COMMUNICABLE DISEASE THREATS REPORT

CDTR
Week 18, 26 April-2 May 2015

All users

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

New! Multidrug-resistant Enterobacteriaceae after travel to the tropics

Opening date: 30 April 2015 Latest update: 30 April 2015

A recent article reports that 51% of travellers to tropical regions return with multidrug-resistant *Enterobacteriaceae* (MRE).

➔Update of the week

Article published in the Clinical Infectious Disease Journal: high rate of acquisition, but short duration of carriage of multidrug-resistant *Enterobacteriaceae* after travel to the tropics.

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

Opening date: 9 October 2014 Latest update: 30 April 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 17, influenza activity continued to decrease in most reporting countries. The proportion of influenza-virus-positive specimens from sentinel sources decreased from 25% for week 16/2015 to 20% for week 17. 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: 30 April 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 so far. The source of the outbreak has not yet been identified.

➔Update of the week

The outbreak appears to have affected more than one hundred participants from Belarus, Estonia, Finland, Hungary, Norway, Sweden and the United Kingdom. The source or vehicle(s) of the outbreak have not yet been identified. Investigations are being undertaken by the Finnish public health authorities and by the Latvian public health authorities in order to provide further information about the likely time and place of exposure of the cases.

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Borna virus - Germany - 2015

Opening date: 20 February 2015 Latest update: 30 April 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.

Measles - Multistate (EU) - Monitoring European outbreaks

Opening date: 9 February 2011 Latest update: 30 April 2015

Measles, a highly transmissible vaccine-preventable disease, is still endemic in many EU countries where vaccination uptake remains below the level required to interrupt the transmission cycle. Elimination of measles requires consistent vaccination uptake above 95% with two doses of measles vaccine in all population groups, strong surveillance and effective outbreak control measures.

➔Update of the week
In the EU, since the last monthly update, the outbreak in Berlin, Germany is still ongoing. New measles outbreaks were detected in France and Austria.
In the rest of the world, measles outbreaks are reported from Serbia, Russia, Kyrgyzstan, Mongolia, Brazil, Guinea, Liberia, the Republic of the Congo, and Sudan.

Rubella - Multistate (EU) - Monitoring European outbreaks

Opening date: 7 March 2012 Latest update: 30 April 2015

Rubella, caused by the rubella virus and commonly known as German measles, is usually a mild and self-limiting disease which often passes unnoticed. The main reason for immunising against rubella is the high risk of congenital malformations associated with rubella infection during pregnancy. All EU Member States recommend vaccination against rubella with at least two doses of vaccine for both boys and girls. The vaccine is given at the same intervals as the measles vaccine as part of the MMR vaccine.

➔Update of the week
No outbreaks were detected in EU Member States since the last monthly update.

The Americas are declared free of endemic transmission of rubella and congenital rubella syndrome (CRS) according to a press release by PAHO/WHO.
Rubella and CRS are the third and fourth diseases to be eliminated in the region, following smallpox in 1971 and polio in 1994. In all four cases, the Americas region was the first in the world to eliminate these diseases.

Non EU Threats

Invasive infection by Mycobacterium chimaera 2014 -2015 - Multistate Europe

Opening date: 9 April 2015 Latest update: 30 April 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 (1-3, 5). 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
A case has been reported in Germany.

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Ebola Virus Disease Epidemic - West Africa - 2014 - 2015

Opening date: 22 March 2014 Latest update: 30 April 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 26 April 2015, WHO reported 26 312 cases of Ebola virus disease related to the outbreak in West Africa, including 10 899 deaths.

Thirty-three new confirmed cases of EVD were reported in the week up to 26 April from Guinea (22 cases) and Sierra Leone (11 cases). Liberia reported no new confirmed cases.

Two areas, Forecariah in Guinea and Kambia in Sierra Leone, accounted for 76% of all confirmed cases reported. According to WHO, improved community engagement in these areas is required to ensure that all remaining chains of transmission can be tracked and brought to an end.

Of 55 districts in Guinea, Liberia, and Sierra Leone that have reported at least one confirmed case of EVD since the start of the outbreak, 39 have not reported a case for over six weeks.

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

Opening date: 15 June 2005 Latest update: 30 April 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 24 April, 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 wild birds in Astrakhanskaya oblast in the Russian Federation. In Canada, a new outbreak of HPAI influenza A(H5N2) was detected on a turkey farm in Ontario. In China, new outbreaks of HPAI A(H5N8) were reported on poultry farms in Changhua County and Yunlin County. HPAI A(H5N6) was detected on a poultry farm in Vietnam (Ha Nam province).

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 16 April 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 27 February 2015, the Temporary Recommendations in relation to PHEIC have been extended for another three months.

➔Update of the week

In the past week, one new case of poliovirus type 1 (WPV1) was reported in Pakistan. Following a year since the last detection of wild poliovirus in the environment, Israel has been moved from the International Health Regulations (IHR) list of countries infected with poliovirus to the list of countries no longer infected but vulnerable to the international spread of polio.

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II. Detailed reports

New! Multidrug-resistant Enterobacteriaceae after travel to the tropics

Opening date: 30 April 2015 Latest update: 30 April 2015

Epidemiological summary

A recent article reports that 51% of travellers to tropical regions return with multidrug-resistant *Enterobacteriaceae* (MRE). The study in six travel vaccination centres in Paris tested stools of travellers before leaving, and 1, 2, 3, 6 and 12 months after return. Among the 574 travellers submitting samples, 292 acquired an average of 1.8 MRE. Three (0.5%) acquired carbapenemase-producing *Enterobacteriaceae* (from India). The acquisition rate was highest in Asia (72.4%), followed by sub-Saharan Africa (47.7%) and Latin America (31.1%). Three months after return, 4.7% of all the travellers still carried MRE. Carriage lasted longer in travellers returning from Asia and in travellers with a high relative abundance of MRE at return.

ECDC assessment

In the study, carriage was in general relatively short (one month if returning from Africa or Latin America, three months if returning from Asia). However, carriage has implications for returning travellers that are hospitalised or need surgery or endoscopy during this period, and for returning travellers that develop a urinary tract infection during this period.

Actions

ECDC will share additional information through EPIS-ARHAI and assess the need for further action.

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

Opening date: 9 October 2014 Latest update: 30 April 2015

Epidemiological summary

Influenza A(H1N1)pdm09, A(H3N2) and type B viruses continued to circulate in the WHO European Region, but type B viruses accounted for 92% of sentinel detections for week 17/2015. Low numbers of hospitalised influenza cases were reported.

Low intensity of influenza activity was reported by 32 of 37 reporting countries. 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 for monitoring excess mortality for public health action (EuroMOMO), but has now abated (see the EuroMOMO website).

Antigenic drift in the A(H3N2) and B/Yamagata viruses was observed in the 2014–2015 influenza season, so the northern hemisphere vaccine did not provide broad protection against the 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 with 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.

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Salmonella Enteritidis - Riga Cup, Latvia - April 2015

Opening date: 20 April 2015 Latest update: 30 April 2015

Epidemiological summary

From 27 March to 26 April, 197 junior ice hockey teams from more than 13 countries participated in the Riga Cup 2015 in Latvia. The games were played in several arenas. Several thousands participants from Belarus, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Luxembourg, Norway, Russian Federation, Sweden, Switzerland and Ukraine attended the event.

On 16 April, Finland reported an outbreak of salmonellosis among junior ice hockey players. Six members of a Finnish junior ice hockey team tested positive for *Salmonella* group D, of a total of 19 individuals initially identified. Additional cases have since been reported from Belarus, Estonia, Finland, Hungary, Norway, Sweden and the United Kingdom, with over 100 cases being identified so far.

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 are interviewing cases to identify possible exposures.

ECDC assessment

This outbreak is most likely a point source outbreak, potentially at one of the cafeterias, although the possibility of additional places of exposure cannot be excluded at this stage. This assessment is based on the fact that all reported cases participated in a junior ice hockey tournament in Riga, that all cases are clustered in time (Riga Cup period), and that all Finnish cases ate in cafeterias at the venues. The most recent date of onset is 23 April, which indicates that the outbreak is still ongoing. Since the tournament has just finished, new cases are likely to be detected.

Actions

ECDC has published a Rapid Risk Assessment and is providing support to Latvia in the investigation.

Borna virus - Germany - 2015

Opening date: 20 February 2015 Latest update: 30 April 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 case 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

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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.

Actions

ECDC published a rapid risk assessment on 26 February 2015 that is currently being updated.

Measles - Multistate (EU) - Monitoring European outbreaks

Opening date: 9 February 2011 Latest update: 30 April 2015

Epidemiological summary

EU Member States

Germany – update

According to health authorities in Berlin, the outbreak of measles that started in October 2014 is still ongoing. The index case was a child asylum seeker from Bosnia and Herzegovina. The outbreak later spread to the general population. As of 22 April 2015, 1 134 cases have been reported. Around a quarter of the cases needed hospitalisation. There was one death in an 18-month-old toddler in February 2015. Health authorities are providing post-exposure vaccinations in affected institutions and are strongly encouraging the population to receive free catch-up immunisations as soon as possible.

There are ongoing outbreaks of measles in several other places in Germany: Erfurt, Weimar (Bauhaus University), Dresden, Gotha and Thuringia.

Norway ex Germany

According to media reports, a traveller from Berlin who arrived in Oslo on a flight on 17 April was diagnosed with measles. A child who travelled together with the diagnosed case is also suspected to have contracted measles. This information was communicated earlier by Norway through EWRS.

France

An outbreak of measles, involving 47 unvaccinated cases, is reported in the French region of Alsace, in the department of Haut-Rhin, bordering Germany and Switzerland. The index case, a pupil of an anthroposophic school, was most probably infected in Berlin during a school trip, following contact with a confirmed case while he stayed with a German family. Due to the very low vaccination coverage in the school, the virus spread easily in the school, with secondary cases in siblings and friends. ECDC has prepared a rapid risk assessment on this outbreak.

Health authorities in Luxemburg posted recommendations to travellers to Alsace based on the ECDC risk assessment.

Austria

The Ministry of Public Health of Austria reported 152 cases of measles during 1 January–21 April, compared with 117 cases for the whole of 2014. Of the nine provinces, seven are affected (all except Vorarlberg and Burgenland), with Lower Austria (48.7%) and Upper Austria (21%) reporting most of the cases this year. The reported measles cases appear to be separate clusters. Cases occurred in all age groups, but adolescents and young adults were most commonly affected. Six of the cases were infants who were too young to get vaccinated, while the oldest case was 64 years of age. Twenty-four cases had to be admitted to hospital (16%). Five cases were imported from abroad: two from Germany, two from Bosnia and Herzegovina, and one from India. Genotype D8, associated with the outbreaks in Bosnia and Herzegovina and Berlin, was identified in all 31 tested samples.

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Ebola affected countries

Liberia: According to the media quoting Ministry of Health officials, outbreaks of measles are affecting 10 of Liberia's 15 counties with at least 363 cases reported this year as of 28 April including four fatalities.

Guinea: In Guinea MSF reports 1 105 suspected cases. A measles vaccination campaign aims to vaccinate 1.3 million children between six months and nine years of age. A vaccination campaign in Nzerekore prefecture achieved a 39% participation rate in the first three days of a week-long campaign, well below the target of 95% by the end of the campaign.

Rest of the world

Serbia - update

Since November 2014 and as of 17 April 2015, Serbian health authorities report 348 suspected cases of measles in several outbreaks affecting numerous areas of the country. Eighty people have been hospitalised so far.

Kyrgyzstan

WHO EURO reports ongoing immunisation campaigns in Kyrgyzstan where the number of suspected cases has reached over 16 000 by April 2015. The outbreak has exposed widespread immunity gaps in the population, highlighting the urgent need to increase vaccination coverage through both enhanced routine and supplementary immunization activities.

Russia

Media report an outbreak in Krasnoyarsk with 20 suspected cases of measles affecting unvaccinated children and adults. There have been no cases in the region since 2013.

Mongolia

Although the country was certified measles free in June 2014, an outbreak is reported in the country. In mid-March, cases were reported in Ulaanbaatar, and then spread to other areas including Omnogovi, Uvurkhangai, Darkhan-Uul, Dornogovi and Orkhon provinces. More than 400 cases are suspected of which at least 120 are confirmed. Many of those infected are infants who are too young to be vaccinated, however older children and adults are also affected.

Republic of the Congo

Media, quoting health officials, report that an outbreak of measles with around 800 cases including 30 deaths is ongoing 550 kilometres south of Pointe Noire. To contain the spread of the epidemic, the Congolese Government launched a vaccination campaign aimed at vaccinating 191 000 children aged between six months and five years.

Sudan

OCHA reports an outbreak of measles with 1 730 cases and 22 deaths as of 12 April. OCHA said that measles cases have been reported in 31 localities in 14 states of Sudan. World Health Organization stated that Sudan has already received 2.4 million out of the 9.6 million doses of measles vaccine ordered to support a government mass immunization campaign for 7.9 million children across the country.

Brazil

As of 24 April, there were 797 suspected cases of measles in 2015 in Ceará, of which 604 were discarded and another 90 are under investigation according to a media report. In 2014, there were 95 confirmed cases. The Department of Health decided to extend an ongoing vaccination campaign until 2 May 2015.

Microneedle measles patch

According to a press release by the US CDC, researchers at the Georgia Institute of Technology are in the process of creating a microneedle patch that could provide a simpler, safer alternative to standard measles injections. The patches are around one square centimetre in size and can be applied almost like a sticker. On the underside of each patch are 100 conical microneedles made of polymer, sugar, and the vaccine. The microneedles are just a fraction of a millimeter long and dissolve within minutes after the patch is applied. The patch can then be discarded. A recent study showed the new microneedle patch produces a strong immune response in rhesus macaques. No adverse effects or health issues were noted. Following proposals, human clinical trials of the patches could begin as early as 2017.

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Web sources: ECDC measles and rubella monitoring | ECDC/Euronews documentary | MedISys Measles page | EUVAC-net ECDC | ECDC measles factsheet

ECDC assessment

The target year for measles elimination in Europe was set for 2015. The current situation suggests that endemic measles transmission continues in many EU Member States and the prospect of achieving the 2015 objective is not feasible.

Actions

ECDC monitors measles transmission and outbreaks in EU and neighbouring countries in Europe on a monthly basis through enhanced surveillance and epidemic intelligence activities.

Rubella - Multistate (EU) - Monitoring European outbreaks

Opening date: 7 March 2012 Latest update: 30 April 2015

Epidemiological summary

During February 2014–January 2015, EU/EEA countries reported 5 554 rubella cases. Twenty-five countries reported consistently throughout the 12-month period. Rubella surveillance is conducted in 28 EU/EEA countries; however, data have not been reported by Italy since January 2013. Only 1.8% of cases had a positive rubella laboratory test result. Poland accounted for 96% of all rubella cases in the 12-month period (n=5 345). In 22 consistently reporting countries, the rubella notification rate was less than one case per million population for the 12-month period. Thirteen consistently reporting countries reported zero cases.

Web sources: ECDC measles and rubella monitoring | ECDC rubella factsheet | WHO epidemiological brief summary tables | WHO epidemiological briefs |Progress report on measles and rubella elimination |Towards rubella elimination in Poland

ECDC assessment

As rubella is typically a mild and self-limiting disease with few complications, the rationale for eliminating rubella would be weak if it were not for the virus' teratogenic effect. When a woman is infected with the rubella virus within the first 20 weeks of pregnancy, the foetus has a 90% risk of being born with congenital rubella syndrome (CRS), which entails a range of serious incurable illnesses. The increase in the number of rubella cases reported in Romania and Poland during the last two years and the number of babies born with CRS are cause for concern. Rubella occurs predominantly in age and sex cohorts historically not included in vaccination recommendations. To achieve rubella elimination, supplemental immunisation activities in these cohorts are needed.

Actions

ECDC closely monitors rubella transmission in Europe by analysing the cases reported to the European Surveillance System and through its epidemic intelligence activities on a monthly basis. Twenty-four EU and two EEA countries contribute to the enhanced rubella surveillance. The purpose of the enhanced rubella monitoring is to provide regular and timely updates on the rubella situation in Europe in support of effective disease control, increased public awareness and the achievement of the 2015 rubella and congenital rubella elimination target.

An ECDC report is available online: Survey on rubella, rubella in pregnancy and congenital rubella surveillance systems in EU/EEA countries

Invasive infection by Mycobacterium chimaera 2014 -2015 - Multistate Europe

Opening date: 9 April 2015 Latest update: 30 April 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

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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.

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 change (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 has prepared a Rapid Risk Assessment.

Ebola Virus Disease Epidemic - West Africa - 2014 - 2015

Opening date: 22 March 2014 Latest update: 30 April 2015

Epidemiological summary

Distribution of cases as of 26 April 2015:

Countries with intense transmission

- Guinea: 3 584 cases, of which 3 158 are confirmed, and 2 377 deaths (as of 26 April)
- Liberia: 10 322 cases, of which 3 151 are confirmed, and 4 608 deaths (as of 23 April)
- Sierra Leone: 12 371 cases, of which 8 586 are confirmed, and 3 899 deaths (as of 26 April)

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

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- 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, five prefectures reported at least one confirmed case in the week up to 26 April, compared with four in the previous week. Transmission remains confined to the west of the country and is primarily focused on the prefecture of Forecariah, bordering Sierra Leone, which reported 77% of all confirmed cases.

Response indicators for Guinea continue to present a mixed picture. In the week up to 26 April, eight confirmed deaths from EVD were identified post-mortem in the community. A total of 66 unsafe burials were reported in the week up to 26 April. The percentage of confirmed cases that arose among registered contacts decreased to 27% in the week up to 26 April, compared with 53% during the previous week.

In **Sierra Leone**, according to WHO, three prefectures reported at least one confirmed case in the week up to 26 April, compared with four in the previous week.

Response indicators from Sierra Leone also present a mixed picture. The number of EVD-positive deaths that were identified in the community after post-mortem testing was four in the week up to 26 April.

In **Liberia**, the last confirmed case died on 27 March. Investigations are ongoing to establish the origin of infection. Heightened vigilance is being maintained throughout the country. In the six days up to 19 April, 212 laboratory samples were tested for EVD, with no confirmed cases. If no new cases occur, the country will be declared Ebola-free on 9 May.

According to WHO, the fact that cases continue to be identified after post-mortem testing, together with the fact that around half of all cases arise in people not identified as contacts of previous cases, suggest that surveillance and community engagement still require improvement in some areas.

A case-finding and community-awareness campaign took place in the Guinean prefecture of Coyah from 24 to 27 April, with over 57 000 households visited over four days. Forty-four alerts were reported over the four-day operation, an increase of 91% compared with the previous week. None of the alerts resulted in confirmed cases, although 10 laboratory samples are still pending. Similar initiatives are planned for the prefectures of Boffa, Conakry, Dubreka, and Kindia.

Situation among healthcare workers
In the week to 26 April 2015, WHO reported no new infection among healthcare workers (HCWs). The cumulative total of HCWs infected with EVD is 865: 187 in Guinea, 375 in Liberia and 303 in Sierra Leone. Five hundred and four HCWs have died of the disease.

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 30 April 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. The scale of the bar graphs has been reduced to 50 cases.

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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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 decline in confirmed cases of EVD has slowed down as 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 being 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 new confirmed cases.

Actions

As of 30 April 2015, ECDC has deployed 62 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 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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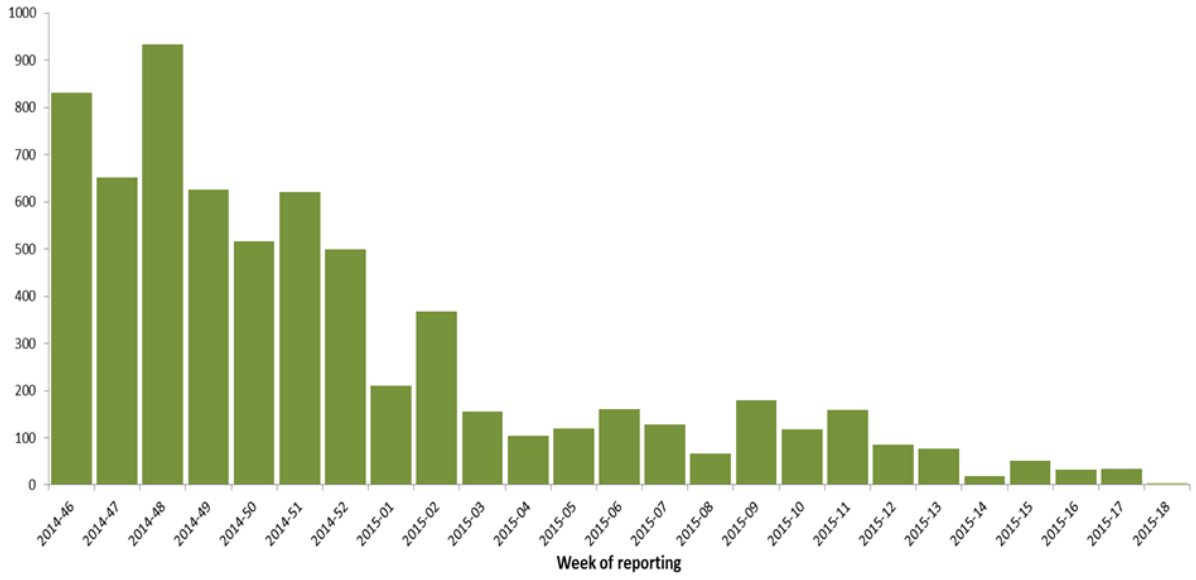
Distribution of confirmed cases of EVD by week of reporting in Guinea, Sierra Leone and Liberia (weeks 46/2014 to 18/2015)

Adapted from WHO figures; *data for week 18/2015 are incomplete



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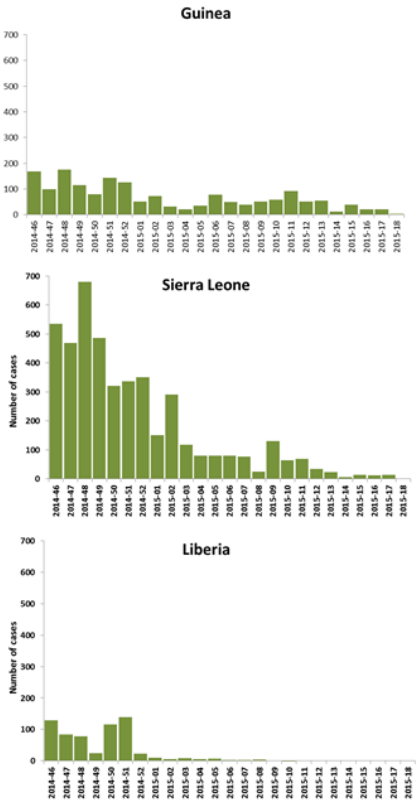

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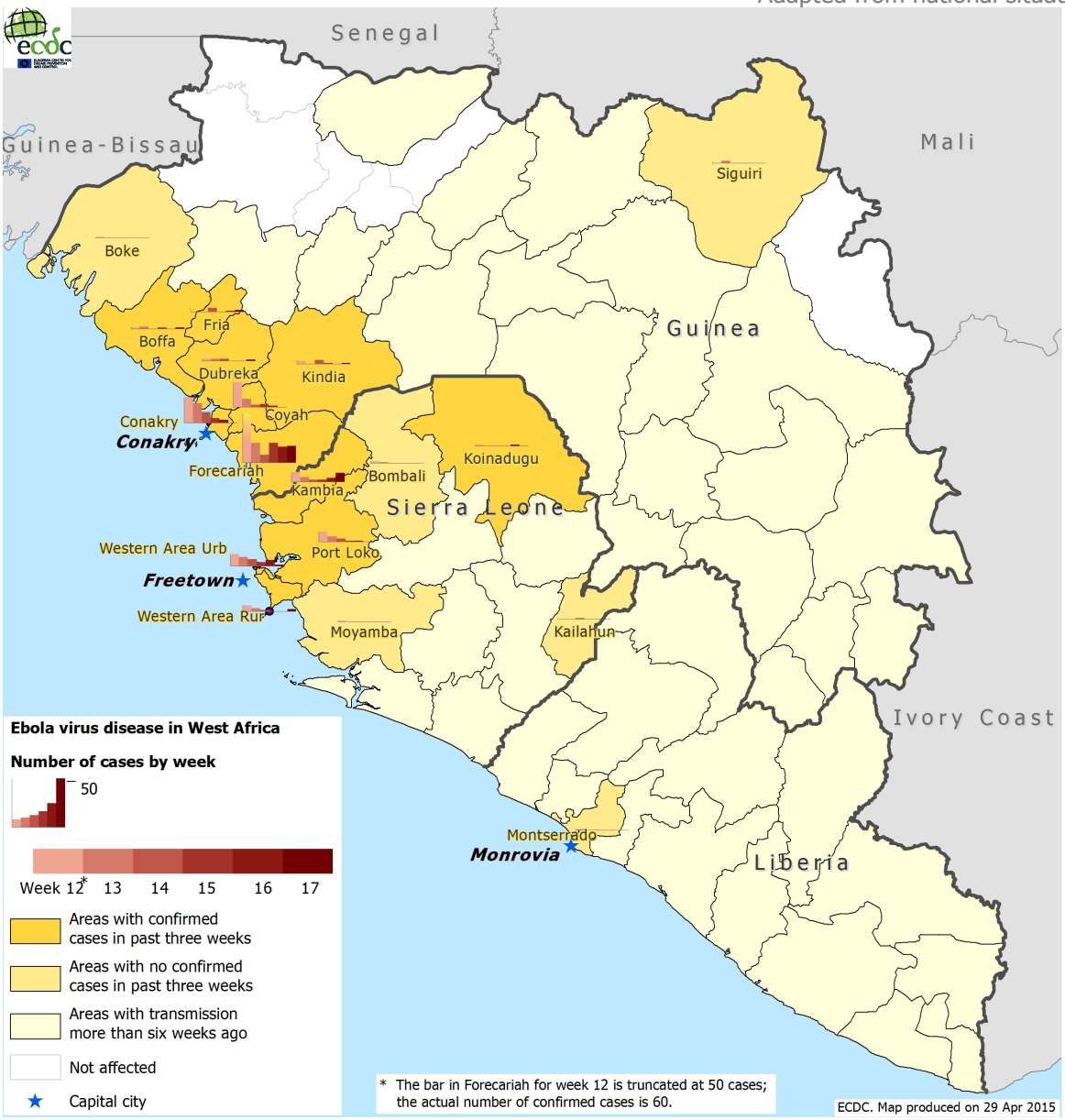
Distribution of confirmed cases of EVD by week of reporting in Guinea, Sierra Leone and Liberia (as of week 17/2015)

Adapted from national situation reports



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

Opening date: 15 June 2005 Latest update: 30 April 2015

Epidemiological summary

Egypt

In Egypt, as of 29 April 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 | WHO PAHO update |

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)

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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 be restricted to transmission in Egypt and neighbouring countries only 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.
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.

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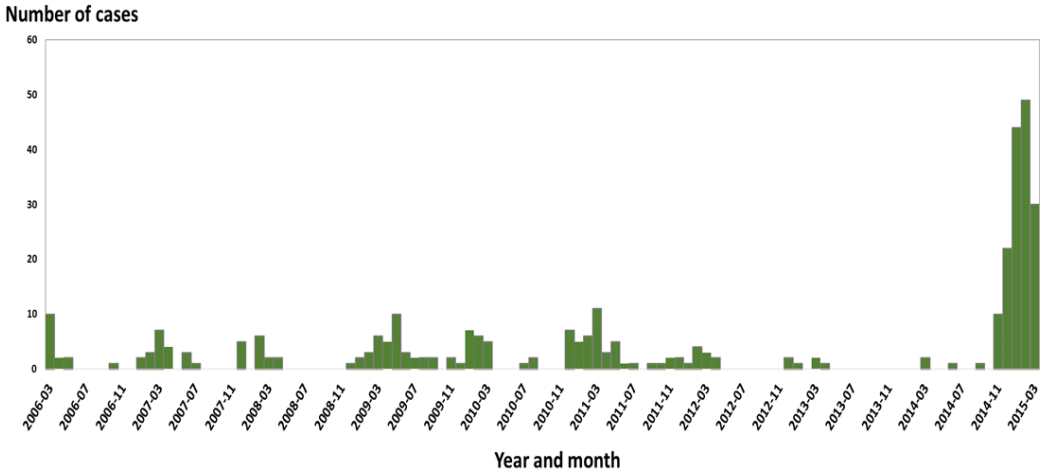
Distribution of human influenza A(H5N1) cases in Egypt by month and year– March 2006 to March 2015

Source: FAO EMPRES



Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 16 April 2015

Epidemiological summary

Worldwide in 2015, 23 wild poliovirus type 1 (WPV1) cases have been reported to WHO, compared with 68 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 were 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

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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 for 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.

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

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