, Zika virus infections have spread to the Americas. In 2015, autochthonous cases have been reported for the first time in Brazil, Colombia, El Salvador, Guatemala, Mexico, Panama, Paraguay, Suriname and Venezuela. Autochthonous cases have also been reported from Cape Verde. In the Pacific area, since the beginning of the year, autochthonous transmission have been reported in Samoa, Fiji, New Caledonia, Solomon Islands and Vanuatu.

Possible links between Zika virus infection in pregnancy and microcephaly of the foetus have been under investigation since October 2015 when the Brazilian Ministry of Health reported an unusual increase in cases of microcephaly after the Zika virus outbreak in the north-eastern states.

French Polynesia reported an increase in cases of central nervous system malformations during 2014–2015 following the Zika virus infection outbreak in September 2013 to March 2014.
Investigations of an association with Zika virus infection and Guillain–Barré syndrome (GBS) are ongoing in Brazil and French Polynesia. On 1 December, PAHO/WHO issued an Epidemiological Alert on 'neurological syndromes, congenital malformations, and Zika virus infection. Implications for public health in the Americas'.

➔Update of the week

On 3 December, the Ministry of Health of Panama reported three autochthonous cases of Zika virus infection among residents of the district of Ailigandi, Guna Yala.

In November, the Brazilian Ministry of Health declared a public health emergency in relation to an unusual increase in the number of children born with microcephaly in 2015, suspecting an association with Zika virus infection. As of 5 December 2015, 1 761 suspected cases of microcephaly have been reported across 14 states in Brazil, an increase of 513 cases since 28 November 2015. All 14 states are currently experiencing Zika virus infection outbreaks. According to media reports, ventricular dilatation is an accompanying complication that has been detected together with microcephaly. According to media reports quoting the Ministry of Health (1 December), 28 cases of Guillain–Barré syndrome (GBS) were reported in Sergipe State. Last week, also according to media reports, seven cases of GBS could be linked to Zika virus infections in Pernambuco State.

On 24 November 2015, the health authorities of French Polynesia reported an unusual increase of at least 17 cases of central nervous system malformations in foetuses and infants during 2014–2015. The cases are reported from pregnancies that occurred during the Zika virus infection outbreak in French Polynesia (September 2013 to March 2014) at a gestational age of less than six months. Based on the temporal correlation of these cases with the Zika virus infection epidemic, health authorities of French Polynesia hypothesise that Zika virus infection may be associated with these abnormalities if mothers are infected during the first two trimesters of pregnancy.

On 1 December, the Pan American Health Organization/World Health Organization (PAHO/WHO) issued an Epidemiological Alert on 'neurological syndromes, congenital malformations and Zika virus infection'.

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Undiagnosed respiratory disease after unknown exposure at Konkuk animal research facility – South Korea - 2015

Opening date: 5 November 2015 Latest update: 10 December 2015

Since 29 October 2015, the South Korean CDC has been investigating an outbreak of respiratory illness linked to the College of Animal Bioscience and Technology building in Konkuk which involves 84 cases. First date of onset of disease was 19 October 2015. On 8 December, the Ministry of Health of South Korea confirmed that *Saccharopolyspora rectivirgula* has been identified as the likely cause of the outbreak.

➔Update of the week

On 8 December, the Ministry of Health of South Korea confirmed that *Saccharopolyspora rectivirgula* has been identified as the likely cause of an outbreak of pneumonia that occurred last October at the Animal Life Sciences Building at Konkuk University. The bacteria are suspected to have spread through the ventilation system from bags of animal feed used in the laboratory.

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 10 December 2015

Global public health efforts are ongoing to eradicate polio, a crippling and potentially fatal disease, by immunising every child until transmission of the virus has completely stopped and the world becomes polio-free. Polio was declared a Public Health Emergency of International Concern (PHEIC) on 5 May 2014 due to concerns regarding the increased circulation and international spread of wild poliovirus during 2014. On 25 November 2015, the Temporary Recommendations in relation to PHEIC were extended for another three months. WHO recently declared wild poliovirus type 2 eradicated worldwide.

➔Update of the week

Six new cases of wild poliovirus type 1 (WPV1) were reported last week from Pakistan. One new WPV1-positive environmental sample was reported from Afghanistan; two were reported from Pakistan. Two new cases of circulating vaccine-derived poliovirus type 2 (cVDPV2) were reported in Myanmar/Burma.

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II. Detailed reports

Influenza - Multistate (Europe) - Monitoring 2015-2016 season

Opening date: 2 October 2015 Latest update: 11 December 2015

Epidemiological summary

Intensity of influenza activity across the WHO European Region was at a low level in all 42 countries reporting for week 48/2015. A total of 20 countries reported sporadic geographic spread.

All seasonal influenza viruses (A(H1N1)pdm09, A(H3N2), B/Victoria and Yamagata lineage) were detected sporadically in both sentinel and non-sentinel specimens.

ECDC assessment

As usual for this time of year, intensity of influenza activity in the European Region remains low, with few influenza viruses detected (4% of sentinel specimens).

Although few viruses have been subtyped (type A) or ascribed to a lineage (type B), A(H1N1)pdm09 viruses were detected more often than A(H3N2) viruses. B/Victoria lineage was detected more often than B/Yamagata in both sentinel and non-sentinel specimens. All characterised viruses matched the vaccine-strains, although B/Victoria vaccine strains are not included in the most used trivalent vaccine.

Actions

ECDC monitors influenza activity in Europe during the winter season and publishes its report weekly on the Flu News Europe website.

Public health risks - Multistate - Refugee movements

Opening date: 4 November 2015 Latest update: 10 December 2015

Epidemiological summary

Finland

Finland reported a case of diphtheria in a non-vaccinated asylum seeker. The sick person arrived in Finland on 29 November 2015, crossing the Swedish-Finnish border in Haparanda. The patient was immediately brought to the hospital and received medical treatment. The patient is now recovering. Due to the high vaccination coverage in Finland, this individual case is not expected to pose a significant threat to the general population, according to the National Institute for Health and Welfare (THL).

Norway

During the past few weeks, Norway reported cases of seasonal influenza among asylum seekers attending medical centres.

ECDC assessment

Refugees are not currently a threat for Europe with respect to communicable diseases, but they are a priority group for communicable disease prevention and control efforts because they are more vulnerable. The risk that refugees arriving in Europe contract communicable diseases has increased because of the current overcrowding at reception facilities, and the consequent compromising of hygiene and sanitation arrangements.
While the risk of mosquito-borne diseases has been reduced as a result of the winter, the risk of infection from diseases whose spread is facilitated by overcrowding and lower temperatures has increased. It is therefore expected that the incidence of respiratory and gastrointestinal conditions will increase in the coming months.

Recent weeks have seen reports of emerging episodes of communicable diseases affecting the refugee population. A total of 27 cases of louse-borne relapsing fever (LBRF) in different locations along the routes followed by refugees arriving in Italy has been a matter of concern. The probable transmission of LBRF in refugee communities in the EU indicates that more cases may be seen in the near future, unless appropriate hygiene measures are rapidly implemented. Reports of cases of shigellosis among refugees are also a source of concern.

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Low vaccination coverage for some diseases, along with low immunity for some diseases, may result in susceptible refugees that may develop diseases such as measles and chicken pox, given their high incidence in some regions of the EU.

WHO, UNHCR and UNICEF jointly recommend that refugees, asylum seekers and migrants should have non-discriminatory, equitable access to healthcare services, including vaccines, irrespective of their legal status. They should be provided with timely immunisation against vaccine-preventable diseases, particularly measles and polio. All countries should have effective disease surveillance and reporting systems, outbreak investigation ability and case management and response capacity.

The risk to European residents of being affected by outbreaks occurring among refugee populations remains extremely low because overcrowding, limited access to clean water, and low hygiene levels are only encountered in certain reception facilities for refugees.

Actions

An ECDC expert opinion on the public health needs of irregular migrants, refugees or asylum seekers across the EU's southern and south-eastern borders was posted on the ECDC website in September 2015.

ECDC prepared:

- an RRA on the risk of communicable disease outbreaks in refugee populations in the EU/EEA
- an updated RRA on louse-borne relapsing fever amongst migrants in the EU/EEA
- an RRA on cutaneous diphtheria among recently arrived refugees and asylum seekers in the EU
- an RRA on the risk of importation and spread of malaria and other vector-borne diseases associated with the arrival of migrants in the EU
- an RRA on Shigellosis among refugees in the EU.

ECDC, in collaboration with Member States, the European Commission and WHO, continues to closely monitor the situation to rapidly identify and assess potential communicable disease threats.

Influenza A(H5N1) and other strains of avian flu - Multistate (world) - Monitoring globally

Opening date: 15 June 2005 Latest update: 11 December 2015

Epidemiological summary

Updates: No new updates from WHO on human cases of influenza A(H5N1) virus. The latest update was released on 17 July 2015.

Summary: From 2003 up to 10 December 2015, 844 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection were officially reported to WHO from 16 countries. Of these cases, 449 have died.

Outbreaks in birds in November and December 2015 in Europe

France

As of 10 December 2015, France has detected 12 outbreaks of highly pathogenic avian influenza (HPAI) virus in poultry in four

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departments in the south-west of France: Dordogne (7), Les Landes (3), Haute-Vienne (1) and Gers (1). The first outbreak was detected on 24 November 2015 and reported to OIE.
The HPAI A(H5N1) virus detected in France is not related to the A(H5N1) viruses circulating in other parts of the world, but appears to have evolved from a low pathogenic avian influenza virus circulating in Europe.
In addition, two outbreaks of low pathogenic avian influenza A(H5N2) in poultry were detected in the Aquitaine region in France, the same region that also reported highly pathogenic avian influenza.

Germany
On 7 December 2015, Germany reported an outbreak of low pathogenic avian influenza A(H5N2) in Cham, Bavaria.

Italy
On 30 November 2015, Italy reported an outbreak of low pathogenic A(H5N2) in a turkey farm in Emilia Romagna. Control measures were immediately implemented by the local authorities.

Globally
Various influenza A(H5) subtypes, such as influenza A(H5N1), A(H5N2), A(H5N6), A(H5N8) and A(H5N9) continue to be detected in birds in Africa, Europe, Americas and Asia, according to reports received by the World Organization for Animal Health (OIE).

Web sources: ECDC Rapid Risk Assessment | Avian influenza on ECDC website |EMPRES | OIE | WHO

ECDC assessment

When avian influenza viruses circulate in poultry, sporadic infections or small clusters of human cases are possible in people exposed to infected poultry or contaminated environments, especially in households and at live bird markets in areas where the viruses are circulating. Sustained human-to-human transmission of influenza A(H5N1) virus and its highly pathogenic reassortants have never been observed.

The risk of foodborne transmission, e.g. through the consumption of eggs or meat is considered extremely low.

People having direct contact with diseased birds or poultry, or their carcasses (e.g. farmers, veterinarians and labourers involved in the culling and rendering) are at a potential risk of infection. Persons at risk of exposure should therefore wear personal protective equipment.

People who have been exposed to the HPAI A(H5N1) or A(H5N2) virus should be monitored for at least 10 days.

Animal and public health authorities should be prepared for a possible introduction of HPAI A(H5N1) or A(H5N2) virus into other European countries, although the risk is considered low.

Actions

ECDC monitors the worldwide A(H5N1) and other avian influenza situation through epidemic intelligence activities in order to identify significant changes in the epidemiology of the virus. ECDC re-assesses the potential of a changing risk for A(H5N1) to humans on a regular basis.

ECDC published a risk assessment on 4 December 2015 on the poultry outbreak in France and the potential implications for humans.

Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013 Latest update: 10 December 2015

Epidemiological summary

As of 10 December 2015, 681 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 275 deaths, have been reported.

Cases reported in China since March 2013 have the following geographical distribution: Zhejiang (188), Guangdong (181), Jiangsu (78), Fujian (63), Shanghai (48), Hunan (26), Anhui (32), Hong Kong (13), Xinjiang Uygur Zizhiqu (10), Jiangxi (9), Beijing (6), Shandong (6), Guangxi (4), Henan (4), Taiwan (4), Jilin (2), Guizhou (2) and Hebei (2). Three imported cases have also been

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reported: one in Malaysia and two in Canada.

Web sources: Chinese CDC | WHO | WHO FAQ page | ECDC | WHO avian influence updates

ECDC assessment

This outbreak is caused by a novel reassortant avian influenza virus capable of causing severe disease in humans. This is a zoonotic outbreak, in which the virus is transmitted sporadically to humans in close contact with the animal reservoir, similar to the influenza A(H5N1) situation.

During 2015, there have been continued avian influenza A(H7N9) virus detections in the animal population in several provinces in China, indicating that the virus persists in the poultry population. If the pattern of human cases follows the trends seen in previous years, the number of human cases may rise over the coming months. Further sporadic cases of human infection with avian influenza A(H7N9) virus are therefore expected in areas that are already affected and in neighbouring areas.

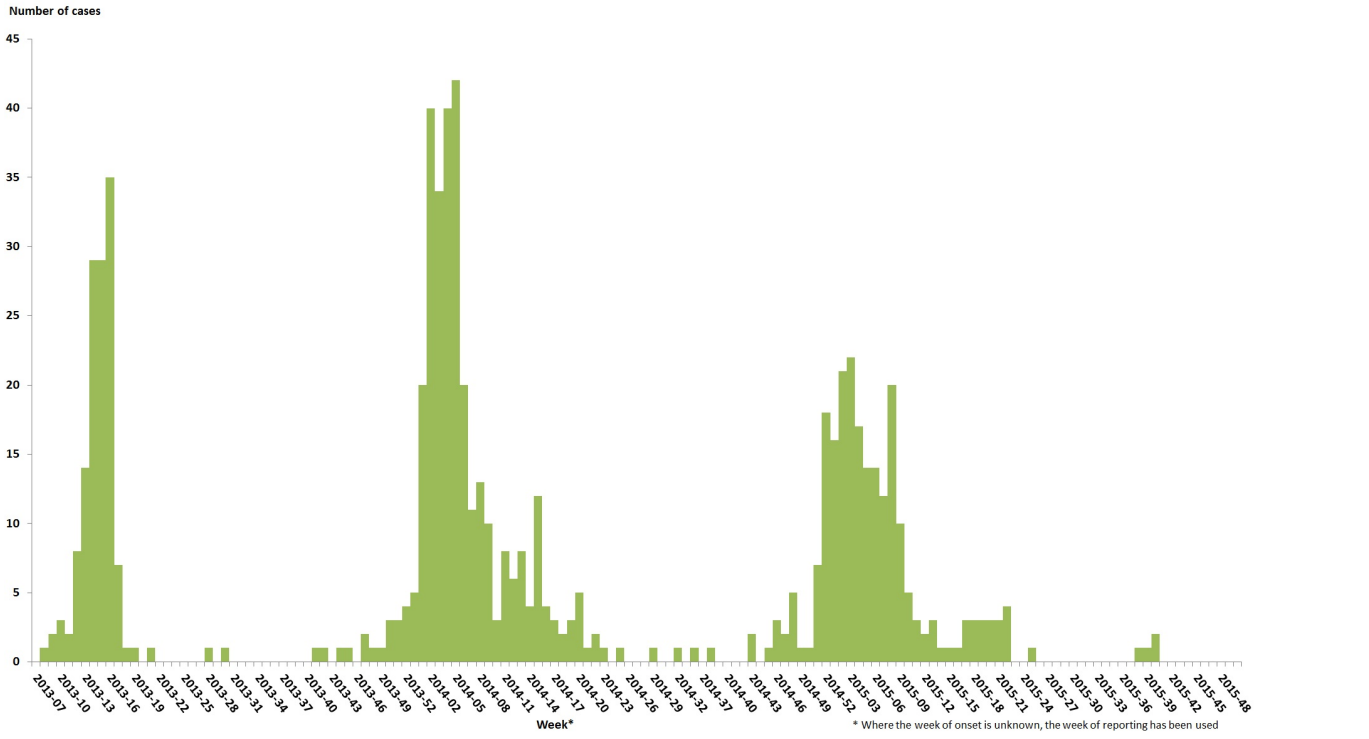
Imported cases of influenza A(H7N9) may be detected in Europe. However, the risk of the disease spreading among humans following an importation to Europe is considered to be very low. People in the EU presenting with severe respiratory infection and a history of potential exposure in the outbreak area will require careful investigation in Europe.

Actions

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

ECDC published an updated Rapid Risk Assessment on 3 February 2015.
ECDC published a guidance document Supporting diagnostic preparedness for detection of avian influenza A(H7N9) viruses in Europe for laboratories on 24 April 2013.

Distribution of confirmed cases of A(H7N9) by week of onset (n=681) from February 2013 until 10 December 2015



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Distribution of confirmed cases of A(H7N9) by week of onset (n=681) from February 2013 until 10 December 2015

Ebola Virus Disease Epidemic - West Africa - 2014 - 2015

Opening date: 22 March 2014 Latest update: 10 December 2015

Epidemiological summary

Distribution of cases as of 9 December 2015:

Countries with ongoing Ebola virus transmission in the human population:

- **Guinea**: 3 804 cases including 3 351 confirmed, and 2 536 deaths
- **Liberia:** 10 675 cases including 3 160 confirmed, and 4 809 deaths, Liberia was declared EVD-free on 3 September 2015. However, a family cluster occurred in the week leading up to 22 November.

Countries with previously widespread and intense transmission:

- **Sierra Leone**: declared Ebola-free on 7 November 2015.

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Countries that have reported an initial case or localised transmission:

- Nigeria, Senegal, the USA, Spain, Mali, the UK and Italy.

Situation in West African countries
Guinea
No new cases were confirmed in Guinea during the past week. The most recent case was reported on 29 October 2015, from which a second consecutive blood sample tested negative for Ebola virus on 16 November.

Liberia
No new confirmed cases were reported during the week leading up to 6 December. Investigations regarding the origin of infection of the EVD family cluster reported in the week leading up to 22 November are ongoing, with a working assumption that the cluster arose from a rare re-emergence of persistent virus from a survivor. Two members of the family who tested positive for EVD while in isolation received their second consecutive negative EVD test on 3 December. So far, 165 contacts have been identified, including 15 high-risk contacts, who are now in the third week of their 21-day follow-up. The Ebola ring vaccination trial has been extended to Liberia, following the country's recent cluster of cases. Liberia was previously declared free of Ebola transmission on 3 September 2015.

Sierra Leone
On 7 November 2015, WHO declared that Sierra Leone was Ebola free and that the country had entered a 90-day period of enhanced surveillance scheduled to conclude on 5 February 2016.

Situation among healthcare workers
No new infections in healthcare workers were reported by WHO in the week leading up to 6 December.
Outside of the three most affected countries, with repatriated cases included, there have been 8 cases in Mali, 20 in Nigeria, 3 in Spain (including two repatriated cases), 3 in the UK (including two repatriated cases), 1 in Senegal (infected in Guinea), 1 in Norway (repatriated), 2 in France (repatriated), 1 in the Netherlands (repatriated), 1 in Switzerland (repatriated), 11 in the USA (7 repatriated) and 1 in Italy (infected in Sierra Leone).

Epicurve: The epicurve shows the confirmed cases in Guinea and Liberia. In order to better represent the tail of the epidemic, only 2015 data are shown.
Map: The map shows the distribution of confirmed cases in Guinea and Liberia during the past six weeks.

Web sources: ECDC Ebola page | ECDC Ebola and Marburg fact sheet | WHO situation summary | WHO Roadmap | WHO Ebola Factsheet | CDC | Ebola response phase 3: Framework for achieving and sustaining a resilient zero | ReEBOV Antigen Rapid Test Kit | Institut Pasteur will open a lab in Conakry | Emergency Operation Centres in the three affected countries | Entry screening in US

ECDC assessment

This is the largest-ever documented epidemic of EVD, both in terms of numbers and geographical spread. The epidemic of EVD increases the likelihood that EU residents and travellers to the EVD-affected countries will be exposed to infected or ill persons. The risk of infection for residents and visitors in the affected countries through exposure in the community is considered low if they adhere to the recommended precautions. Residents and visitors to the affected areas run a risk of exposure to EVD in healthcare facilities.

The risk of importing EVD into the EU, and the risk of transmission within the EU following an importation, remains low or very low as a result of the range of risk reduction measures that have been put in place by the Member States and by the affected countries in West Africa. However, continued vigilance is essential. If a symptomatic case of EVD presents in an EU Member State, secondary transmission to caregivers in the family and in healthcare facilities cannot be excluded.

The number of confirmed cases has remained low since the end of July. The introduction of an EVD case into unaffected countries remains possible as long as cases exist in any country. With adequate preparation, however, such an introduction can be contained through a timely and effective response. Following the recent report about the previously positive EVD UK nurse, unusual late complications should also be taken into account.

Liberia was declared free of Ebola virus transmission in the human population on 3 September. Following which, Liberia entered a 90-day period of EVD heightened surveillance. Reports of cases during heightened surveillance periods after the tail-end of outbreaks has happened before, thus it is not unexpected and is a sign of the correct functioning of the surveillance. The identification of new EVD cases highlights the importance of maintaining surveillance of EVD cases after the tail-end of the outbreak.

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Actions

As of 10 December 2015, ECDC has deployed 95 experts (on a rotating basis) from within and outside the EU in response to the Ebola outbreak. This includes an ECDC-mobilised contingent of experts to Guinea. ECDC is reporting this threat on a weekly basis in the CDTR.

ECDC has updated its website following the WHO declaration on Sierra Leone, which has been Ebola-free since 7 November 2015.
On 23 November 2015, ECDC published an epidemiological update.
On 16 October 2015, ECDC published the latest (13th) update of the rapid risk assessment.
On 16 October 2015, ECDC published Recent development on sexual transmission of Ebola virus.
On 31 July 2015, ECDC published Positive preliminary results of an Ebola vaccine efficacy trial in Guinea.
On 22 January 2015, ECDC published Infection prevention and control measures for Ebola virus disease. Management of healthcare workers returning from Ebola-affected areas.
On 4 December 2014, EFSA and ECDC published a Scientific report assessing Risk related to household pets in contact with Ebola cases in humans.
On 29 October 2014, ECDC published a training tool on the safe use of PPE and options for preparing for gatherings in the EU.
On 23 October 2014, ECDC published Public health management of persons having had contact with Ebola virus disease cases in the EU.
On 22 October 2014, ECDC published Assessing and planning medical evacuation flights to Europe for patients with Ebola virus disease and people exposed to Ebola virus.
On 13 October 2014, ECDC published Infection prevention and control measures for Ebola virus disease: Entry and exit screening measures.
On 6 October 2014, ECDC published risk of transmission of Ebola virus via donated blood and other substances of human origin in the EU.
On 22 September 2014, ECDC published assessment and planning for medical evacuation by air to the EU of patients with Ebola virus disease and people exposed to Ebola virus.
On 10 September 2014, ECDC published an EU case definition.

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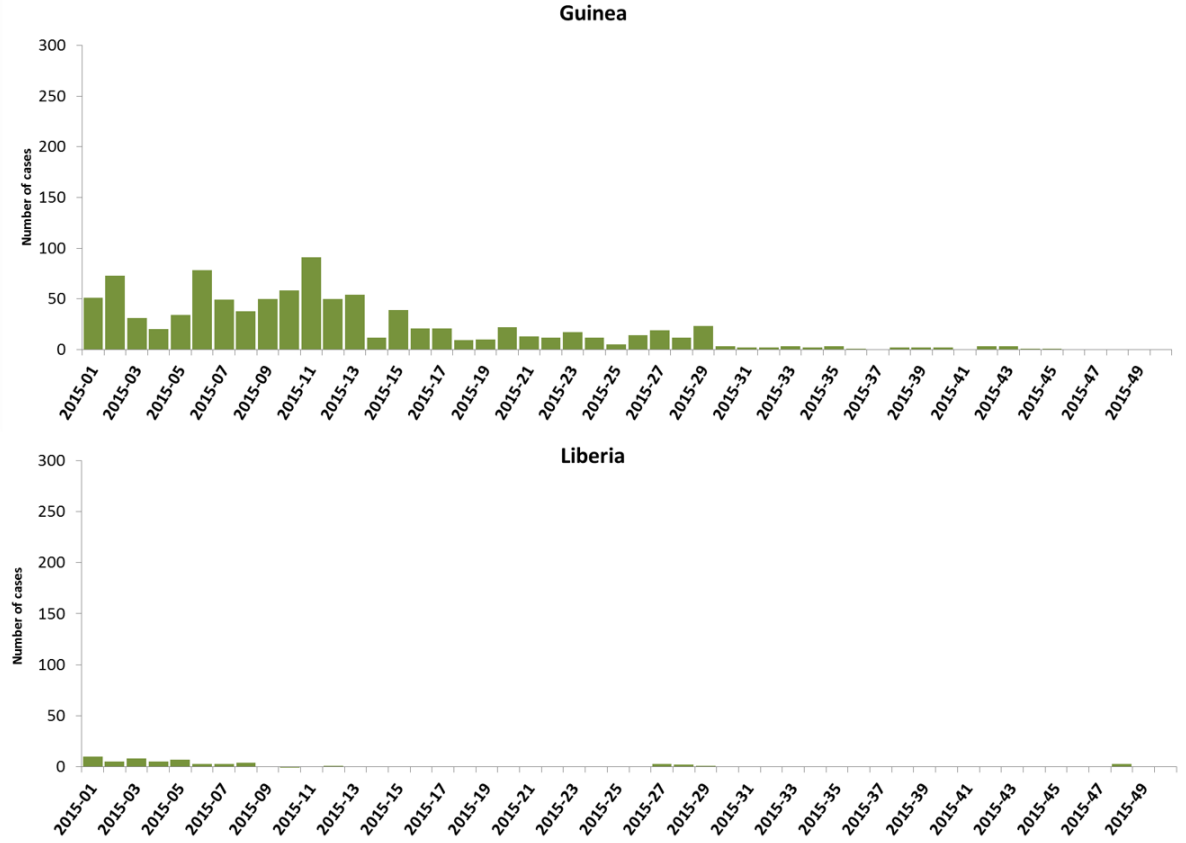
Distribution of confirmed cases of EVD by week of reporting in Guinea and Liberia (weeks 01/2015 to 50/2015)

Adapted from WHO figures; *data for week 50/2015 are incomplete



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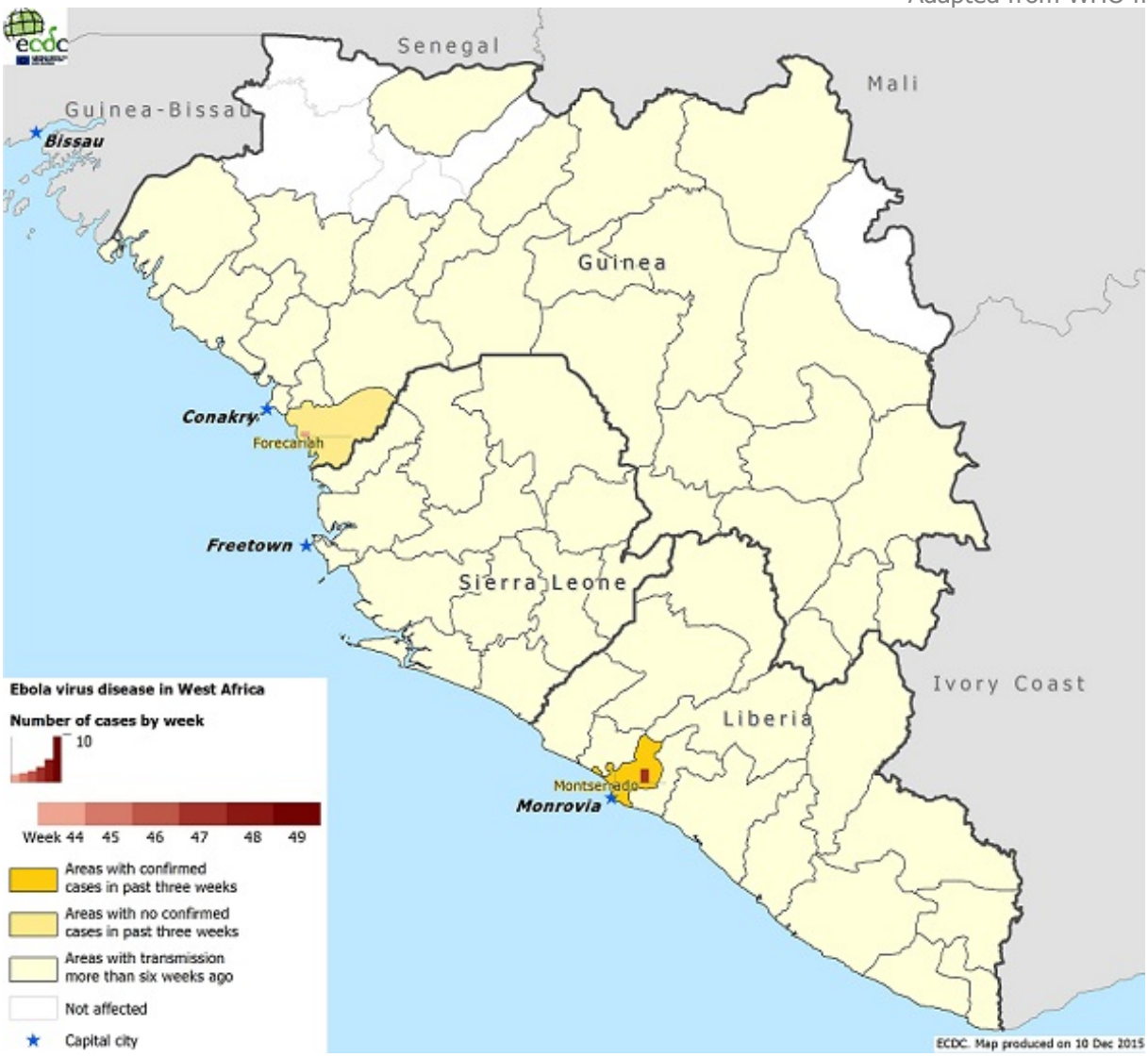
Distribution of confirmed cases of EVD by week of reporting in Guinea and Liberia (as of week 49/2015)

Adapted from WHO figures



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

Opening date: 24 September 2012 Latest update: 10 December 2015

Epidemiological summary

As of 10 December, 1 640 cases of MERS, including 637 deaths, have been reported by local health authorities worldwide.

Web sources: ECDC's latest rapid risk assessment | ECDC novel coronavirus webpage | WHO | WHO MERS updates | WHO travel health update | WHO Euro MERS updates | CDC MERS | Saudi Arabia MoH | Saudi Arabia statement |ECDC factsheet for professionals

ECDC assessment

The MERS outbreak in the Middle East poses a low risk to the EU. Efforts to contain the nosocomial clusters in the affected countries are vital to prevent wider transmission. Although sustained human-to-human community transmission is unlikely, the residential cluster of cases reported from Saudi Arabia is a reminder that transmission to unprotected close contacts, not only in healthcare settings, remains possible, as also documented in outbreaks in South Korea and the United Arab Emirates.

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Actions

ECDC published the 21st update of its MERS CoV rapid risk assessment on 21 October 2015.

Cases of MERS-CoV by country of reporting, March 2012 – 10 December 2015 (n=1 640)

Region	Country	Number of cases	Number of deaths
Middle East	Saudi Arabia	1279	550
	United Arab Emirates	81	11
	Qatar	13	5
	Jordan	35	14
	Oman	6	3
	Kuwait	4	2
	Egypt	1	0
	Yemen	1	1
	Lebanon	1	0
	Iran	6	2
Europe	Turkey	1	1
	UK	4	3
	Germany	3	2
	France	2	1
	Italy	1	0
	Greece	1	1
	Netherlands	2	0
	Austria	1	0
Africa	Tunisia	3	1
	Algeria	2	1
Asia	Malaysia	1	1
	Philippines	3	0
	South Korea	185	38
	China	1	0
	Thailand	1	0
Americas	United States of America	2	0
	Global	**1640**	**637**

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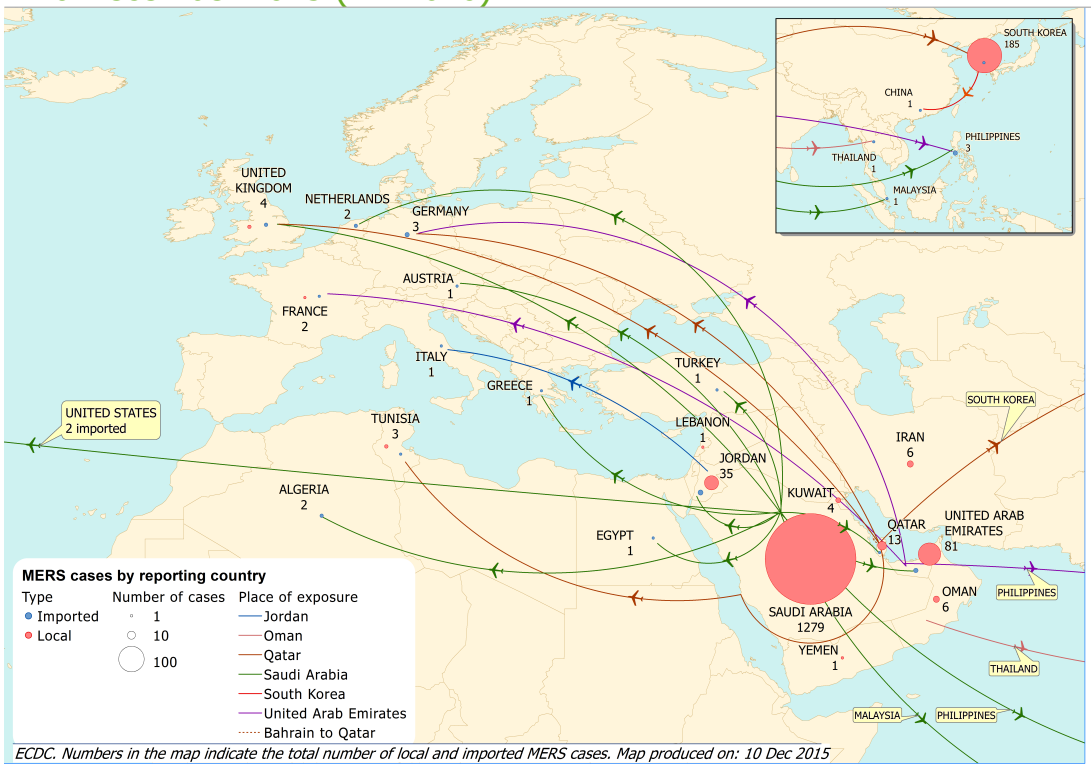
Distribution of confirmed cases of MERS-CoV by place of probable infection, March 2012 – 10 December 2015 (n=1 640)



ECDC. Numbers in the map indicate the total number of local and imported MERS cases. Map produced on: 10 Dec 2015

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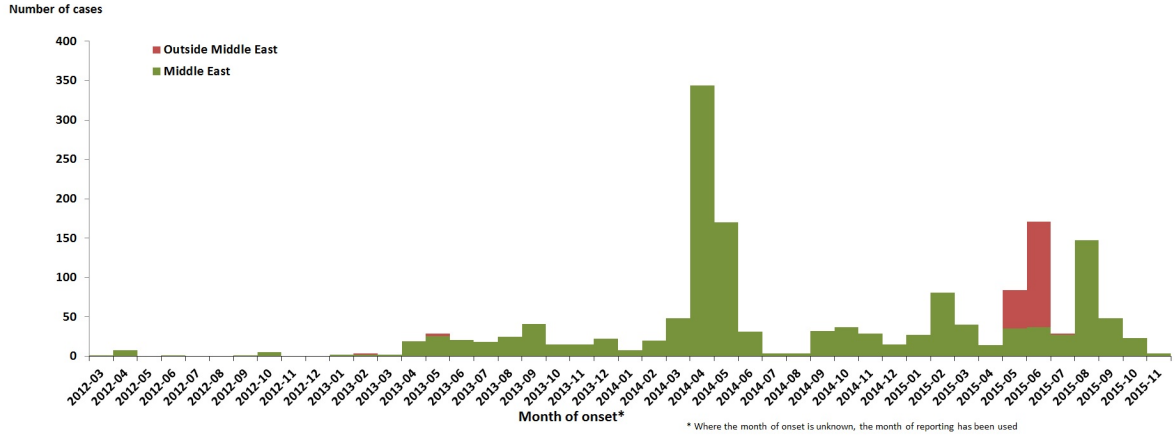
Distribution of confirmed cases of MERS-CoV by first available date and place of probable infection, March 2012 – 30 November 2015 (n=1 639)



Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015 Latest update: 10 December 2015

Epidemiological summary

Europe
No autochthonous cases of Zika virus infection have been reported in EU Member States so far in 2015.

Americas
Brazil
In May 2015, the public health authorities of Brazil confirmed the autochthonous transmission of Zika virus infection in the north-eastern part of the country. As of 8 October, autochthonous virus transmission had been confirmed in 14 states: Alagoas, Bahia, Ceará, Maranhão, Mato Grosso, Pará, Paraíba, Paraná, Pernambuco, Piauí, Rio de Janeiro, Rio Grande do Norte, Roraima and São Paulo. In addition, 121 cases with neurological symptoms or with Guillain-Barré syndrome were reported by states in the north-eastern part of Brazil between January and July 2015.

In October 2015, the Brazil Ministry of Health reported an unusual increase in the number of cases of microcephaly in the state of

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Pernambuco, and at a lower level in other northeastern states. On 17 November 2015, the Ministry of Health of Brazil, through an international health regulation (IHR) message, confirmed the molecular identification of Zika virus in amniotic fluid samples collected from two pregnant women from Paraiba state whose foetuses had been confirmed with microcephaly by ultrasound examinations.

On 17 November 2015, the Pan American Health Organization (PAHO) issued an epidemiological alert regarding an increase of microcephaly in the northeast of Brazil. In response to the situation, the Brazil Ministry of Health declared a national public health emergency on 11 November. As of 5 December 2015, 1 761 suspected cases of microcephaly have been identified in 422 municipalities across 14 states of Brazil. Pernambuco state has reported the highest number of cases (804), followed by the states of Paraíba (316), Bahia (180), Rio Grande do Norte (106), Sergipe (96), Alagoas (81), Ceará (40), Maranhão (37), Piauí (36), Tocantins (29), Rio de Janeiro (23), Mato Grosso do Sul (9), Goiás (3) and Distrito Federal (1). A total of 19 deaths was reported among these 1 761 cases.

According to media reports quoting the Ministry or Health on 1 December, 28 cases of Guillain–Barré syndrome (GBS) had been reported in Sergipe State. Last week, also according to media reports, seven cases of GBS have been linked to Zika virus infections in Pernambuco State.

On 25 November 2015, according to media reports quoting the Flavivirus Laboratory at the Oswaldo Cruz Institute, seven cases of GBS were linked to Zika virus infections in Pernambuco state. The number of cases of GBS grew significantly in the north-east of the country between April and June 2015, shortly after the Zika virus epidemic started. In Rio Grande do Norte, there have been 24 cases of GBS, four times more than the historical average. In Pernambuco state, 130 cases were reported, which is a significant increase compared with the last reports. There have also been increases in Maranhão (14 cases) and Paraíba (6 cases) states. Investigations are ongoing regarding a possible association with Zika virus infection.

Colombia
On 16 October, the first cases of Zika virus infections were reported in Colombia, with nine confirmed cases in the Bolívar department. From 16 October to 28 November, Colombian authorities reported 578 confirmed cases and 3 700 suspect cases. This represent an increase of 1 065 suspected cases compared with the previous week. On 7 December, the Colombian ministry of health acknowledged a study to identify possible complications related to Zika virus infection.

Guatemala
On 1 December, media reports quoted authorities about 17 suspected cases of Zika virus infection, 14 of which in hospital employees. Blood samples were collected and sent to the US for analysis.

Paraguay
On 27 November, the Paraguayan IHR National Focal Point reported the confirmation of six Zika virus cases in the city of Pedro Caballero at the border with Brazil.

Mexico
On 26 November, authorities acknowledged three Zika virus cases, including two autochthonous cases reported from Nuevo León and Chiapas. The imported cases had a recent travel history in Colombia.

Venezuela
On 27 November, the Venezuelan IHR National Focal Point (NFP) notified seven suspected cases of autochthonous Zika virus infection.

El Salvador
On 24 November, the El Salvador IHR National Focal Point (NFP) notified the confirmation of three confirmed cases of autochthonous Zika virus infection. On 3 December, media reports spoke of 240 cases of Zika virus infection across the country.

Chile (Easter Island)
According to WHO-PAHO, autochthonous circulation of Zika virus was reported in Easter Island from February to June 2014. Chile did not report ZIKV cases in 2015.

Suriname
On 12 November, health authorities reported five Zika virus cases through the National IHR Focal Point.

Panama
On 3 December, the Ministry of Health of Panama reported three autochthonous cases of Zika virus infection. All three cases are residents of the district of Ailigandi, Guna Yala (northeast).

Pacific region

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French Polynesia
On 24 November 2015, the health authorities of French Polynesia reported an unusual increase of at least 17 cases of central nervous system malformations in foetuses and infants during 2014–2015. The cases are reported from pregnancies that occurred during the Zika virus infection outbreak in French Polynesia (September 2013 to March 2014) at a gestational age of less than six months. None of the pregnant women described clinical signs of Zika virus infection, but the four tested were found positive by IgG serology assays for flavivirus, suggesting a possible asymptomatic Zika virus infection. Further serological investigations are ongoing. Based on the temporal correlation of these cases with the ZIKV epidemic, the health authorities of French Polynesia hypothesise that Zika virus infection may be associated with these abnormalities if mothers are infected during the first or second trimester of pregnancy.

Other countries
Since the beginning of the year, sporadic autochthonous cases have been reported in Samoa, Fiji, New Caledonia, Solomon Islands and Vanuatu.

Asia
Indonesia
On 15 November, the media reported the first Zika virus case in the country. There is no information available on the travel history of this case.

Web sources: ECDC Zika Factsheet | WHO DON | PAHO | Colombian MoH | New Zealand MoH | Media 1 | Media 2 | Brasilia MoH | Brazilian microcephaly case definition

ECDC assessment

The case definition of microcephaly used so far stated a head circumference at birth of 33 centimetres or below (newborns after 37–43 weeks of gestation). However, the use of a single head circumference cut-off point for male and female newborns is not a very effective tool to assess the extent of microcephaly and establish a possible link with central nervous malformations in newborns. Investigations and follow-ups of newborns with a low head circumference will allow a more precise quantification of the malformations.
According to a protocol published on 8 December 2015, the Brazilian authorities are implementing a new case definition for microcephaly based on a head circumference for newborns of 32 centimetres or below. The new protocol will result in a decrease in the number of newborns considered for investigation. Previously reported cases of microcephaly with head circumferences between 32 and 33 centimetres will remain under surveillance and may be reclassified.

On 1 December, PAHO published an epidemiological alert recommending that its Member States should establish and maintain the capacity to detect and confirm Zika virus infections. Member States should also prepare healthcare facilities for a possible increased demand at all healthcare levels and for specialised care for neurological syndromes. PAHO also recommends that antenatal care should be strengthened and that efforts should be continued to reduce the presence of mosquitos through vector control. Public communication measures should be taken to increase awareness of the problem.

Imported Zika virus infection cases in the EU Overseas Countries and Territories and the EU Outermost Regions, with onward autochthonous transmission in EU Members States in continental Europe during the summer season in areas where *Aedes albopictus or Aedes aegypti* are established, cannot be excluded. Vigilance during the mosquito season is thus required in areas where a potential vector is present because early detection of cases is essential when it comes to reducing the risk of autochthonous transmission.

Clinicians and travel medicine clinics should be aware of the evolution of Zika virus infections in the affected areas and should include Zika virus infection in their differential diagnosis for travellers from those areas. Fever and/or macular or papular rash not attributable to dengue or chikungunya infection among travellers, especially in pregnant women returning from areas currently experiencing Zika virus infection outbreaks, should prompt a possible investigation for Zika virus infection. In addition, blood safety authorities need to be vigilant regarding the epidemiological situation and might wish to consider the deferral of donors with relevant travel history, in line with measures defined for West Nile virus.

This is the first time that Zika virus infections during pregnancy have been suspected of causing congenital malformations. The detection of Zika virus in amniotic fluid in two foetuses with microcephaly has not been previously documented. Further investigations are being conducted to confirm the link between this increase in microcephaly incidence or other neurological malformations and the Zika virus outbreaks in Brazil and French Polynesia.

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Actions

On 24 November 2015, ECDC published a rapid risk assessment on microcephaly in Brazil linked to the Zika virus epidemic. ECDC published a second rapid risk assessment on microcephaly in Brazil on 10 December 2015.

Number of cases of microcephaly reported in Brazil in 2015 (as of 5 december 2015)

Source: ECDC

Brazilian States	Microcephaly cases
Pernambuco	804
Paraiba	316
Bahia	180
Rio Grande do Norte	106
Sergipe	96
Alagoas	81
Ceara	40
Maranhao	37
Piaui	36
Tocantins	29
Rio de Janeiro	23
Mato Grosso do Sul	9
Goias	3
Distrito Federal	1
Grand Total	**1761**

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Countries with reported confirmed autochthonous cases of Zika virus infection in 2015, as of 5 December

Source: ECDC

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States with laboratory-confirmed cases Zika virus disease, Brazil, 2015, as of 5 December 2015

Source: ECDC

Undiagnosed respiratory disease after unknown exposure at Konkuk animal research facility – South Korea - 2015

Opening date: 5 November 2015 Latest update: 10 December 2015

Epidemiological summary

Since 29 October 2015, the Korean CDC has been investigating cases of respiratory illness linked to the College of Animal Bioscience and Technology building in Konkuk. First date of onset of disease was 19 October 2015. As of 16 November, 84 cases with respiratory symptoms had been identified; 55 of them were diagnosed with pneumonia, and 29 cases were mildly symptomatic.

On 8 December, the Ministry of Health of South Korea confirmed that *Saccharopolyspora rectivirgula* had been identified as the likely cause of the outbreak. The bacteria were detected in both patient and environmental specimens. The bacteria are suspected to have spread through the ventilation system from bags of animal feed being used in the laboratory. A number of laboratory safety measure violations were also identified, including the improper storage of livestock animal feed in areas where

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researchers ate and slept. Of note, the incidence of pneumonia among those who handled livestock feed was 2.5 times higher than among those who did not handle livestock feed.

Web sources: South Korea MoH

ECDC assessment

Saccharopolyspora rectivirgula has been identified as the likely cause of this outbreak. The bacteria were detected in both patient and environmental specimens.

Actions

ECDC will close this threat.

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 10 December 2015

Epidemiological summary

Six new cases of wild poliovirus type 1 (WPV1) were reported from Pakistan last week. One new WPV1-positive environmental sample was reported from Afghanistan, and two were reported from Pakistan. Two new cases of circulating vaccine-derived poliovirus type 2 (cVDPV2) were reported in Myanmar/Burma.

In 2015, wild poliovirus transmission is at the lowest level ever, with fewer cases reported from fewer countries than ever before. In 2015, 66 wild poliovirus cases were reported from two countries: Pakistan (49 cases) and Afghanistan (17 cases), compared with 324 cases from nine countries during the same period in 2014. In 2015 so far, 23 cases of circulating vaccine-derived poliovirus (cVDPV) have been reported to WHO, compared with 48 for the same period in 2014. The cases this year are from Madagascar (10), Laos (5), Ukraine (2), Pakistan (2 cases), Nigeria (1), Myanmar/Burma (2) and Guinea* (1).

* Previously reported as cases from Mali.

Web sources: Polio Eradication: weekly update | MedISys Poliomyelitis | ECDC Poliomyelitis factsheet | Temporary Recommendations to Reduce International Spread of Poliovirus | WHO Statement on the Seventh Meeting of the International Health Regulations Emergency Committee on Polio

ECDC assessment

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

The confirmed circulation of wild poliovirus in several countries and the documented exportation of wild poliovirus to other countries support the fact that there is a potential risk of wild poliovirus being re-introduced to the EU/EEA. The highest risk of large poliomyelitis outbreaks occurs in areas with clusters of unvaccinated populations and in people living in poor sanitary conditions, or a combination of the two.

References: ECDC latest RRA | Rapid Risk Assessment on suspected polio cases in Syria and the risk to the EU/EEA | Wild-type poliovirus 1 transmission in Israel - what is the risk to the EU/EEA? |RRA Outbreak of circulating vaccine-derived poliovirus type 1 (cVDPV1) in Ukraine

Actions

ECDC monitors reports of polio cases worldwide through epidemic intelligence in order to highlight polio eradication efforts and identify events that increase the risk of wild poliovirus being re-introduced 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.

Following the detection of the cases of circulating vaccine-derived poliovirus type 1 in Ukraine, ECDC published a rapid risk assessment on its website.

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