COMMUNICABLE DISEASE THREATS REPORT

CDTR
Week 19, 3-9 May 2015

All users

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

New! Mass gathering monitoring - Italy - World EXPO - 2015

Opening date: 4 May 2015

Italy is hosting the World Expo 2015 in Milan starting on 1 May 2015 and ending on 31 October 2015. During this 184 day event, Milan is expecting over 20 million visitors from all over the world (145 countries).

➔Update of the week

No events were detected during this week.

ECDC will monitor this event daily, however it will only report through the CDTR if a significant event has been detected.

Influenza – Multistate (Europe) – Monitoring 2014–2015 season

Opening date: 9 October 2014 Latest update: 7 May 2015

Following the 2009 pandemic, influenza transmission in Europe has returned to its seasonal epidemic 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 18, influenza activity continued to decrease in most reporting countries. The proportion of influenza-virus-positive specimens from sentinel sources decreased from 20% for week 17/2015 to 14% for week 18. Since week 51/2014, the positivity rate has been over the threshold of 10%, indicating seasonal influenza activity.

Salmonella Enteritidis - Riga Cup, Latvia - April 2015

Opening date: 20 April 2015 Latest update: 7 May 2015

There is an ongoing multinational outbreak of *Salmonella* Enteritidis affecting the participants of the ice hockey tournament 'Riga Cup 2015'. The outbreak is reported to have affected more than one hundred participants. The source of the outbreak has not yet been identified.

➔Update of the week

As of 6 May 2015, there are 33 affected ice hockey teams from seven countries, Finland (16), Sweden (7), Norway (3), UK (3), Lithuania (2), Estonia (1) and Hungary (1). There are 153 suspected and confirmed cases. Three countries have reported *S.* Enteritidis confirmed cases: Finland (60), Sweden (1) and Norway (1).

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu

Borna virus - Germany - 2015

Opening date: 20 February 2015 Latest update: 6 May 2015

On 19 February, Germany posted an EWRS message regarding three fatal cases of encephalitis in the German state of Saxony-Anhalt during 2011–2013, involving three breeders of variegated squirrels, which can be kept as exotic outdoor pets. Investigations unveiled the cause of death as an infection from a new type of Borna virus.

➔Update of the week
No update since last week. ECDC published an updated rapid risk assessment on 5 May 2015.

Non EU Threats

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 7 May 2015

Global public health efforts are ongoing to eradicate polio, a crippling and potentially fatal disease, by immunising every child until transmission stops and the world is 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 the international spread of wild poliovirus during 2014. On 6 May 2015, the Temporary Recommendations in relation to PHEIC were extended for another three months.

➔Update of the week
In the past week, no new cases of poliovirus type 1 (WPV1) were reported.
The WHO Director-General has accepted the assessment of the 5th meeting of the Emergency Committee under the International Health Regulations (2005) (IHR) that the spread of polio still constitutes a public health emergency of international concern and recommended the extension of revised Temporary Recommendations.

Influenza A(H5N1) - Multistate (world) - Monitoring human cases

Opening date: 15 June 2005 Latest update: 7 May 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.

➔Update of the week
Since the last update on 1 May 2015, no new additional human cases of influenza A(H5N1) have been reported in Egypt.

In birds, highly pathogenic avian influenza (HPAI) influenza A(H5N1) was detected in the north-central province of Kastamonu in Turkey. In the United States, new outbreaks of HPAI influenza A(H5N2) were recorded in Iowa, Missouri and Minnesota. Taiwan reported new outbreaks of HPAI influenza A(H5N2) and influenza A(H5N8) in Changhua County and Yunlin County. In China, HPAI influenza A(H5N6) was detected in an oriental magpie-robin in Hong Kong, according to the World Animal Health Organization (OIE).

Ebola Virus Disease Epidemic - West Africa - 2014 - 2015

Opening date: 22 March 2014 Latest update: 7 May 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).

➔Update of the week

As of 3 May 2015, WHO reported 26 628 cases of Ebola virus disease related to the outbreak in West Africa, including 11 020 deaths.

Eighteen new confirmed cases of EVD were reported in the week up to 3 May from Guinea (nine cases) and Sierra Leone (nine cases). This is the lowest weekly number of cases in 2015. The cases were reported in Forecariah (Guinea), Kambia and Western Area Urban (Sierra Leone). This is the lowest number of districts to report a confirmed case since May 2014.

Liberia reported no new confirmed cases and the country will be declared Ebola free on Saturday 9 May, after 42 days since the burial of the last confirmed case.

ECDC has published a public health development following new evidence of possible sexual transmission of EVD. WHO has published "Sexual transmission of the Ebola Virus: evidence and knowledge gaps" providing interim advice for the Ebola survivors.

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Postal address: ECDC 171 83 Stockholm, Sweden
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Invasive infection by Mycobacterium chimaera 2014 -2015 - Multistate Europe

Opening date: 9 April 2015 Latest update: 7 May 2015

Since 2011, cases of invasive cardiovascular infection caused by *Mycobacterium chimaera* in patients having previously undergone cardiac surgery in Switzerland, the Netherlands and Germany have been reported by the relevant authorities. Aerosolisation of water from the heater–cooler units for extracorporeal circulation in the operating room is considered the most plausible route of infection.

➔Update of the week

No new cases reported in the previous week.

Dengue - Multistate (world) - Monitoring seasonal epidemics

Opening date: 20 April 2006 Latest update: 7 May 2015

Dengue fever is one of the most prevalent vector-borne diseases, affecting an estimated 50 to 100 million people each year, mainly in the tropical regions of the world. The identification of sporadic autochthonous cases in non-endemic areas in recent years has already highlighted the risk of locally-acquired cases occurring in EU countries where the competent vectors are present. The dengue outbreak in the autonomous province of Madeira, Portugal, in October 2012 and the autochthonous dengue cases in the south of France in 2014 further underline the importance of surveillance and vector control in other European countries.

➔Update of the week

There are ongoing outbreaks of dengue fever across the globe.

Chikungunya- Multistate (world) - Monitoring global outbreaks

Opening date: 9 December 2013 Latest update: 7 May 2015

An outbreak of chikungunya virus infection has been ongoing in the Caribbean since December 2013 and spread to North, Central and South America. There is a simultaneous outbreak of chikungunya in French Polynesia. In Europe, France reported autochthonous cases of chikungunya virus infection in 2014. This was the first time that locally-acquired transmission of chikungunya had been detected in France since 2010.

➔Update of the week

Since 3 April 2015 and as of 1 May, WHO Pan American Health Organization (WHO PAHO) has reported nearly 58 000 new cases of chikungunya virus infection in the Pan American region. Since the beginning of the outbreak in December 2013, there have been 191 deaths.

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II. Detailed reports

New! Mass gathering monitoring - Italy - World EXPO - 2015

Opening date: 4 May 2015

Epidemiological summary

Actions

The focus of ECDC epidemic intelligence activities under EXPO 2015 is to detect, assess and monitor health events that may be relevant to the EU and support the public health actions for this mass gathering. Media reported health threats or events detected by ECDC are shared daily with the Italian public health authorities in Ministry of Health.

ECDC's epidemic intelligence monitoring of this mass gathering will continue until 31 October 2015.

Influenza – Multistate (Europe) – Monitoring 2014–2015 season

Opening date: 9 October 2014 Latest update: 7 May 2015

Epidemiological summary

Low intensity of influenza activity was reported by 37 countries.

Influenza A(H1N1)pdm09, A(H3N2) and type B viruses continued to circulate in the WHO European Region, but type B viruses accounted for 86% of sentinel detections in week 18/2015. Low numbers of hospitalised influenza cases were reported.

Excess all-cause mortality among people aged 65 years and above, concomitant with increased influenza activity and the predominance of A(H3N2) viruses, had been observed in most countries participating in the European project monitoring excess mortality for public health action (EuroMOMO), but has now abated (see the EuroMOMO website).

Antigenic drift in a proportion of A(H3N2) viruses was observed in the 2014–2015 influenza season, so the northern hemisphere vaccine did not provide broad protection against A(H3N2) viruses. Despite some antigenic drift among B/Yamagata viruses, the A (H1N1)pdm09 and B/Yamagata components in the vaccine are likely to protect against circulating viruses.

Of all the influenza viruses screened for reduced susceptibility to neuraminidase inhibitors, only four A(H3N2) viruses and two A (H1N1)pdm09 viruses have shown genetic or phenotypic evidence of reduced susceptibility: one A(H3N2) virus to oseltamivir and zanamivir and the other five to oseltamivir only.

Web sources: Flu News Europe| ECDC Influenza|

ECDC assessment

Influenza activity continued to decrease in most of the reporting countries.

Actions

ECDC and WHO produce the Flu News Europe bulletin weekly.

Salmonella Enteritidis - Riga Cup, Latvia - April 2015

Opening date: 20 April 2015 Latest update: 7 May 2015

Epidemiological summary

There is an on-going multinational outbreak of *Salmonella* Enteritidis affecting participants of the ice hockey Riga Cup 2015

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
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(5 000 participants). So far the outbreak is reported to have affected more than one hundred participants from Finland, Norway, UK, Sweden, Hungary, Lithuania and Estonia. The source of the outbreak has not yet been identified.

The Latvian food safety authorities and public health authorities are conducting epidemiological and environmental investigations. Samples collected from the environment and the personnel cafeterias in the arenas where the tournament took place have all been negative so far. Public health authorities in Finland and Sweden are interviewing cases to identify possible exposures.

ECDC assessment

Considering that all cases reported were participating in the junior hockey cup in Riga, that the cases are clustered in time, and that the serotype is *S.* Enteritidis PT1, susceptible to all antibiotics and with a specific rare MLVA pattern, this outbreak can be considered a persistent point source outbreak with a common exposure. The Riga Cup took place from 27 March - 27 April 2015. Although the Riga Cup tournament has ended, other tournaments are continuing until the end of May at the same venues and as the source(s) of infection has/have still not been identified, the occurrence of new cases is possible.

Actions

ECDC has published a Rapid Risk Assessment. ECDC has sent an expert and an EPIET fellow to Riga to assist in the outbreak investigation in Latvia.

Borna virus - Germany - 2015

Opening date: 20 February 2015 Latest update: 6 May 2015

Epidemiological summary

On 19 February 2015, Germany reported three cases of fatal encephalitis in residents of the state of Saxony-Anhalt. The first clinical case was seen in 2011, the second and the third cases were reported from different hospitals in 2013. Affected persons were males between 62 and 72 years and of age-typical health status. Each of them was known to breed variegated squirrels (*Sciurus variegatoides*), a type of tree squirrel common to Central America that can be kept as an exotic outdoor pet. The three breeders knew each other but did not live in close proximity to one another. It is unclear whether they exchanged animals. During the prodromal phase, which lasted for two weeks or longer, the patients presented with fever and shivering, fatigue, weakness and walking difficulties. Due to increased confusion and psychomotor impairment they were admitted to neurology wards where they developed ocular paresis. They rapidly deteriorated within a few days and died after some time in intensive care, despite mechanical ventilation. Investigations for usual (non-purulent) encephalitis aetiologies performed at the Bernhard Nocht Institute for Tropical Medicine in Hamburg at first did not find evidence of known pathogens in cerebrospinal fluid and samples of brain tissue of the deceased.

Genetic analysis (metagenomics) of the brain tissue of the third patient's squirrel that appeared healthy but died during general anaesthesia produced sequences of a newly identified type of Borna virus. Further molecular and immunohistological analysis of brain tissue from the three deceased patients confirmed presence of this virus in the human cases as well. The newly identified virus is different from currently known Borna viruses. In limited testing of additional variegated squirrels, no other animal was found to be positive for this infection.

Germany has conducted a survey (online and through veterinary departments) among breeders of variegated squirrels that has not produced evidence of additional cases of meningitis, encephalitis or deaths with unclear circumstances among interviewed persons, household contacts or fellow breeders. Response, however, was low (n=10) reflecting the suspected small number of breeders of such animals in Germany.

The Bernhard Nocht Institute for Tropical Medicine in Hamburg has recently developed a serological test for antibodies against this new Borna virus strain and started offering laboratory testing for breeders of variegated squirrels and people living with them in the same household.

ECDC assessment

The reported cluster of acute fatal encephalitis in three squirrel breeders is possibly related to an infection with a newly identified bornavirus and classified as an unusual event. The novel nature of this event requires that additional investigations are undertaken into the identification of natural hosts, reservoir and the transmission route. Nevertheless, pending the completion of the cluster investigation, it is advised that feeding or direct contact with living or dead variegated squirrels should be avoided, as a precautionary measure.

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Postal address: ECDC 171 83 Stockholm, Sweden
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Actions

ECDC published an updated rapid risk assessment on 05 May 2015.

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 7 May 2015

Epidemiological summary

Worldwide in 2015, 23 wild poliovirus type 1 (WPV1) cases have been reported to WHO so far, compared with 74 for the same period in 2014. Since the beginning of the year, two countries have reported cases: Pakistan (22 cases) and Afghanistan (one case).
No circulating vaccine-derived poliovirus (cVDPV) cases have been reported so far in 2015.

Web sources: Polio Eradication: weekly update | MedISys Poliomyelitis | ECDC Poliomyelitis factsheet | Temporary Recommendations to Reduce International Spread of Poliovirus | Statement on the 4th IHR Emergency Committee meeting regarding the international spread of wild poliovirus

ECDC assessment

Europe is polio-free. The last locally acquired wild-polio cases within the current EU borders were reported from Bulgaria in 2001. The most recent 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 both.

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? |

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.

Influenza A(H5N1) - Multistate (world) - Monitoring human cases

Opening date: 15 June 2005 Latest update: 7 May 2015

Epidemiological summary

Egypt
In Egypt, as of 3 May 2015, the Ministry of Health and Population has reported 140 human cases of influenza A(H5N1), including 39 deaths in 2015. Since 2006, Egypt has reported 342 human cases, according to WHO/FAO.

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

ECDC assessment

Most human infections of A(H5N1) are the result of direct contact with infected birds, and countries with large poultry populations in close contact with humans are considered to be most at risk of bird flu outbreaks. The ongoing outbreak of influenza A(H5N1) among poultry and humans in Egypt has now caused more cases during one season than has been reported from any other country globally. The virus belongs to a clade, which appears to have been restricted to transmission in Egypt and neighbouring countries for several years. An emergence of a novel cluster within this clade was recently reported in Eurosurveillance, which might explain the increase in poultry infections and/or human cases.

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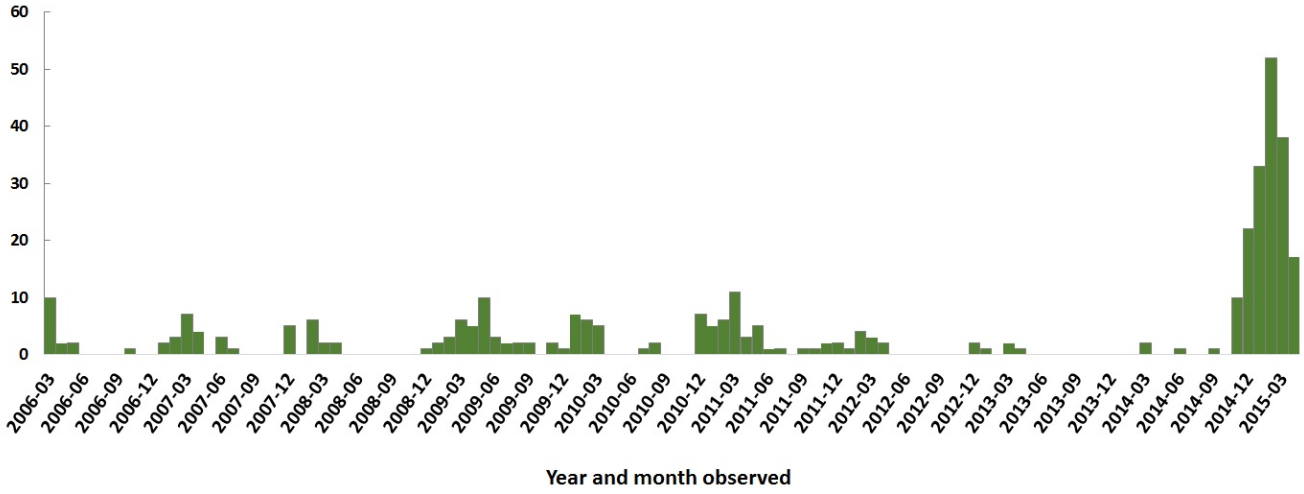
The sharp increase in human cases of A(H5N1) infection in Egypt during the winter months 2014–2015 may be due to an increase in the circulation of A(H5N1) among backyard poultry and exposure to infected poultry across the country. Identification of such sporadic cases or small clusters is not unexpected as avian influenza A(H5N1) viruses are known to be circulating among poultry within the country. Strict implementation of control measures to reduce and eliminate infection in poultry is essential for reducing the risk of zoonotic transmission and human cases. Enhanced human infectivity of the circulating virus and the protection conferred by the poultry vaccines currently in use should be further investigated. Surveillance in poultry as well as in humans needs to be strengthened and coordinated. Intervention programmes to reduce virus circulation in the country should be reinforced. Travellers visiting Egypt should avoid direct contact with poultry and birds or uncooked/untreated poultry products.
The outbreaks of HPAI in birds in the USA and Canada are the first outbreaks due to HPAI H5 influenza reassortants of Euroasian origin registered in North America. These viruses are genetically different from the avian influenza A(H5N1) that has caused human infections with high mortality in many countries. To date, there have been no reported human infections with this new reassortant virus.
The risk to people from these HPAI H5 infections in wild birds, backyard flocks and commercial poultry is considered to be low.

Actions

ECDC monitors the worldwide A(H5N1) situation through epidemic intelligence activities on a weekly basis 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 Rapid Risk Assessment covering A(H5N1) in Egypt on 13 March 2015.
ECDC published an epidemiological update about A(H5N1) in Egypt on 10 April 2015.

Distribution of human influenza A(H5N1) cases in Egypt by month and year– March 2006 to April 2015

Source: FAO and WHO



Ebola Virus Disease Epidemic - West Africa - 2014 - 2015

Opening date: 22 March 2014 Latest update: 7 May 2015

Epidemiological summary

Distribution of cases as of 3 May 2015:

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Countries with intense transmission

- Guinea: 3 589 cases, of which 3 167 are confirmed, and 2 386 deaths
- Liberia: 10 564 cases, of which 3 151 are confirmed, and 4 716 deaths
- Sierra Leone: 12 440 cases, of which 8 595 are confirmed, and 3 903 deaths

Countries with an initial case or cases, or with localised transmission

- Mali, Nigeria, Senegal, Spain, the United States and United Kingdom have been declared free of EVD after several cases related to the current epidemic in West Africa.

Situation in West African countries
In **Guinea**, according to WHO, all the nine new confirmed cases (compared to the 22 of the previous week) were reported from the prefecture of Forecariah. Five cases were identified post mortem. Of the nine cases only four were registered contacts of previous cases. WHO reports that during the week up to 3 May 2015, 36 unsafe burials took place in seven prefectures.

According to WHO, those indicators suggest that tracking transmission chains is still challenging, and there remains a possibility of an increase in case incidence and/or geographical spread in coming weeks.

In **Sierra Leone**, according to WHO, the nine new confirmed cases (compared to 11 reported in the previous week) are divided between Kambia (five) and the Western Area Urban (four) which include the capital Freetown. Three of the nine cases were identified post mortem during investigations of community deaths. Two of the nine cases were registered contacts of a previous case, five were found to have an epidemiological link to a known transmission chain and for two no contact with a known chain of transmission could be ascertained.

Laboratory indicators continue to reflect a heightened degree of vigilance with 1654 samples tested during the week up to 3 May. Of these samples less than 1% tested positive.

In **Liberia**, the last confirmed case died on 27 March and was buried on 28 March. Heightened vigilance is being maintained throughout the country. In the week up to 3 May, 319 new laboratory samples were tested for EVD, with no confirmed cases.

Situation among healthcare workers
According to WHO for the third consecutive week no new health worker infections have been reported. Overall, 868 cases and 507 deaths have been recorded among health workers in Guinea (187 cases and 94 deaths), Sierra Leone (303 cases and 221 deaths) and Liberia (378 cases and 192 deaths).

Outside of the three most affected countries, two Ebola-infected HCWs were reported in Mali, 11 in Nigeria, one in Spain (infected while caring for an evacuated EVD patient), two in the UK (both infected in Sierra Leone), and six in the USA (two infected in Sierra Leone, two in Liberia, and two infected while caring for a confirmed case in Texas).

Medical evacuations and repatriations from EVD-affected countries
Since the beginning of the epidemic and as of 8 May 2015, 65 individuals have been evacuated or repatriated worldwide from the EVD-affected countries. Of these, 38 individuals have been evacuated or repatriated to Europe. Thirteen were medical evacuations of confirmed EVD-infected patients to: Germany (3), Spain (2), France (2), UK (2), Norway (1), Italy (1), Netherlands (1) and Switzerland (1). Twenty-five asymptomatic persons have been repatriated to Europe as a result of exposure to Ebola in West Africa: UK (13), Denmark (4), Sweden (3), Netherlands (2), Germany (1), Spain (1) and Switzerland (1).

Twenty-seven persons have been evacuated to the United States.

No new medical evacuations have taken place since 18 March 2015.

Images
- *Epicurve 1 and 2:* the epicurves show the confirmed cases in the three most affected countries.
- *Map*: this map is based on country situation reports and shows only confirmed cases of EVD in the past six weeks.

Web sources: ECDC Ebola page | ECDC Ebola and Marburg fact sheet | WHO situation summary | WHO Roadmap | WHO Ebola Factsheet | CDC

ECDC assessment

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Postal address: ECDC 171 83 Stockholm, Sweden
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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 remain 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.

According to WHO, the number of cases has stayed stable during the past three weeks in Guinea and Sierra Leone. In both countries, less than half of all new confirmed cases are identified among known Ebola contacts, and people continue to be diagnosed with Ebola post mortem. These patterns indicate that the disease is circulating in unrecognised chains of transmission. In order to achieve zero cases, there is a need for stronger community engagement, improved contact tracing and earlier case identification. Liberia has not reported any new confirmed cases.

Actions

As of 4 May 2015, ECDC has deployed 64 experts coming from within and outside the EU in response to the Ebola outbreak. This includes an ECDC-mobilised contingent of experts to Guinea. Furthermore, additional experts are already confirmed for deployment to Guinea over the next few months.

ECDC is looking for additional French-speaking experts with field epidemiology experience from EU Member States to join the ECDC-coordinated contingent in response to the Ebola outbreak in Guinea. For further information, please contact Alice Friaux at: alice.friaux@ecdc.europa.eu with copy to support@ecdc.europa.eu.

An epidemiological update is published weekly on the EVD ECDC page.
The latest (10th) update of the rapid risk assessment was published on 15 April 2015.
On 22 January 2014, 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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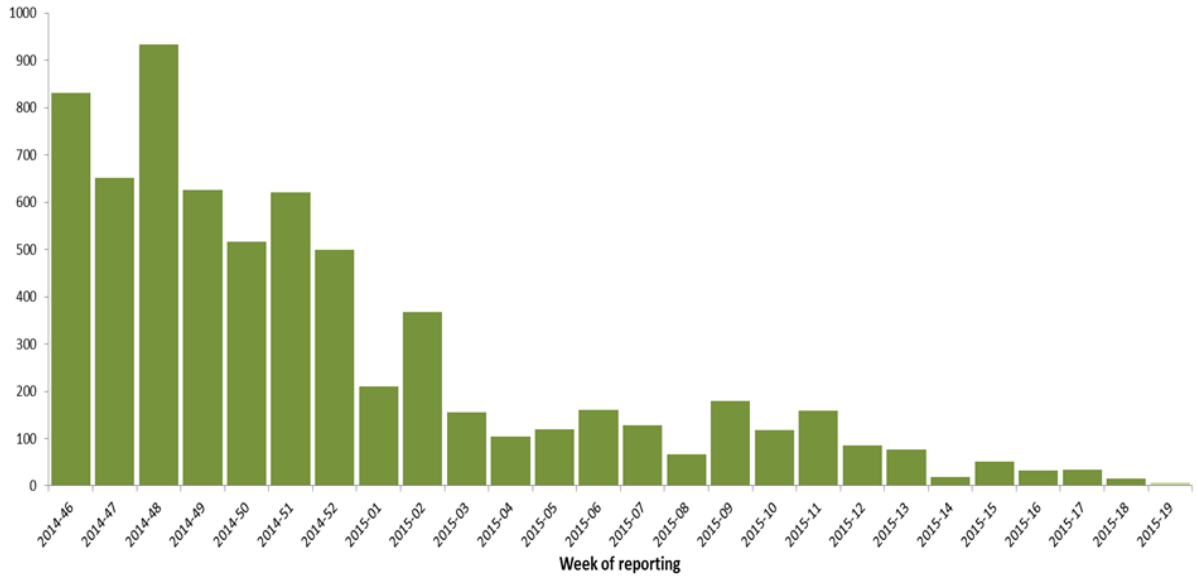
Distribution of confirmed cases of EVD by week of reporting in Guinea, Sierra Leone and Liberia (weeks 46/2014 to 19/2015)

Adapted from WHO figures; *data for week 19/2015 are incomplete



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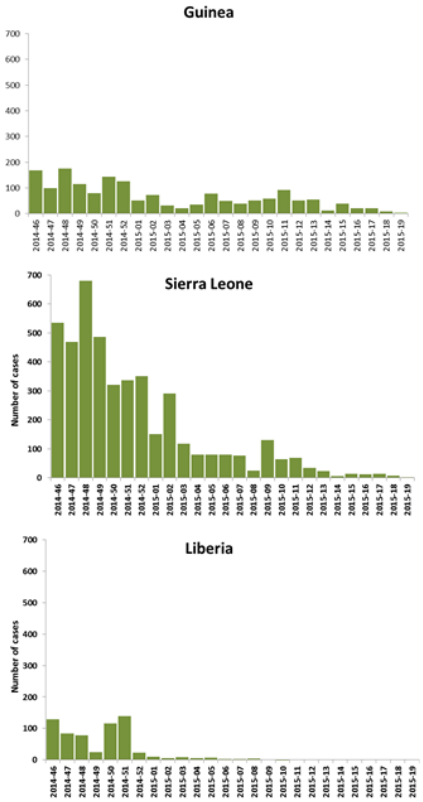

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Distribution of confirmed cases of EVD by week of reporting in Guinea, Sierra Leone and Liberia (as of week 19/2015)

Adapted from national situation reports

Invasive infection by Mycobacterium chimaera 2014 -2015 - Multistate Europe

Opening date: 9 April 2015 Latest update: 7 May 2015

Epidemiological summary

Since 2011, cases of invasive cardiovascular infection caused by *M. chimaera* in patients having previously undergone cardiac surgery in Switzerland, the Netherlands and Germany have been reported by the relevant authorities. Switzerland has reported six *M. chimaera* infections: three cases of endocarditis, one bloodstream infection and two vascular graft infections. Two of the six had fatal outcomes related to the infection. The clinical manifestations included osteomyelitis and involvement of multiple organs such as the eye and spleen. The Netherlands reported one fatal *M. chimaera* infection in a patient following cardiac surgery. A case has also been reported in Germany. Investigation in Switzerland included microbiological examination of environmental samples that identified *M. chimaera* contamination in heater-cooler units used during cardiac operations, including water samples from the units. Air sampling cultures became positive for *M. chimaera* when units were running but not if they were turned off. Some strains from air and water samples showed matching Random Amplified Polymorphic DNA (RAPD)-PCR patterns. This suggests *M. chimaera*-contaminated heater–cooler units as a potential source of infection. Heater-cooler units are used to regulate the temperature of the blood during extracorporeal circulation and use filtered tap water as a heat exchanger.

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A number of control measures have been implemented. In the Netherlands, several elective heart surgery procedures were postponed until infection-control measures had been taken, such as placing devices that may spread the bacteria outside of operating rooms, although acute cardiac surgery was not postponed. By 12 February 2015, the regular programme of operations had resumed at these centres. In Switzerland, cleaning and decontamination of the heater–cooler units was followed by recontamination. A new heater-cooler unit that initially tested negative for *M. chimaera* at the hospital tested positive three months after purchase and installation. In a Zurich hospital, a maintenance protocol was applied that included daily water changes (using 0.2µm bacterial filters). The hospital also started building customised housing units for these devices inside operating rooms, with high-efficiency particulate air filters connected. National regulatory authorities for medical devices have been notified in countries that have reported infections. In the Netherlands, authorities reported the incident to the Health Inspectorate which sent information to professional associations, including the Dutch Association for Cardio-Thoracic Surgery (NVT) and the Dutch Society for Medical Microbiology (NVMM), and to the public via a press release. In Switzerland, the Federal Office of Public Health issued a public alert in July 2014, following an alert to all 16 Swiss hospitals that perform this type of cardiac surgery and to cardiac surgeons via the Swiss Society for Cardiac and Thoracic Vascular Surgery. In Germany the regional authorities were informed, and comprehensive investigations were initiated. In the UK, Public Health England (PHE) are working with the Medicines and Healthcare Products Regulatory Agency (MHRA) to assess whether there is any historic or ongoing risk to patients who have had or are undergoing cardiac surgery. PHE has also alerted cardiothoracic centres, microbiologists and public health services across the UK to their investigation.

Web sources: ECDC rapid risk assessment | Netherlands authorities | Swiss authorities | Clinical Infectious Diseases Journal

ECDC assessment

ECDC is gathering information in collaboration with affected countries to evaluate the public health risk of cardiovascular-surgery-associated invasive infections with *M. chimaera* potentially linked to heater–cooler units, and will update its risk assessment as new evidence is obtained. Healthcare providers involved in caring for patients who have undergone open-heart surgery or other surgery involving cardiopulmonary bypass, such as lung transplant, should be vigilant for cases of endocarditis or other cardiovascular, deep-surgical-site or disseminated infection of unidentified origin. They should also consider testing specifically for slow-growing non-tuberculous mycobacteria such as *M. chimaera*. Regulatory bodies in charge of licensing and agencies monitoring the safety of such devices should be aware of the potential association of invasive cardiovascular infections caused by *M. chimaera* with heater-cooler units and relevant information should be disseminated to all centres performing cardiac surgery.

Actions

ECDC published a Rapid Risk Assessment on 30 April 2015.

Dengue - Multistate (world) - Monitoring seasonal epidemics

Opening date: 20 April 2006 Latest update: 7 May 2015

Epidemiological summary

Europe: No new autochthonous dengue cases have been detected so far in 2015.

Asia: The number of dengue fever cases in **Malaysia** continue to rise with the Ministry of Health reporting nearly 40 000 cases nationally as of 2 May 2015. The worst affected state is Selangor which accounts for more than 23 000 cases. On 24 April, the US CDC issued a travel advisory for travellers to Malaysia. **Taiwan** has reported 100 locally-acquired cases of dengue fever so far this year and the most affected municipality is Kaohsiung City. As of 13 April, there were 66 cases of dengue reported in **China** for 2015. Compared with the same period during the previous year from 2012 to 2014, the number of dengue cases reported in China has increased slightly in 2015. As of 19 April 2015, there were 9 727 cases of dengue, including eight deaths, reported in **Vietnam** for 2015. Compared with the same reporting period last year, the number of reported cases increased by 23% and the number of deaths increased by four, according to the WHO Western Pacific Region (WPRO).

Caribbean: Dominican Republic has recorded more than 1 200 cases and 16 deaths so far this year, according to media quoting the Ministry of Health.

Americas: In Central America, as of 28 April, **Honduras** had registered 11 000 cases so far this year. In South America, **Brazil** is experiencing an upsurge in dengue cases with nearly 746 000 cases and 229 deaths reported nationally, according to the Ministry of Health. Nationwide there have been 235% more cases reported in 2015 compared to the same period last year (from January to 18 April). However, this number of cases is still 48% lower than during the same time period in 2013 when 1.4 million cases were reported. More than half of all reported cases in 2015 have been notified in Sao Paulo. Relaxed prevention measures

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu
Epidemic Intelligence duty email: support@ecdc.europa.eu

and an increase in home water storage due to a severe drought may have contributed to this recent surge in cases, according to the Ministry of Health.

Pacific islands and Australia: There are ongoing dengue outbreaks in different regions of **Fiji**. Forty-two new dengue cases were confirmed during April 2015. The largest number of cases have been reported from the Northern Division. As of 24 April, the Ministry of Health has recorded 543 laboratory-confirmed dengue cases: Western Division (57), Northern Division (437) and Central Division (49). However, the recent trend in the number of new dengue infections has been declining in the Northern Health Division, according to the Pacific Public Health Surveillance Network (PACNET).

In Australia, there are two ongoing DENV-1 outbreaks in Cairns (31 confirmed cases since 11 December 2014) and Tully/El Arish (38 cases since 14 January 2015), according to Queensland Health. As of 30 April, 831 laboratory-confirmed dengue cases have been reported in Australia for 2015. Compared with the same reporting period last year, the number of reported cases is slightly higher, but is consistent with previous seasonal trends.

Web sources: ECDC Dengue | Healthmap Dengue | MedISys | ProMed Americas, Asia, Pacific and Africa | WPRO update 5 May |

ECDC assessment

The autochthonous transmission of dengue fever in the south of France during 2014 highlights the risk of locally-acquired cases occurring in countries where the competent vectors are present. This underlines the importance of surveillance and vector control in other European countries.

Actions

ECDC published a technical report on the climatic suitability for dengue transmission in continental Europe and guidance for the surveillance of invasive mosquitoes.

ECDC monitors the dengue situation worldwide on a monthly basis.

Chikungunya- Multistate (world) - Monitoring global outbreaks

Opening date: 9 December 2013 Latest update: 7 May 2015

Epidemiological summary

As of 1 May 2015, more than 1.4 million suspected and confirmed cases of chikungunya virus infection have been reported in the Caribbean and the Americas since December 2013.

In the United States, 126 cases of chikungunya virus infection have been reported from 26 states so far in 2015 (as of 5 May). All reported cases have occurred in travellers returning from affected areas. No locally-transmitted cases have been reported to date.

In the Pacific, there are ongoing outbreaks in the Cook Islands and Marshall Islands. The weekly number of cases in American Samoa, Kiribati and Samoa have reduced significantly, according to the Pacific Public Health Surveillance Network (PACNET).

Publication

The following article was published in *Eurosurveillance* 'Chikungunya outbreak in Montpellier, France, September to October 2014'.

Web sources: PAHO update| ECDC Chikungunya | WHO Factsheet | Medisys page |

ECDC assessment

Epidemiological data indicate that the outbreaks are still expanding in the Caribbean, the Americas and the Pacific. However, the outbreak in French Polynesia has been declared over. The vector is endemic in all three regions, where it also transmits dengue virus. Continued vigilance is needed to detect imported cases of chikungunya in tourists returning to the EU from these regions.

Actions

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu
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ECDC published an updated Rapid Risk Assessment on 27 June 2014.

ECDC monitors the global chikungunya situation on a monthly basis.

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