



COMMUNICABLE DISEASE THREATS REPORT

CDTR

Week 40, 30 September-6 October 2018

All users

This weekly bulletin provides updates on threats monitored by ECDC.

Publication regarding first human case of rat hepatitis E reported by University of Hong Kong

According to a study conducted by the University of Hong Kong released on 28 September 2018, human infection with rat hepatitis E virus (HEV) has been documented for the first time. The case was found in an immunosuppressed individual due to a recent liver transplant. The case presented with abnormal liver function resulting in the identification of rat HEV in clinical samples such as stool, blood and liver tissue.

Using genome sequencing, the virus isolate was found to be closely related to a rat HEV strain previously identified in Vietnam. There was no evidence of rat HEV infection found in the organ donor.

Rat HEV could not be detected in rodent faecal samples collected from the housing building where the case lives. However, further investigations documented that rat HEV circulates in rats in Hong Kong. The case recovered after receiving ribavirin.

To date, no human case due to rat HEV has been reported in Europe. However, studies showed a high prevalence of rat HEV in European rat populations (studies 1–2). Human cases in Europe cannot be excluded, particularly in immunosuppressed patients who also represent the most vulnerable risk group for chronic infection, severe disease progression and fatal outcomes related to HEV in EU/EEA.

Efforts to prevent the transmission of HEV through substances of human origin include comprehensive blood testing in certain EU countries, screening of immunosuppressed patients and testing of organ donors. To assess the risk of HEV in Europe, ECDC has established an expert group on HEV epidemiology, supported the establishment of HEVnet, a sequence database for HEV molecular epidemiology, at the Netherlands National Institute for Public Health and the Environment, and is involved in a clinical study to investigate risk factors for chronic and fatal HEV cases.

More information on hepatitis E is available in **ECDC's fact sheet**: <https://ecdc.europa.eu/en/hepatitis-e/facts>

The publication:

https://www.med.hku.hk/news/press/HKU_discovers_that_rat_hepatitis_E_virus_can_cause_hepatitis_in_humans

Study 1: <https://virologyj.biomedcentral.com/articles/10.1186/1743-422X-11-90>

Study 2: <https://www.ncbi.nlm.nih.gov/pubmed/20735931>

I. Executive summary

West Nile virus - Multistate (Europe) - Monitoring season 2018

Opening date: 30 May 2018

Latest update: 5 October 2018

During the West Nile virus transmission season (expected to be between June and November), ECDC monitors the occurrence of West Nile virus infections in EU/EEA Member States and EU neighbouring countries and publishes weekly epidemiological updates to inform blood safety authorities of areas at NUTS 3 (Nomenclature of Territorial Units for Statistics 3) or GAUL 2 (Global Administrative Unit Layers 2) level where there is ongoing virus transmission.

→Update of the week

Between 28 September and 4 October 2018, EU Member States reported 50 human West Nile virus infections in Greece (22), Romania (19), Hungary (7), Bulgaria (1) and the Czech Republic (1). EU neighbouring countries reported 30 cases, all in Serbia.

In three areas, human cases were reported for the first time: Bulgaria (1), the Czech Republic (1) and Serbia (1). All other human cases were reported from areas that have been affected during previous transmission seasons. This week, 18 deaths were reported by Greece (8), Romania (6), Serbia (3) and the Czech Republic (1).

In the same week, 21 outbreaks among equids were reported by Italy (13), Greece (3), France (3), Hungary (1) and Slovenia (1).

Legionnaires' disease – Lombardy, Italy – 2018

Opening date: 12 September 2018

Latest update: 5 October 2018

On 11 September 2018, Italy notified an outbreak of pneumonia in the area of Brescia, Lombardy region through the Early Warning Response System (EWRS).

→Update of the week

According to regional and national health authorities, 651 pneumonia cases have been reported as of 1 October 2018, 49 of which tested positive for *Legionella*. Of the 651 cases, 64% are male.

Ebola virus disease - tenth outbreak - Democratic Republic of the Congo - 2018

Opening date: 1 August 2018

Latest update: 5 October 2018

On 1 August 2018, the Ministry of Health of the Democratic Republic of the Congo (DRC) declared the 10th outbreak of Ebola virus disease in the country. The outbreak affects North Kivu and Ituri Provinces in the northeast of the country, close to the border with Uganda.

→Update of the week

Over the past week, the Ministry of Health of the Democratic Republic of the Congo has reported 11 additional cases in Beni (8), Butembo (1), Komanda (1) and Mabalako (1). Additionally, since the last CDTR, a new health zone, Komanda, has reported a confirmed case. This case had an epidemiological link to the first confirmed case in Tchomia.

As of 3 October 2018, there have been 165 Ebola virus disease cases (133 confirmed, 32 probable), including 106 deaths (74 confirmed, 32 probable), since the beginning of the outbreak.

Over the past week, violent incidents have resulted in the International Committee of the Red Cross suspending its assistance in burials in and around the city of Butembo. Additionally, on 1 October 2018, the DRC Ministry of Health released a statement excluding possible connections between two Congolese nationals currently in Uganda and the ongoing outbreak. The two were previously suspected of having been in contact with a case while in DRC. To date there have been no confirmed cases of Ebola in Uganda.

On 27 September 2018, [WHO](#) raised the risk level for national and regional spread to very high. The risk at the global level remains low.

Influenza A(H5N6) – China – Monitoring human cases

Opening date: 17 January 2018

Latest update: 5 October 2018

Animal influenza viruses that cross the animal–human divide to infect people are considered novel to humans and therefore have the potential to become pandemic threats. In 2014, a novel avian influenza A(H5N6) reassortant causing a human infection was detected in China.

→Update of the week

One new human case of avian influenza A(H5N6) was reported in September 2018 from China. The case is a 22-year-old man from Guangdong Province.

Poliomyelitis – Multistate (World) – Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 5 October 2018

Global public health efforts are ongoing to eradicate polio by immunising every child until transmission of the virus has completely stopped and the world becomes polio-free. Polio was declared a Public Health Emergency of International Concern (PHEIC) by WHO on 5 May 2014 due to concerns regarding the increased circulation and international spread of wild poliovirus in 2014. On 15 August 2018, WHO agreed that the spread of poliovirus remains a PHEIC and extended the temporary recommendations an additional three months. In June 2002, the WHO European Region was officially declared polio-free.

→Update of the week

Since the CDTR published on 7 September 2018, three new cases of wild poliovirus type 1 have been reported in Afghanistan (2) and Pakistan (1). Additionally, 18 new cases of circulating vaccine-derived poliovirus have been reported globally: cVDPV1 in Papua New Guinea (6), cVDPV2 in Nigeria (3), Democratic Republic of Congo (2) and Niger (2) and cVDPV3 in Somalia (5).

On 7 September 2018, [WHO](#) released a statement informing from the first detection of a confirmed cVDPV1 case in the capital city of Port Moresby, Papua New Guinea.

Additionally, according to a statement from the [Indian Ministry of Health and Family Welfare \(MHFW\)](#) released on 3 October 2018, several vials of bivalent oral polio vaccine (OPV) supplied by a manufacturer in the country were found to contain traces of the vaccine strain of poliovirus type 2. Following the report, the use of all vaccines supplied by this manufacturer was immediately stopped in the country. In the areas where such vials were used, polio surveillance in the environment and through stool collection have been enhanced and special mop up rounds for administering inactivated polio vaccines (IPV) are being conducted. The MHFW considers the risk of any child getting vaccine-derived polio disease in India following this event to be practically nil. A sufficient amount of polio vaccines from alternate sources is available to implement routine immunisation against poliovirus.

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

Opening date: 24 September 2012

Latest update: 5 October 2018

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

→Update of the week

During the month of September, 13 MERS-CoV cases, including six deaths, were reported by [Saudi Arabia](#). All cases but one were male. Three cases reported camel contact, one case was due to nosocomial transmission, two were household contacts and five were primary cases with no indication for the route of transmission. The other two cases are under investigation.

On 8 September 2018, [South Korea](#) reported a case of MERS-CoV who had recent travel history to Kuwait.

II. Detailed reports

West Nile virus - Multistate (Europe) - Monitoring season 2018

Opening date: 30 May 2018

Latest update: 5 October 2018

Epidemiological summary

Between 28 September and 4 October 2018, EU Member States reported 50 human West Nile virus infections in Greece (22), Romania (19), Hungary (7), Bulgaria (1) and the Czech Republic (1). EU neighbouring countries reported 30 cases, all in Serbia. In three areas, human cases were reported for the first time: Bulgaria (1), the Czech Republic (1) and Serbia (1). All other human cases were reported from areas that have been affected during previous transmission seasons. This week, 18 deaths were reported by Greece (8), Romania (6), Serbia (3) and the Czech Republic (1).

In the same week, 21 outbreaks among equids were reported by Italy (13), Greece (3), France (3), Hungary (1) and Slovenia (1).

In 2018 and as of 4 October 2018, EU Member States have reported 1 317 human cases in Italy (495), Greece (283), Romania (256), Hungary (197), Croatia (45), France (16), Austria (15), Bulgaria (6), Slovenia (3) and the Czech Republic (1). EU neighbouring countries reported 434 human cases in Serbia (350), Israel (81) and Kosovo* (3). To date, 142 deaths due to West Nile virus infection have been reported by Italy (36), Romania (36), Greece (34), Serbia (32), Bulgaria (1), the Czech Republic (1), Hungary (1) and Kosovo* (1).

During the current transmission season, 222 outbreaks among equids have been reported by Italy (120), Hungary (79), Greece (13), France (5), Romania (2), Austria (1), Germany (1) and Slovenia (1).

In accordance with [European Commission Directive 2014/110/EU](#), prospective blood donors should defer for 28 days after leaving an area with evidence of West Nile virus circulation among humans unless the results of an individual nucleic acid test are negative.

*This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the International Court of Justice Opinion on the Kosovo Declaration of Independence.

Publications: [An early start of West Nile virus seasonal transmission: the added value of One Health surveillance in detecting early circulation and triggering timely response in Italy, June to July 2018](#)

[Early start of the West Nile fever transmission season 2018 in Europe](#)

ECDC links: [West Nile fever](#) | [Atlas](#)

Sources: [TESSy](#) | [ADNS](#)

ECDC assessment

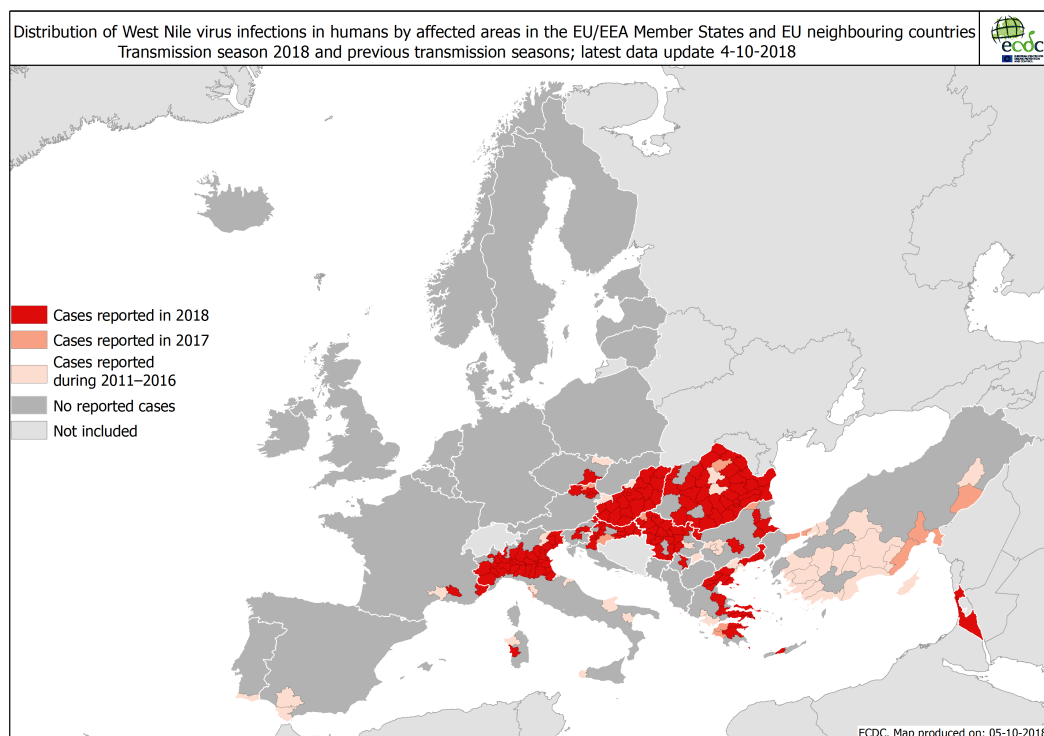
The 2018 transmission season started earlier than usual and higher case numbers have been reported compared with the same period in previous years. All human cases reported during the current transmission season were reported in previously affected countries. Since it is currently a particularly intense transmission season for West Nile virus, precautionary measures for travellers and residents, mainly elderly and immunocompromised individuals, to affected areas must be highlighted.

Actions

During the transmission season, ECDC publishes [West Nile fever maps](#) together with an epidemiological summary every Friday. ECDC published a rapid risk assessment on the '[Early large increase in West Nile virus infections in the EU/EEA and EU neighbouring countries](#)' on 13 August 2018 and [the latest epidemiological update](#) on 24 September 2018.

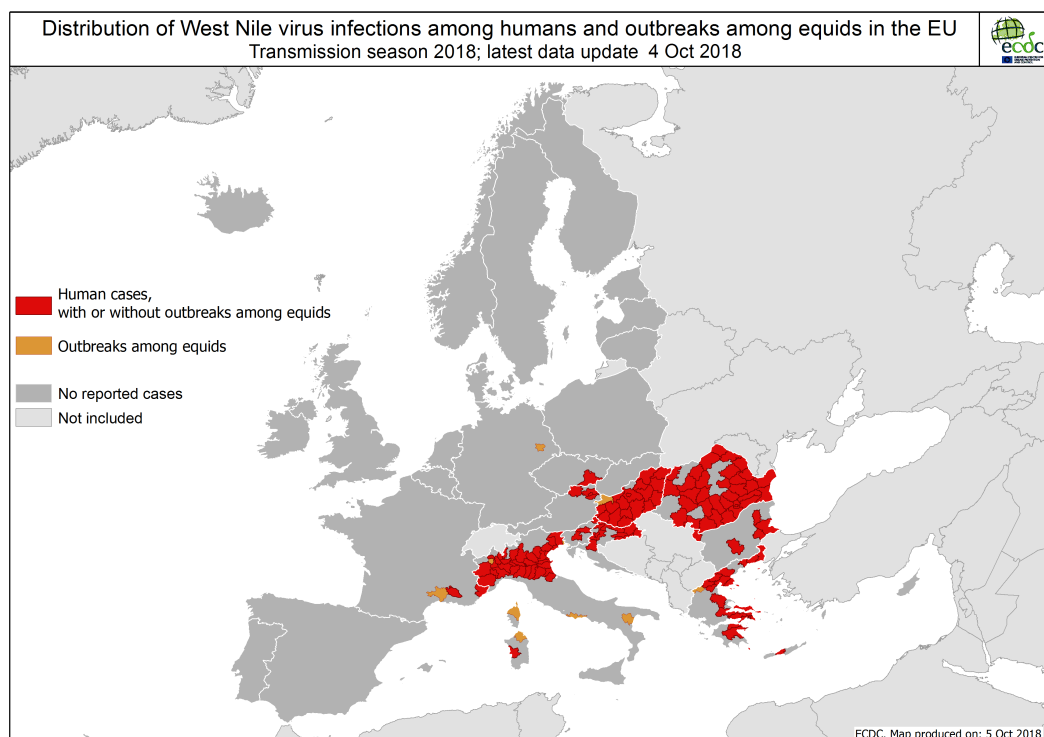
Distribution of human West Nile fever cases by affected areas as of 4 October 2018

ECDC



Distribution of West Nile fever cases among humans and outbreaks among equids in the EU as of 4 October 2018.

TESSy and ADNS



Legionnaires' disease – Lombardy, Italy – 2018

Opening date: 12 September 2018

Latest update: 5 October 2018

5/14

Epidemiological summary

On 11 September 2018, Italy notified an outbreak of pneumonia in the Brescia area through EWRS. The most affected municipalities are Carpenedolo, Montichiari, Asola, Remedello, Calvisano, Acquafredda, Isorella and Visano.

According to regional and national health authorities, 651 pneumonia cases have been reported as of 1 October 2018, 49 of which tested positive for *Legionella*. Of the 651 cases, 64% are male.

According to regional and national authorities, over 400 water samples were taken from private homes, cooling towers, public water sources and from the river Chiese.

As of 1 October 2018, eight of the 22 samples taken at the cooling towers of five companies in the municipalities of Carpenedolo and Calvisano were positive for *Legionella*. Further sampling and laboratory analyses are ongoing.

Starting from 17 September 2018, the average daily number of pneumonia cases returned to the expected number.

Sources: [ECDC fact sheet Legionnaires' disease](#)

ECDC assessment

This outbreak is considered a regional community outbreak with no international travel-related cases identified to date.

Actions

ECDC is monitoring this event through epidemic intelligence and liaising with national focal points to gather additional information on this event. ECDC will report on this event if there is a significant update.

Ebola virus disease - tenth outbreak - Democratic Republic of the Congo - 2018

Opening date: 1 August 2018

Latest update: 5 October 2018

Epidemiological summary

As of 3 October 2018, there have been 165 Ebola virus disease cases (133 confirmed, 32 probable), including 106 deaths (74 confirmed, 32 probable), since the beginning of the outbreak.

Ten health zones in two provinces have reported confirmed and probable Ebola virus disease cases: Beni, Butembo, Kalungata, Mabalako, Masereka, Musienene and Oicha health zones in North Kivu Province and Komanda, Mangina and Tchomia health zones in Ituri Province.

Response activities: According to the European Civil Protection and Humanitarian Aid Operations (ECHO), as of 2 October 2018, 1 900 contacts have been identified in Beni (1 154), Mabalako (298), Butembo (265), Tchomia (119), Musienene (37), Mandima (1), and Komanda (26) and 93.1% of these contacts were followed up.

According to the latest Ministry of Health update, as of 3 October 2018, 14 017 people have been vaccinated in Beni (4 557), Mabalako (4 254), Mandima (1 632), Katwa (1 283), Butembo (1 014), Tchomia (355), Bunia (307), Masereka (270), Komanda (224) and Oicha (121).

Travel: [Uganda](#), with high cross-border mobility with the DRC, has put in place an Ebola virus disease [preparedness plan](#) with support from WHO covering the following areas: coordination, investigations and surveillance, risk communication, cross-border entry screening at all major border points in all very high-risk districts, laboratory diagnostics and case management. [South Sudan](#) is one of the four high-risk countries prioritised by WHO to enhance preparedness and operational readiness and has activated a multi-sectoral Ebola taskforce to coordinate preparedness and response activities. Furthermore, [Burundi](#), [Rwanda](#) and [Zimbabwe](#) have established entry screening. According to the International Organization for Migration, as of 3 October 2018, there were 14 points of entry identified alongside the Uganda-DRC border.

[Belgium](#), [Germany](#), [Italy](#) and [Spain](#) have issued advice against traveling to the North Kivu region due to the Ebola outbreak. Additionally, the [CDC](#) and [WHO](#) have issued travel recommendations.

Sources: [Ministry of Health of the Democratic Republic of the Congo](#) | [WHO](#)

ECDC assessment

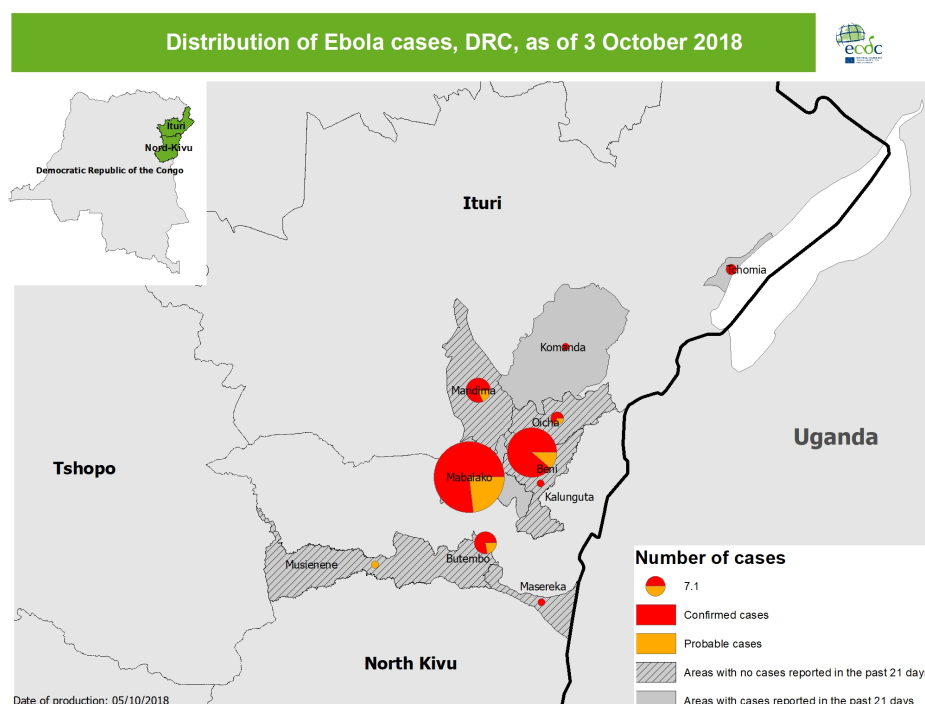
While no confirmed cases in neighbouring countries have been documented as of 30 September 2018, the fact that the outbreak is ongoing in areas with an important cross-border population flow with Rwanda and Uganda remains of particular concern. In addition, implementation of response measures in the field remains challenging because the outbreak occurs in areas affected by prolonged humanitarian crises and an unstable security situation arising from a complex armed conflict. The probability that EU/EEA citizens who live or travel in Ebola virus disease-affected areas of the DRC are exposed to the disease is low provided they adhere to the precautionary measures recommended below. The overall risk of introduction and further spread of Ebola virus within the EU/EEA is very low. However, the risk can only be eliminated by stopping transmission on a local level.

Actions

ECDC published a [rapid risk assessment](#) on 9 August 2018 and is currently updating it.

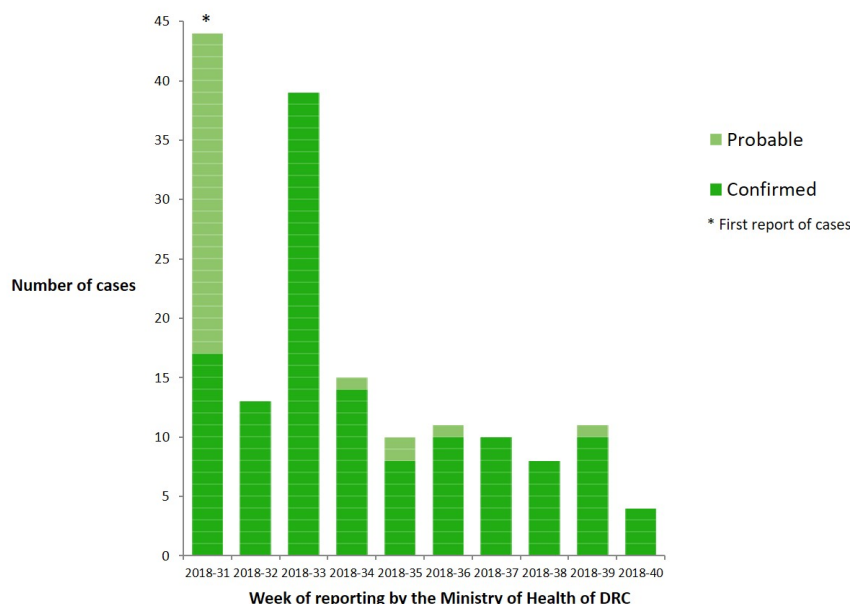
Distribution of Ebola cases, DRC, as of 3 October 2018

ECDC



Distribution of confirmed and probable cases of Ebola Virus Disease, North Kivu and Ituri Provinces, DRC, as of 3 October 2018

ECDC



Influenza A(H5N6) – China – Monitoring human cases

Opening date: 17 January 2018

Latest update: 5 October 2018

Epidemiological summary

Since 2014 and as of 1 October 2018, 21 human cases of influenza A(H5N6) have been reported from China. The cases occurred in Anhui (1), Fujian (1), Guangdong (8), Guangxi (3), Hubei (1), Jinan (4), Sichuan (1) and Yunnan Provinces (2). Of the 21 cases, at least 13 have died. All cases had exposure to live poultry or live poultry markets, except for three cases where the exposure source was not reported. No clustering of cases was reported. The latest case had onset of symptoms in September 2018.

Sources: [ECDC avian influenza page](#) | [WHO avian influenza page](#) | [ECDC/EFSA joint report: Avian influenza overview February - May 2018](#)

ECDC assessment

Although avian influenza A(H5N6) has caused severe infection in humans, human infections remain rare and no sustained human-to-human transmission has been reported. However, the characterisation of this virus is ongoing and its implication to the evolution and potential emergence of a pandemic strain is unknown. According to [WHO](#), the risk of international disease spread is considered to be low.

The risk of zoonotic influenza transmission to the general public in EU/EEA countries is considered to remain very low. As the likelihood of zoonotic transmission of newly introduced or emerging reassortant avian influenza viruses is unknown, the use of personal protective measures for people exposed to avian influenza viruses will minimise the remaining risk.

Assessment related to the ongoing outbreaks in poultry in Europe:

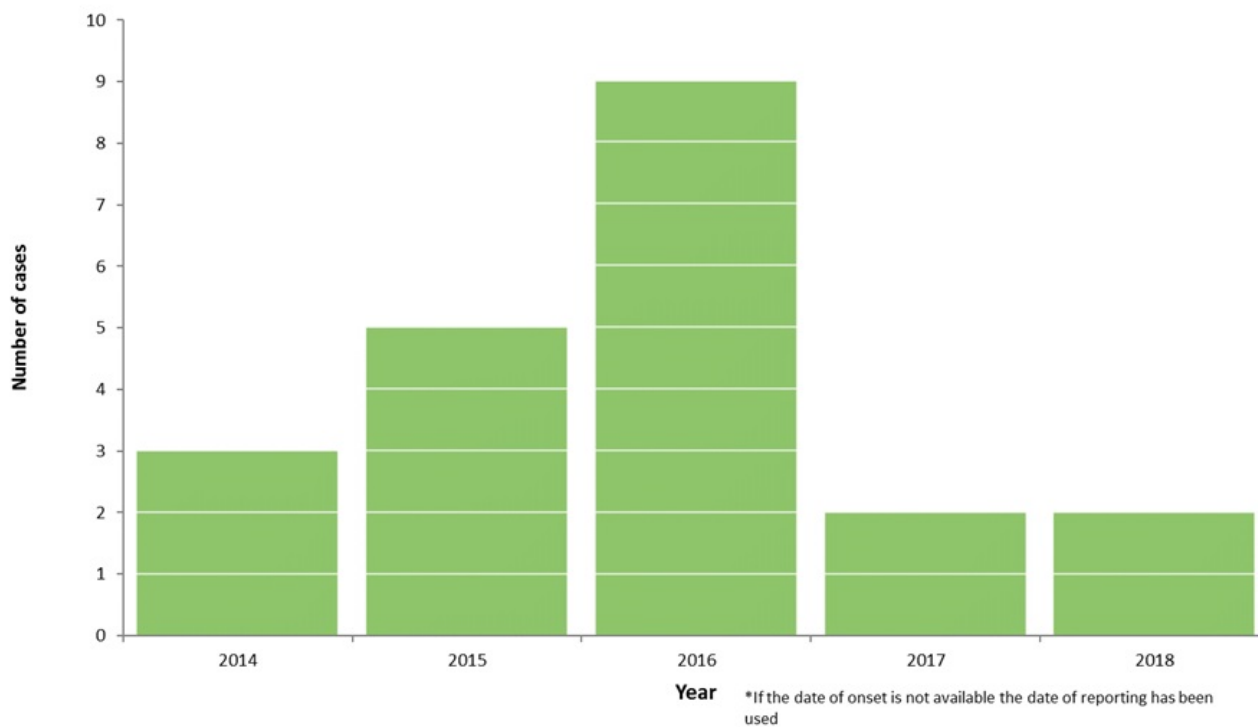
The World Organisation for Animal Health/Food and Agriculture Organization/EU reference laboratory for avian influenza at the Animal and Plant Health Agency Weybridge has conducted a detailed genetic analysis of a small number of H5N6 highly pathogenic avian influenza (HPAI) viruses recently detected in both Europe and Asia. The European strains can be differentiated from those associated with zoonotic infection in Asia. Furthermore, they do not carry any virulence markers strongly associated with human infection risk. In addition, there have been no reported human infections with this particular genetic sublineage of H5N6 HPAI to date.

Actions

ECDC monitors outbreaks of avian influenza in humans through epidemic intelligence.

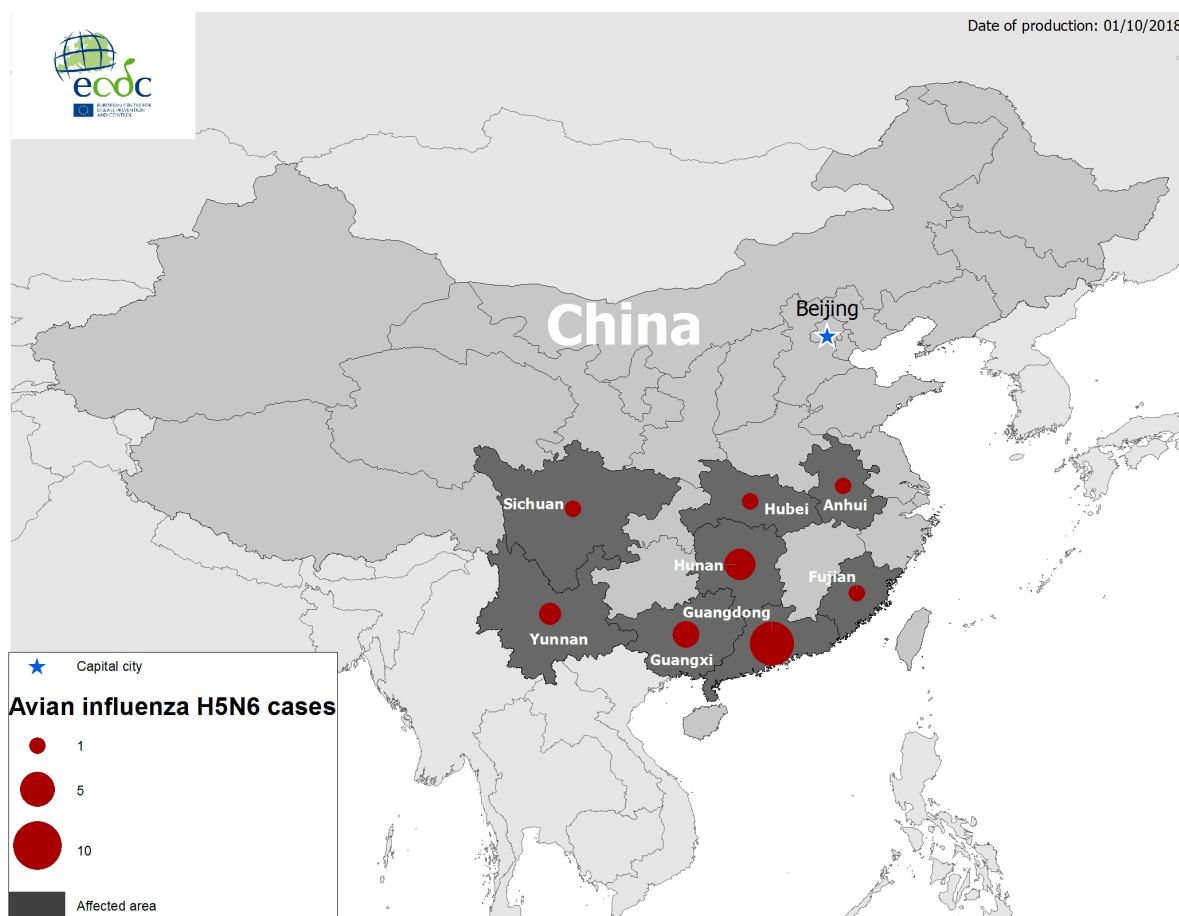
Distribution of confirmed cases of A(H5N6) by year of onset 2014 – 2018 (n=21)

Hong Kong



Geographical distribution of confirmed cases of A(H5N6), China, 2014 – 2018 (n=21)

Hong Kong



Poliomyelitis – Multistate (World) – Monitoring global outbreaks

Opening date: 8 September 2005

Latest update: 5 October 2018

Epidemiological summary

Since the beginning of 2018 and as of 25 September, two countries have recorded cases of wild poliovirus type 1 (WPV1): Afghanistan (14) and Pakistan (4), an increase of seven cases compared with the same period in 2017.

Since the beginning 2018 and as of 25 September, five countries have detected 53 cases of circulating vaccine-derived poliovirus (cVDPV), an increase of 6 cases compared with the same time period in 2017. cVDPV1 cases were reported in Papua New Guinea (14), while cVDPV2 cases were reported in the Democratic Republic of the Congo (15), Nigeria (11), Somalia (6) and Niger (2). Additionally, cVDPV3 cases were reported in Somalia (5).

ECDC link: [ECDC poliomyelitis page](#)

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

ECDC assessment

10/14

The WHO European region has remained polio-free since 2002. Inactivated polio vaccines (IPV) are used in all EU/EEA countries. The risk of reintroduction of the virus in Europe exists as long as there are non- or under-vaccinated groups in European countries and poliomyelitis is not eradicated.

ECDC link: [ECDC risk assessment](#)

Actions

ECDC provides updates on the polio situation on a monthly basis. ECDC monitors reports of polio cases worldwide through epidemic intelligence in order to highlight polio eradication efforts and to identify events that increase the risk of wild poliovirus being reintroduced in the EU.

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

Opening date: 24 September 2012

Latest update: 5 October 2018

Epidemiological summary

Since April 2012 and as of 30 September 2018, 2 274 cases of MERS-CoV, including close to 850 deaths, have been reported by health authorities worldwide.

Sources: [ECDC MERS-CoV page](#) | [WHO MERS-CoV](#) | [WHO MERS updates](#) | [ECDC fact sheet for professionals](#)

ECDC assessment

The risk of sustained human-to-human transmission in Europe remains very low. ECDC's conclusion continues to be that the MERS-CoV outbreak poses a low risk to the EU, as stated in the [rapid risk assessment](#) published on 29 August 2018, which also provides details on the last case reported in Europe.

On 2 August 2018, ECDC published a [risk assessment regarding public health risks related to communicable diseases during the 2018 Hajj, Saudi Arabia, 19–24 August 2018](#) where MERS-CoV is discussed.

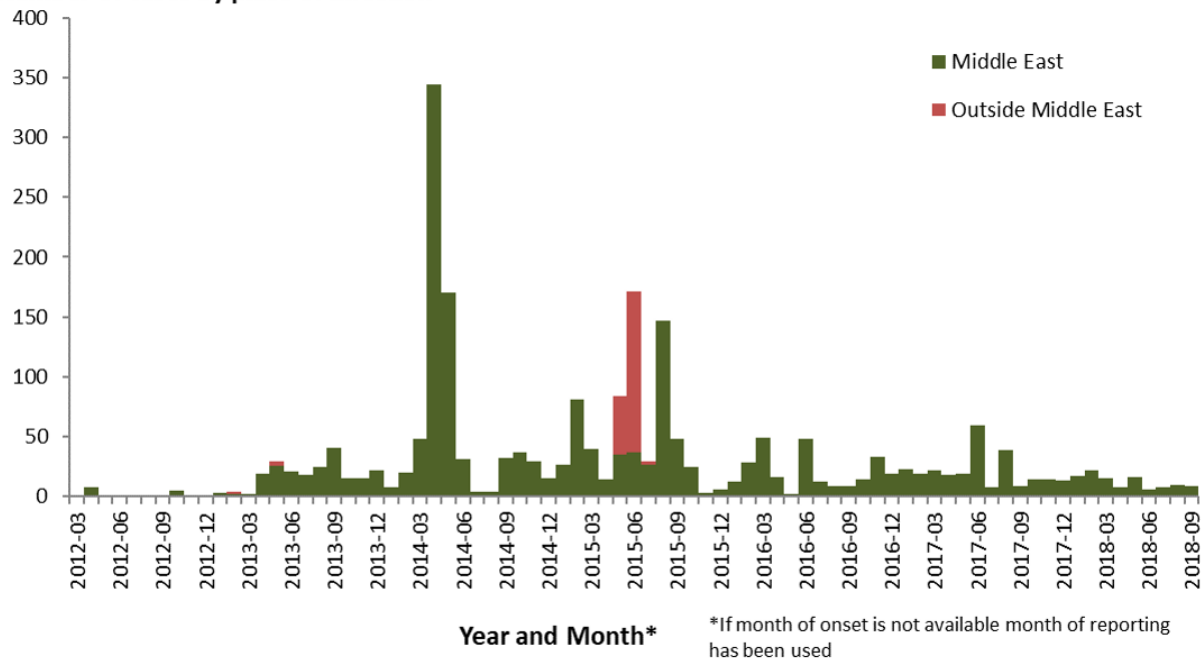
Actions

ECDC is monitoring this threat through epidemic intelligence and monthly reports.

Distribution of confirmed cases of MERS-CoV by first available month and region, from March 2012 and as of 30 September 2018

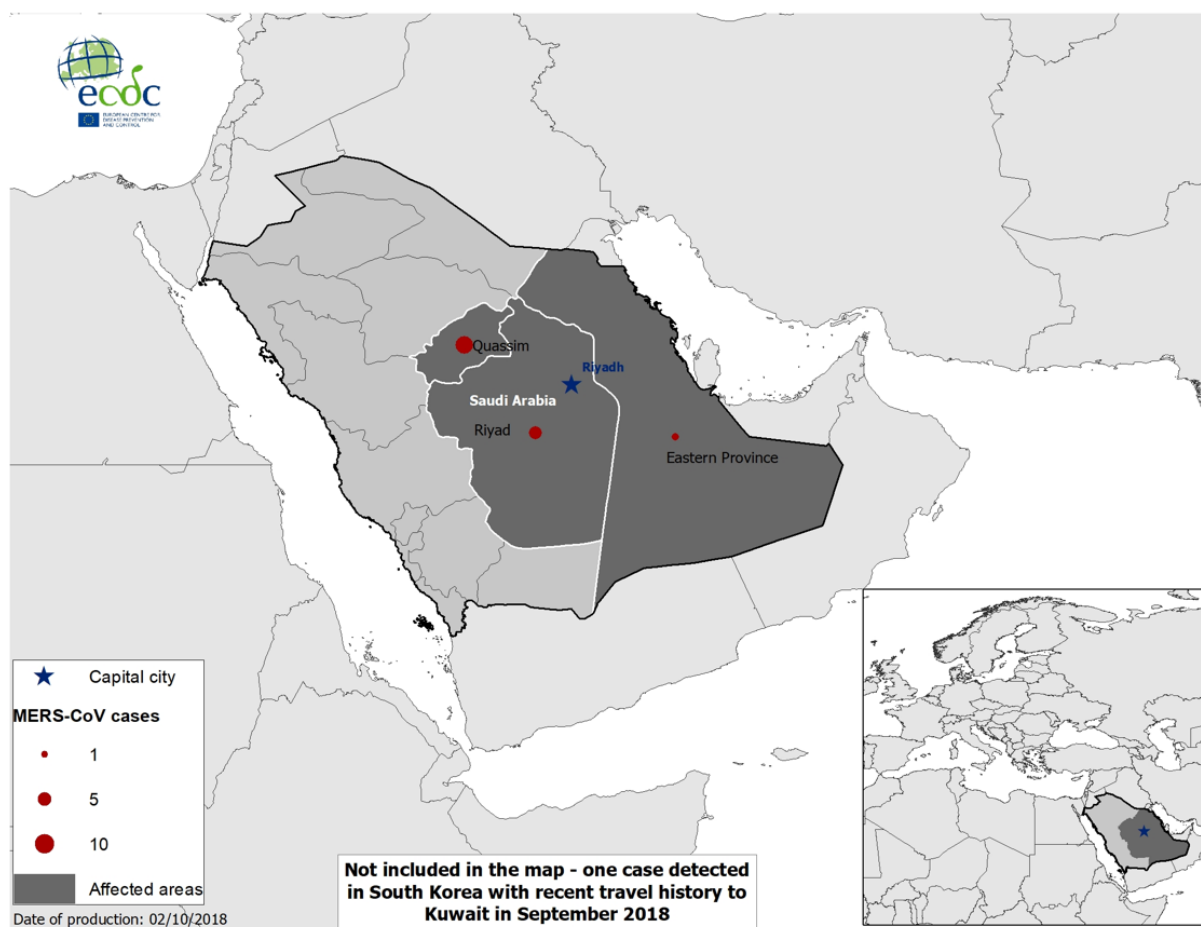
ECDC

Number of cases by place of infection



Geographical distribution of confirmed cases of MERS-CoV by probable region of infection in September 2018

ECDC



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