

This weekly bulletin provides updates on threats monitored by ECDC.

NEWS

Current vaccine-preventable disease situation in Ukraine

Ukraine is currently experiencing several public health events in vaccine-preventable diseases. Since 29 October 2019, the country has reported several unrelated [diphtheria](#) events (in Uzhgorod, Kharkov and Kiev). In addition, since June 2017 Ukraine has been facing an ongoing [measles outbreak](#). Since the beginning of the outbreak in 2017, Ukraine has reported over 115 000 measles cases, including 41 deaths. In 2019, and as of 6 November 58 276 cases, including 20 deaths, have been reported. According to [WHO](#) annual data there has been a 50-fold increase in measles cases between 2016 and 2018, from 102 cases in 2016 to 53 219 in 2018. The sustained incidence of [pertussis](#) cases over the last few years, is also significant, with 2 214 cases reported in 2018.

According to [WHO coverage data](#), vaccination coverage in Ukraine is sub-optimal for several vaccine-preventable diseases, including diphtheria, measles and pertussis. In 2018, coverage for three doses of DTaP and poliomyelitis was 50% and 48% respectively. Coverage of measles- and rubella-containing vaccines was reported as above 90% in 2018. However, it is important to note the significantly sub-optimal coverage in previous years; for instance in 2016 the coverage for the second dose of measles containing vaccine was 31%, and 42% for rubella, meaning it is likely that immunity gaps exist in older cohorts.

Ukraine borders several EU countries (Poland, Slovakia, Hungary and Romania) and there is high population flow between Ukraine and the EU/EEA. According to IATA data, in 2017 there were 2 180 175 people travelling from Ukraine to the EU and 1 907 551 people travelled from the EU to Ukraine. Since visa-free travel was introduced between the Schengen area and Ukraine in 2017, it is estimated that [42.6 million](#) visits have been made from Ukraine to Schengen countries.

In 2019, as of 30 September, the EU/EEA countries had reported 653 imported cases of measles. Of these, 22% (146) were imported from Ukraine, compared with 2% (5/335) in 2017. However, importation of measles cases accounts for a small proportion of total cases in the EU/EEA (4%) and importation from other EU/EEA countries contributes a greater number of measles cases than those from non-EU/EEA European countries, such as Ukraine, according to a recent [ECDC risk assessment](#).

Due to factors mentioned above, sporadic importation of vaccine-preventable, diseases from Ukraine to the EU/EEA is to be expected. The risk of vaccine preventable diseases being transmitted within the EU/EEA countries is dependent on countries' national and subnational vaccination coverage, and preparedness for future outbreaks. The risk to EU citizens travelling to, residing in, or returning from Ukraine is considered low, provided they are fully vaccinated in accordance with national recommendations. Healthcare providers can assess individual risk and provide further guidance to the parents of infants who are too young to be vaccinated and to others for whom the vaccine is contraindicated.

European Antibiotic Awareness Day 2019

On 18 November 2019, ECDC will mark [European Antibiotic Awareness Day](#) (EAAD) in partnership with WHO, which is staging World Antibiotic Awareness Week (18 – 24 November 2019). On the occasion of EAAD, the Agency will release a survey on the knowledge, attitudes and behaviours of healthcare workers in relation to antibiotic use and antimicrobial resistance. The survey, covering 30 EU/EEA countries, all healthcare professions and healthcare settings, will be presented at a conference in Stockholm which will include key note speeches, a panel discussion and a public debate with stakeholders and citizens. The event will be live-streamed on [ECDC's YouTube](#) channel and [EAAD's Facebook](#) page.

I. Executive summary

EU Threats

West Nile virus - Multi-country (World) - Monitoring season 2019

Opening date: 3 June 2019

Latest update: 15 November 2019

During the West Nile virus infection transmission season, expected to be from June–November 2019, ECDC monitors the occurrence of infections in EU/EEA and EU neighbouring countries and publishes weekly epidemiological updates to inform blood safety authorities of areas at NUTS 3 level (Nomenclature of Territorial Units for Statistics 3) or GAUL 1 (Global Administrative Unit Layers 1) where at least one locally-acquired human infection was reported that meets the EU case definition (Commission Implementing Decision (EU) 2018/945).

→Update of the week

Between 8 and 14 November 2019, EU Member States reported a total of six human cases of West Nile virus infections: five in Italy and one in Germany. No cases were reported from EU neighbouring countries. A human case was reported for the first time from a new area in Germany: in Leipzig, Kreisfreie Stadt. This week, three deaths were reported by Greece (2) and Romania (1).

In the same time period, three outbreaks among equids were reported to the Animal Disease Notification System (ADNS) by France (2) and Germany (1).

Influenza – Multi-country – Monitoring 2019/2020 season

Opening date: 11 October 2019

Latest update: 15 November 2019

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

→Update of the week

This CDTR report provides the update for the last week of influenza monitoring available:

Week 45, 2019 (4 to 10 November):

Influenza activity remained low throughout the European Region. Influenza viruses were detected sporadically in specimens from persons with respiratory illness presenting to medical care. Regarding the influenza types, both influenza A and B type viruses were detected. Data from the 23 countries or regions reporting to the [EuroMOMO](#) project indicated all-cause mortality to be at the expected levels for this time of the year.

Non EU Threats

New! Salmonella Mikawasima - Multi-country - 2019

Opening date: 13 November 2019

Latest update: 15 November 2019

A multi-country outbreak of *Salmonella* Mikawasima infection has been identified by whole genome sequencing in several EU countries in 2019.

→Update of the week

A multi-country outbreak of *Salmonella* Mikawasima infection has been identified by whole genome sequencing in several EU countries.

Ebola virus disease - tenth outbreak - Democratic Republic of the Congo - 2018-2019

Opening date: 1 August 2018

Latest update: 15 November 2019

On 1 August 2018, the Ministry of Health of the Democratic Republic of the Congo declared the 10th outbreak of Ebola virus disease in the country. The outbreak affects North Kivu, South Kivu and Ituri Provinces in the north-east of the country, close to the border with Uganda. In 2019, several imported cases from the Democratic Republic of the Congo were detected in Uganda. However, no autochthonous cases have been reported in Uganda as of 13 November 2019. On 17 July 2019, the [International Health Regulations \(IHR\) Emergency Committee](#) convened, and the WHO Director-General later declared that the outbreak meets all criteria for a public health emergency of international concern (PHEIC) under the International Health Regulations. On 18 October 2019, the Emergency Committee for Ebola virus disease in the DRC confirmed that the outbreak still constitutes a PHEIC.

→Update of the week

Since the previous CDTR and as of 13 November 2019, the [Ministry of Health of the Democratic Republic of the Congo](#) (DRC) has reported six additional confirmed cases. During the same period, one death was reported among confirmed cases.

This week a further decrease in cases was observed, with other indicators also showing improvement, such as all new cases being known contacts, a lower number of community deaths, and a shorter delay from symptom onset to admission. All cases this week resulted from local transmission in Beni and Mabalako, but had earlier transmission chains in Biakato. Ongoing local transmission in the Bingo and Ngoyo Health Areas of Mabalako is challenging due to some security issues causing difficulties with the response activities.

On 11 November 2019, following [recommendations](#) from the European Medicines Agency (EMA), the [European Commission](#) granted marketing authorisation to the Merck Sharp & Dohme B.V. for their Ervebo vaccine (rVSVΔG-ZEBOV-GP). On 12 November, [WHO prequalified](#) the same vaccine. An overview of the current research, development and use of vaccines against Ebola can be found [here](#).

On 14 November 2019, [Ebola vaccination](#) began with the Ad26.ZEBOV / MVA-BN-Filo vaccine, produced by Janssen Pharmaceuticals for Johnson & Johnson. This vaccine will be used outside of the active health zones in two health areas in the city of Goma. The logistics for this vaccination are being coordinated by MSF who stated that [40 people](#) were vaccinated on the first day.

According to [media](#), journalists promoting Ebola awareness in Lwemba have gone into hiding after several threats, the burning of 25 homes and the recent murder of a colleague.

On 8 November 2019, a paper was [published](#) on the long-term detection of Ebola viral RNA in body fluids of Ebola virus disease survivors in Guinea.

Influenza A(H9N2) - Multi-country (World) - Monitoring human cases

Opening date: 30 January 2019

Latest update: 15 November 2019

Animal influenza viruses that cross the animal-human divide infecting people are considered novel to humans and have the potential to become pandemic threats.

→Update of the week

On 6 November 2019, a paper was published about the first case of human infection with avian influenza A(H9N2) virus in India. The case is a 17-month-old boy from Melghat District, Maharashtra State, India. He developed a fever, cough, breathlessness, and difficulty feeding on 31 January 2019. The nasopharyngeal swab was taken two days after the onset of symptoms and tested positive by PCR for influenza A(H9N2) virus on 12 February 2019. The case recovered uneventfully.

II. Detailed reports

West Nile virus - Multi-country (World) - Monitoring season 2019

Opening date: 3 June 2019

Latest update: 15 November 2019

Epidemiological summary

Between 8 and 14 November 2019, EU Member States reported a total of six human cases of West Nile virus infections: 5 in Italy and 1 in Germany. No cases were reported from EU neighbouring countries. A human case was reported for the first time from a new area in Germany: in Leipzig, Kreisfreie Stadt. This week, three deaths were reported by Greece (2) and Romania (1).

In the same time period, three outbreaks among equids were reported to the Animal Disease Notification System (ADNS) by France (2) and Germany (1).

Since the beginning of the 2019 transmission season and as of 14 November 2019, EU Member States and EU neighbouring countries have reported 462 human infections. EU Member States reported 410 cases: Greece (223), Romania (66), Italy (53), Hungary (36), Cyprus (16), Bulgaria (5), Austria (4), Germany (4), France (2), and Slovakia (1). EU neighbouring countries reported 52 human cases in Serbia (27), Israel (10), Turkey (9) and North Macedonia (6).

To date, 50 deaths due to West Nile virus infection have been reported by Greece (34), Romania (8), Italy (4), Cyprus (1), Bulgaria (1), North Macedonia (1) and Serbia (1).

During the current transmission season, 88 outbreaks among equids have been reported by Germany (30), Greece (21), France (13), Italy (8), Hungary (7), Austria (4), Spain (4) and Portugal (1). In addition, Germany has reported 53 outbreaks among birds to ADNS.

ECDC link: [West Nile virus infection atlas](#)

Sources: [TESSy](#) | [Animal Disease Notification System](#)

ECDC assessment

During this transmission season, Germany and Slovakia reported their first autochthonous human West Nile virus infection. The occurrence of human autochthonous West Nile virus infections in Germany and Slovakia was not unexpected as WNV circulation among birds, equids and/or mosquitoes has been previously documented. All other human infections were reported in EU Member States with known persistent transmission of West Nile virus in previous years. Further human cases may be detected, but in the coming weeks, environmental conditions will become less suitable for transmission.

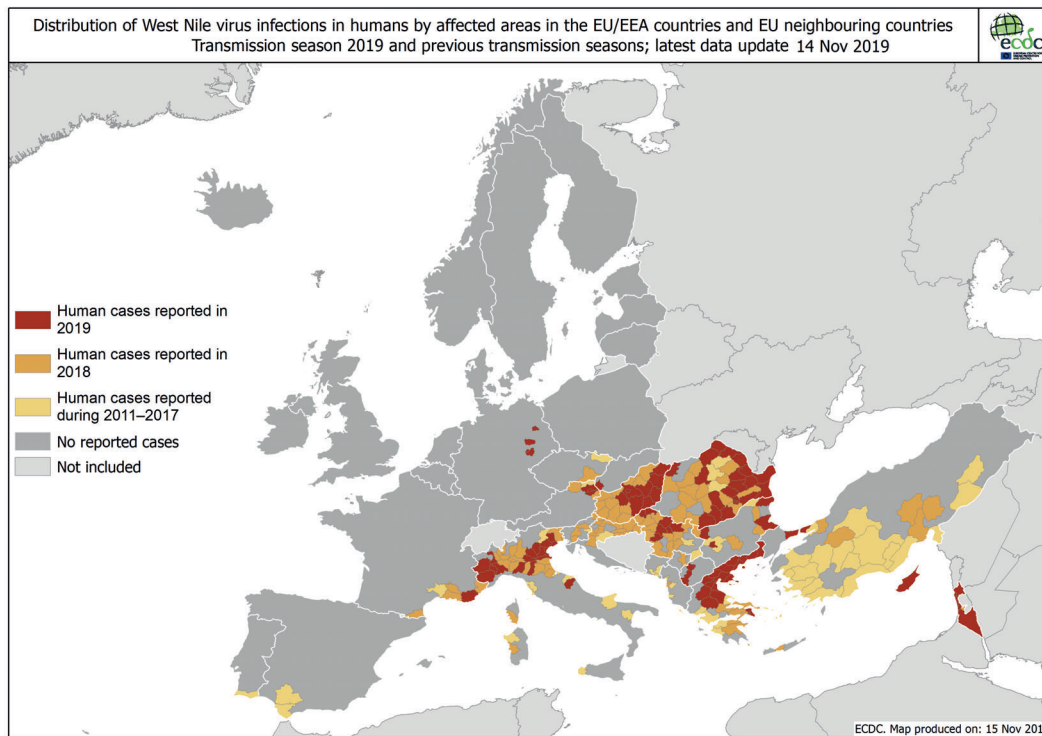
In accordance with [European Commission Directive 2014/110/EU](#), prospective donors should be deferred for 28 days after leaving a risk area for locally acquired infections unless the results of an individual nucleic acid test are negative.

Actions

During the transmission season, ECDC publishes [West Nile virus infection maps](#) together with an epidemiological summary every Friday. More information about the seasonal surveillance of West Nile virus infections can be found on [ECDC webpage](#).

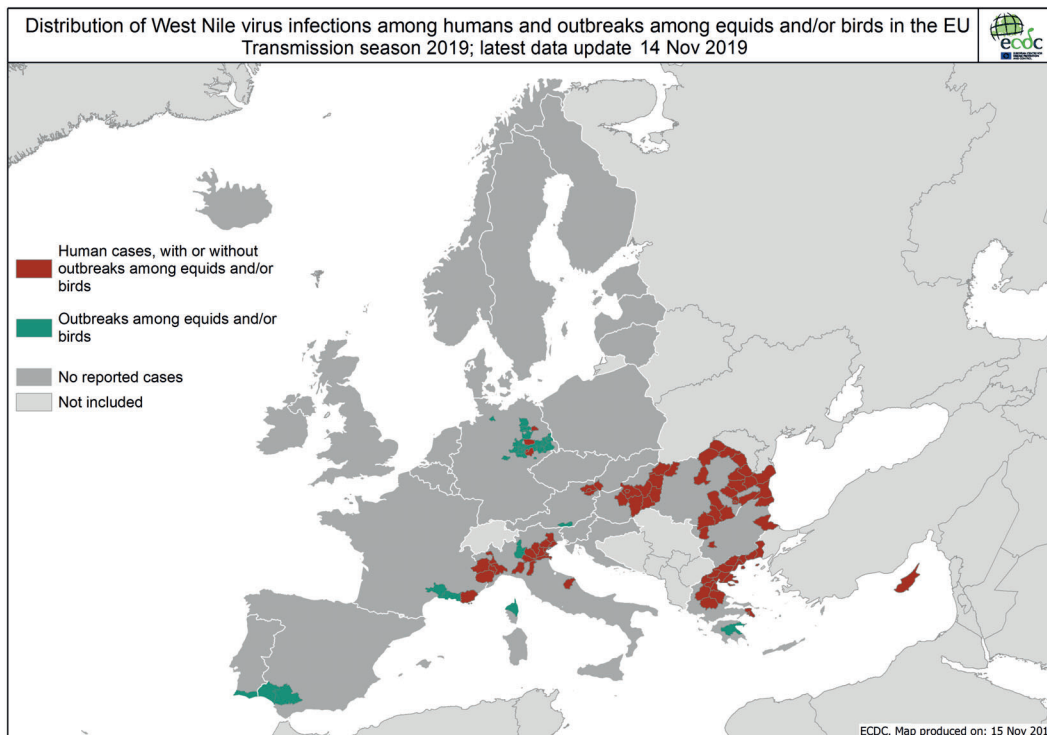
Distribution of human West Nile virus infections by affected areas as of 14 November 2019.

ECDC



Distribution of West Nile virus infections among humans and outbreaks among equids and/or birds in the EU as of 14 November 2019.

ECDC and ADNS



Influenza – Multi-country – Monitoring 2019/2020 season

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Opening date: 11 October 2019

Latest update: 15 November 2019

Epidemiological summary

2019-2020 season overview

As is usual for this time of year, influenza activity is low in the European Region. The full report of the [Vaccine Composition Meeting for the southern hemisphere](#) 2020 season can be found [here](#).

Sources: [EuroMOMO](#) | [Flu News Europe](#) |

ECDC assessment

Influenza activity is low throughout the WHO European Region, which is expected for this time of year. All-cause mortality data show mortality levels within the expected ranges for participating countries.

In March 2019, WHO published [recommendations](#) for the composition of influenza vaccines to be used in the 2019–2020 northern hemisphere season. Influenza vaccination for the 2019–2020 season should be promoted because vaccine coverage among the elderly, chronic disease risk groups and healthcare workers is suboptimal in most EU Member States, according to the [VENICE report](#). The vast majority of recently circulating influenza viruses in the Region and worldwide were susceptible to neuraminidase inhibitors, which supports the use of antiviral treatment in accordance with national guidelines.

Actions

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

ECDC monitors influenza activity in the WHO European Region from week 40/2019 to week 20/2020.

New! **Salmonella Mikawasima - Multi-country - 2019**

Opening date: 13 November 2019

Latest update: 15 November 2019

Epidemiological summary

Epidemiological summary

Five European countries are investigating a multi-country *Salmonella* Mikawasima infection outbreak identified by whole genome sequencing (WGS). As of 12 November 2019, 190 cases have been reported by the United Kingdom (138 cases), Sweden (31), France (18), Denmark (2) and Ireland (1) to ECDC. The majority of the cases are non-travel related. The earliest date of illness onset is in late August 2019. Infections are more common in adults and in older adults than in other age groups. Slightly more females than males have been reported.

Where exceedances of *Salmonella* Mikawasima have been identified previously, this has been in late summer/autumn. WGS analysis concluded that the strain involved in the current event is not closely genetically related to any of the available strains identified in the previous years.

Hypothesis-generation interviews are being administered to patients in all countries. However, no robust hypothesis on the vehicle of infection has been formulated so far.

In addition, Portugal has reported a small increase of *S. Mikawasima* cases in 2019, with most cases identified since August. WGS data for 2019 are not yet available for these isolates, which are currently under investigation.

Microbiological summary

All isolates are sequence type (ST)1815 and cluster with the UK representative isolates with a 0-4 allelic differences. Representative outbreak sequences have been uploaded by Public Health England (PHE) in public repositories under the SRA numbers "SRR10247460" and "SRR10254351" and by Institut Pasteur under the SRA numbers "ERS3939651" and "ERS3939652".

Background

Salmonella Mikawasima ranked 34th of the *Salmonella* serotypes reported in The European Surveillance System (TESSy). From 2014 to 2018, 17 EU/EEA countries reported between 142 and 210 cases per year. Spain and the United Kingdom accounted for 31% and 26%, respectively, of all reported confirmed cases. Most cases were reported in adults (67% in adults 25 years and above). Fifty-four percent of cases were female, and cases were more common in females in all age groups above 5 years. Travel

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information was available for 66% cases and of these, the majority (86%) were domestically acquired. Among the travel related cases the most common travel destination was Spain (44%), followed by India (8%).

Source: EPIS FWD

ECDC assessment

This appears to be a multi-country outbreak taking place in a number of EU countries. The multi-country dimension has been identified through WGS analysis. However, the outbreak was also identified through exceedance analysis in the UK, France and Sweden. The close genomic relationship between isolates in the different countries indicates association with a common source. The lack of travel history for the cases and the recent identification possibly points to a vehicle of infection simultaneously distributed in different EU countries.

Actions

ECDC is monitoring this event.

Ebola virus disease - tenth outbreak - Democratic Republic of the Congo - 2018-2019

Opening date: 1 August 2018

Latest update: 15 November 2019

Epidemiological summary

Since the beginning of the outbreak a year ago and as of 13 November 2019, there have been 3 292 cases (3 174 confirmed, 118 probable) in the Democratic Republic of the Congo (DRC), including 2 193 deaths (2 075 confirmed, 118 probable), according to the Ministry of Health of the Democratic Republic of the Congo. During the past 21 days, the majority of the cases were reported in Mabalako, Mandima and Beni. As of 13 November 2019, 163 healthcare workers have been infected (41 died).

In the DRC, 29 health zones in three provinces have reported confirmed/probable Ebola virus disease cases: Mwenga in South Kivu Province, Alimbongo, Beni, Biena, Butembo, Goma, Kalunguta, Katwa, Kayna, Kyondo, Lubero, Mabalako, Manguredjipa, Masereka, Mutwanga, Musienene, Nyiragongo, Oicha, Pinga and Vuhovi Health Zones in North Kivu Province and Ariwara, Bunia, Mambasa, Nyankunde, Komanda, Lolwa, Mandima, Rwampara and Tchomia in Ituri Province.

In Uganda, one imported case (reported on 29 August) died on 30 August in Kasese district, which borders North Kivu. However, as of today, there have been no reports of autochthonous transmission in Uganda.

Public health emergency of international concern (PHEIC): On 17 July 2019, WHO's Director-General [declared](#) the Ebola virus disease outbreak in the Democratic Republic of the Congo a PHEIC. This declaration followed the fourth IHR Emergency Committee for Ebola virus disease in the Democratic Republic of the Congo on 17 July 2019. The declaration was made in response to the geographical spread observed in the previous weeks as well as the need for a more intensified and coordinated response in order to end the outbreak. On 18 October 2019, the Committee decided that the outbreak still constitutes as a PHEIC.

Sources: [CMRE](#) | [Ebola dashboard Democratic Republic of the Congo](#) | [Ministry of Health of the Democratic Republic of the Congo](#) | [WHO](#) | [WHO Regional Office for Africa](#)

ECDC assessment

ECDC assessment: Implementing response measures remains challenging in the affected areas because of the prolonged humanitarian crisis, the unstable security situation, and resistance in several sectors of the population. A substantial proportion of cases has been detected in individuals not previously identified as contacts, stressing the need to maintain enhanced surveillance and identify the chains of transmission.

The fact that the outbreak is ongoing in areas with a cross-border population flow with Rwanda, South Sudan, Burundi and Uganda remains of particular concern. So far, the identification of imported cases to previously non-affected areas does not change the overall risk for the EU/EEA, which remains very low.

WHO assessment: As of 14 November 2019, [WHO's assessment](#) for the Democratic Republic of the Congo states that the risk of spread remains low at the global level and very high at national and regional levels. While the relatively lower case incidence observed is encouraging, it must be interpreted with caution as the situation remains highly contingent upon the level of access and security within affected communities. Concurrent with the decline in case incidence, there was a further shift in hotspots from urban settings to more rural, hard-to-reach communities, within a more concentrated geographical area. These areas bring additional challenges to the response. In such environments, the risk of resurgence remains very high, as does the risk of re-

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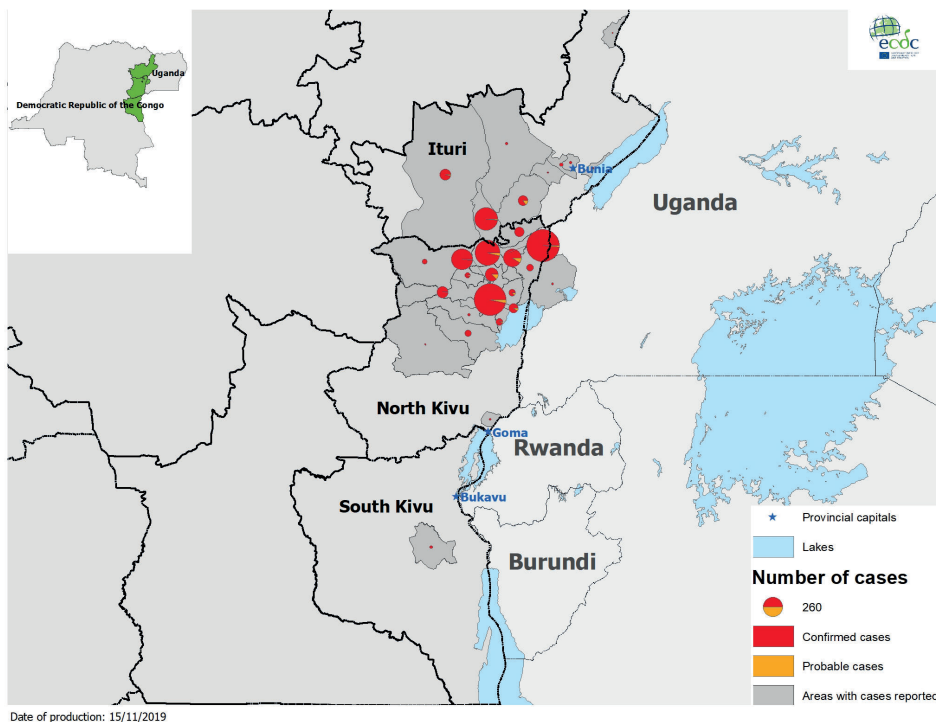
dispersion of the outbreak, due to cases travelling outside of hotspots to seek healthcare or for other reasons. These risks continue to be mitigated by the substantial response and preparedness activities in the DRC and neighbouring countries, with support from a consortium of international partners.

Actions

ECDC published an [epidemiological update](#) on 13 June 2019 and updated its [rapid risk assessment](#) on 7 August 2019.

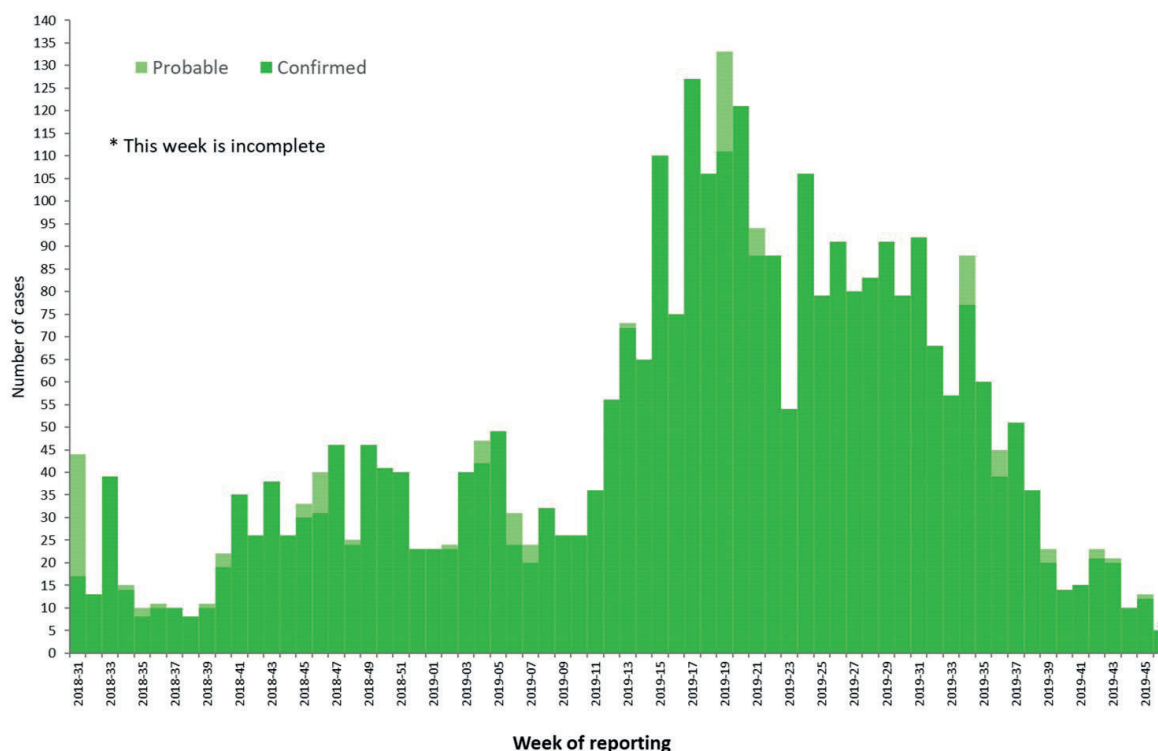
Geographical distribution of confirmed and probable cases of Ebola virus disease, Democratic Republic of the Congo and Uganda, as of 13 November 2019

Source: ECDC



Distribution of confirmed and probable cases of Ebola Virus Disease, Democratic Republic of the Congo and Uganda, as of 13 November 2019

Source: ECDC



Ebola Virus Disease case distribution in DRC and Uganda, as of 13 November 2019

Source: ECDC

	Number of confirmed cases	Number of probable cases	Confirmed and probable cases	Number of deaths	Conf/Prob cases in past 7 days
Democratic Republic of the Congo	3174	118	3292	2193	
North-Kivu Province	2671	100	2771	1929	
Alimbongo	5	0	5	2	
Beni	687	9	696	457	ACTIVE
Biena	18	2	20	14	
Butembo	284	3	287	353	
Goma	1	0	1	1	
Kalunguta	194	18	212	89	
Katwa	651	24	675	494	
Kayna	27	0	27	8	
Kyondo	25	4	29	19	
Lubero	31	2	33	6	
Mabalako	395	17	412	325	ACTIVE
Manguredjipa	18	0	18	12	
Masereka	50	6	56	23	
Musienene	84	1	85	34	
Mutwanga	32	0	32	12	
Nyiragongo	3	0	3	1	
Oicha	62	0	62	28	
Pinga	1	0	1	0	
Vuhovi	103	14	117	51	
Ituri province	497	18	515	261	
Ariwara	1	0	1	1	
Bunia	5	0	5	4	
Komanda	56	10	66	54	
Lolwa	6	0	6	1	
Mambasa	78	3	81	30	
Mandima	339	5	344	165	
Nyakunde	2	0	2	1	
Rwampara	8	0	8	3	
Tchomia	2	0	2	2	
South-Kivu	6	0	6	3	
Mwenga	6	0	6	3	
Uganda	1	0	1	1	
Kasese province	1	0	1	1	
Kasese	1	0	1	1	
Cumulative Total	3175	118	3293	2194	

Influenza A(H9N2) - Multi-country (World) - Monitoring human cases

Opening date: 30 January 2019

Latest update: 15 November 2019

Epidemiological summary

On 6 November 2019, a paper was published regarding a human case of avian influenza A(H9N2) infection in India. The case was a 17-month-old boy from Melghat District, Maharashtra State, India, who developed severe acute respiratory infection (fever, cough, breathlessness, and difficulty feeding) on 31 January 2019. The boy recovered uneventfully.

The nasopharyngeal swab was taken two days after the onset of symptoms and tested positive by PCR for influenza A(H9N2) virus on 12 February 2019 at the India's National Institute of Virology. Complete genome analysis of the strain indicated a mixed lineage of G1 and H732. The strain also was found to be susceptible to neuroaminidase inhibitors and adamantanes.

The family reported a trip to a religious gathering one week before the occurrence of symptoms. No direct exposure to poultry was reported. The father of the child also had respiratory symptoms following the religious gathering, but was not tested due to his absence as migrant worker.

This is the first case of A(H9N2) infection reported in humans in India. To date and since 1998, a total of 57 laboratory-confirmed cases, including one death, of human infection with avian influenza A(H9N2) viruses have been reported from China (47), Egypt (4), Bangladesh (3), Oman (1) and Pakistan (1). The previous human infection was reported in Oman with disease onset in April 2019.

Sources: [ECDC avian influenza page](#) | [WHO avian and other zoonotic influenza page](#) | [ECDC/EFSA joint report: Avian influenza overview November 2018 – August 2019](#) | [Emerging Infectious Diseases](#)

ECDC assessment

Although avian influenza A(H9N2) has caused infection in humans, human infections remain rare and no sustained human-to-human transmission has been reported. No human cases due to A(H9N2) have been reported in Europe.

Human cases related to a low pathogenic avian influenza A(H9N2) virus are detected sporadically and are not unexpected in regions where A(H9N2) is endemic in the poultry population (Asia, Africa and the Middle East). Direct contact with infected birds or a contaminated environment are the most likely source of infection.

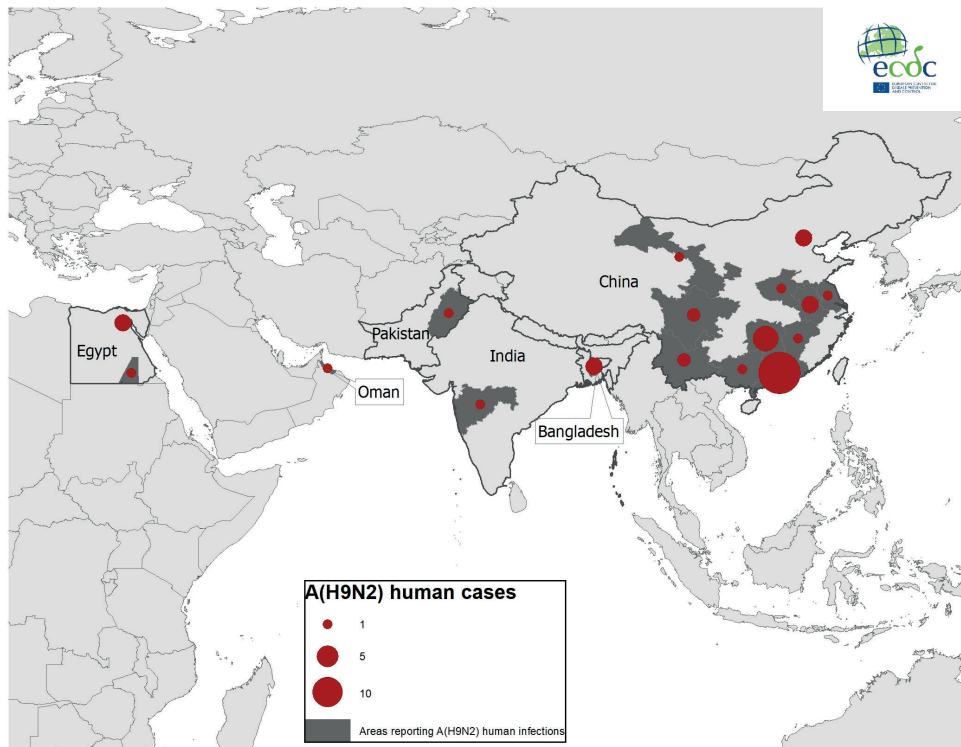
The risk of zoonotic influenza transmission to the general public in EU/EEA countries is still considered to be very low. As the likelihood of zoonotic transmission of newly introduced or emerging reassortant avian influenza viruses is unknown, the use of personal protective measures for people exposed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

Actions

ECDC monitors avian influenza strains through epidemic intelligence in order to identify significant changes in the epidemiology of the virus. ECDC, together with EFSA and the EU reference laboratory for avian influenza, produces a quarterly updated report of the [avian influenza situation](#) and the last [report](#) was published on 27 September 2019.

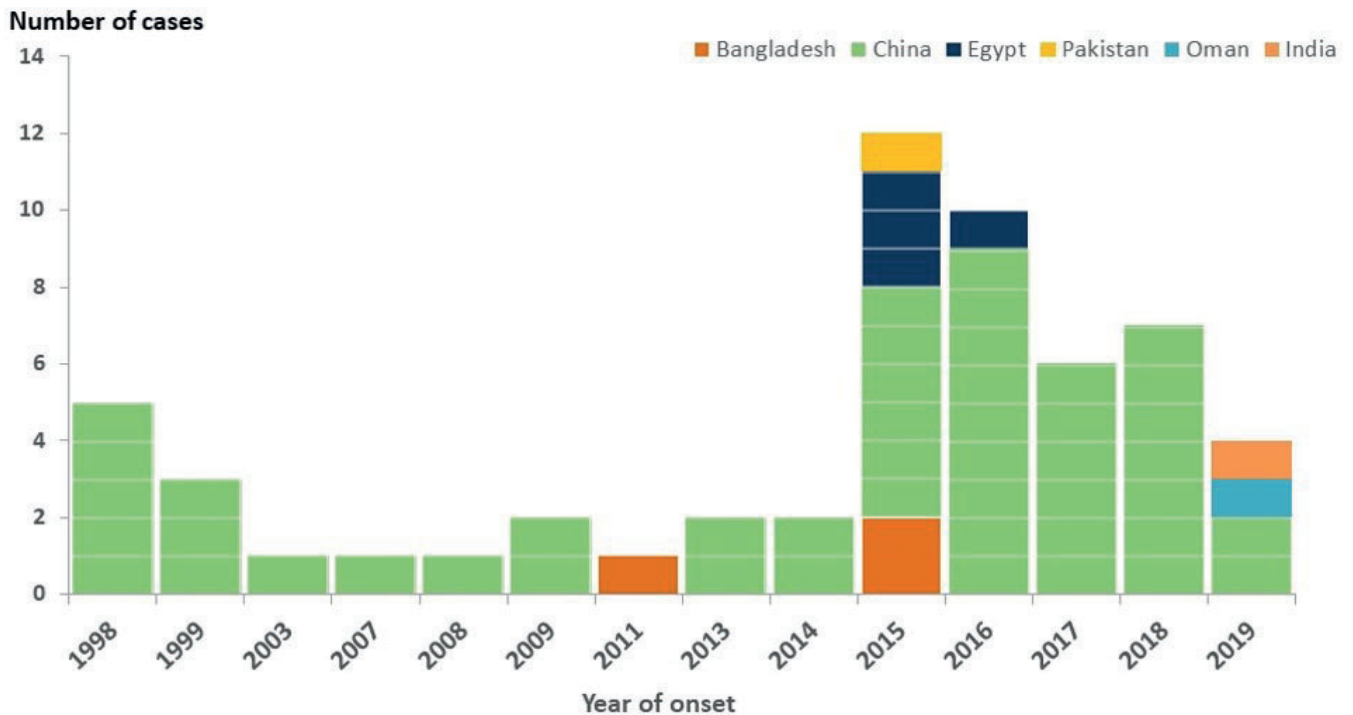
Geographical distribution of confirmed human cases of A(H9N2), 1998 - 8 November 2019

Source: ECDC



Distribution of confirmed human cases of A(H9N2) by reporting country, 1998 - 8 November 2019

Source: ECDC



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