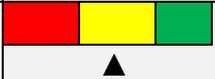




Infectious Disease Surveillance and Monitoring for Animal and Human Health: summary of notable incidents of public health significance. October 2018

Incident assessment:

Deteriorating	No Change	Improving	Undetermined
Incident is deteriorating with increased implications for public health	Update does not alter current assessment of public health implications	Incident is improving with decreasing implications for public health	Insufficient information available to determine potential public health implications

Notable incidents of public health significance	Incident assessment*
Ebola virus disease (EVD), Democratic Republic of Congo	

North-Kivu and Ituri provinces, eastern DRC

After a decrease in September, case incidence rose again in October. As of [31 October](#), a total of 285 confirmed and probable cases had been reported, including 250 confirmed cases, across 11 health zones in North Kivu and Ituri provinces [\[map\]](#). This is an increase of 121 confirmed cases in the past month, compared to only 29 cases in September. An unusually large proportion (39, 32%,) of the October cases were in children. This is thought to be associated with nosocomial transmission in local health centres following presentation for other illnesses, [particularly malaria](#).

Beni remains the [epicentre of the outbreak](#), although there is also active transmission in Butembo. Since 08 August, over 25,300 people have been vaccinated.

The EVD response was again disrupted by community resistance, attacks by armed groups and a brief period of official mourning. [Three IFRC volunteers](#) assisting with safe burial of a confirmed case were attacked by villagers in Butembo, prompting the IFRC to suspend their activities in the area. On 21 October, [Congoese rebels killed 15 civilians](#) and abducted children in Beni, leading to temporary suspension of response activities and a subsequent decrease in contact tracing and the number of alerts investigated. As a result, the number of new cases increased from an average of 10 a week to 30 [\[WHO epi curve\]](#).

In response to attacks on response teams and continued community resistance, the DRC Ministry of Health implemented [enhanced control measures](#). These include security forces assisting response teams with safe and dignified burials; families must have a medically declared death certificate before they can get a burial permit; any healthcare worker or healer who suspects EVD in a patient must declare them to an ETC or risk permanent closure of their practice; and penalties of up to 3 months imprisonment for hiding suspected cases. The [UN Security Council](#) also unanimously adopted a resolution calling for a halt to attacks by armed groups in DRC as they are severely hampering response efforts and facilitating the spread of EVD.

Towards the end of October there were [reports of increased community cooperation](#) and acceptance of the response, but the true impact is yet to be determined. The WHO

convened an Emergency Committee on [17 October](#) to determine whether the outbreak constitutes a Public Health Emergency of International Concern (PHEIC). It was the view of the Committee that the outbreak did not constitute a PHEIC at that time.

Cholera, Yemen



After an improvement in the numbers of new cases at the beginning of the year, Yemen's cholera outbreak is accelerating again, averaging around 10,000 new suspected cases per week in October, double the average for the first eight months of the year. As of [01 November](#), a total of 259,948 cases, including 358 deaths have been reported in 2018, including 59,748 cases in October alone. Nearly all (22 of 24) governorates have been affected, with [Al Hodeidah, Amran, Dhamar, Amanat Al Asimah and Sana'a reporting the highest number](#) of suspected cases.

[Air-strikes damaged a sanitation facility](#) and water station supplying water to Al Hodeidah in late July, almost immediately leading to a local dramatic increase in cases. Systemic problems of poor sanitation and hygiene, shortages of clean water, currency depreciation and lack of fuel and food are aggravating the situation.

At the beginning of October, a [vaccination campaign](#) reached more than 306,000 people, following a temporary pause in fighting. Since April 2017, there have been more than 1.2 million suspected cases of cholera in Yemen.

Other incidents of interest:

- **China** reported 1 fatal human case of [avian influenza H5N6](#) in Guangxi province. The patient reported no contact with live poultry before symptom onset. In 2018, China has reported 4 human cases, bringing the total reported since 2014 to 22
- a [large chikungunya outbreak](#) was reported in Kassala State, **Sudan** in October. Cases first appeared in Red Sea State in May and subsequently spread to 7 other states. At least [19,224 cases have been reported](#), 95% of which are from Kassala State. Concurrent dengue fever has also been confirmed following reports of patients with haemorrhagic symptoms
- dengue in **Europe**: 10 autochthonous cases were confirmed in October; [3 in Spain](#) and [7 in France](#) (5 in Saint Laurent du Var and 2 in Hérault). The 2 outbreaks in France are not epidemiologically linked and the viruses are of different serotypes (1 and 2). While France last reported cases in 2015, this is the [first time locally acquired cases of dengue](#) have been reported in Spain. The occurrence of locally acquired cases is not surprising as the vector *Aedes albopictus* has been present since 2004
- [European Bat Lyssavirus 1](#) was reported in a serotine bat in Dorset, **UK**. Widespread in serotine bats in other parts of Europe, this is [the first time](#) it has been detected in a UK bat.
- a new [outbreak of monkeypox](#) was reported in Mbaiki health district, **Central African Republic**. This is the [fourth monkeypox event in CAR](#) in 2018, and [6 cases](#) were identified during October. As of [25 October](#), 37 cases, including 1 death, have been reported across the country during 2018, but no epidemiological linkages have been established between the clusters
- the increase in cases of West Nile virus (WNV) infection in **Europe and neighbouring countries** reported in August is resolving. As of [30 October](#), a total of 1,997 confirmed and probable human cases had been reported, 327 in October. Most reported cases have been in Italy (550), Greece (307) and Serbia (410). It is expected that weekly case numbers will decline from this point on, as vector activity diminishes. Following detection in owls and a horse, Germany reported [human infection](#) for the

first time in a vet who conducted a necropsy on an owl with confirmed WNV infection

Circulating vaccine-derived polioviruses:

- **Papua New Guinea** continued to report cases of cVDPV1. As of [30 October](#), a total of 21 cases have been reported from 7 provinces
- **Nigeria** continues to be affected by two separate outbreaks of cVDPV2. As of [30 October](#), a total of 19 cases have been reported across the country. There has been spread into **Niger** which reported [4 new cases](#) of cVDPV2 genetically linked to cases in Nigeria (Jigawa and Katsina States), bringing the total in Niger to 6.

Publications of interest:

- the [first known transmission of Eastern Equine Encephalitis virus \(EEEV\) infection through solid organ transplantation](#) was reported in the USA. Three recipients of heart, liver and lungs all developed encephalitis within one week of transplantation, and all had laboratory evidence of EEEV infection. Retrospective investigation of donor's serum detected EEEV RNA but no IgM in serum within 24 hours of organ collection suggesting that virus acquisition had occurred either shortly before or after admission to hospital (which had been due to severe trauma). Epidemiological risk factors were unknown, but environmental surveillance indicated recent EEEV activity in counties near the donor's residence
- Andes virus infection is a [high consequence infectious disease](#), endemic to Argentina and Chile that is primarily transmitted through contact with rats, although human-to-human transmission had been reported. The [first imported case in the USA was reported](#) in a person with recent travel to endemic areas. Accommodation had been poor, but no rodent exposures were reported. Contact tracing amongst healthcare and airline personnel and other contacts identified two high-risk and six low-risk individuals requiring follow-up. No further cases were identified. Imported Andes virus infections are rare, but have been [reported in Europe](#)
- in 2018, Nigeria experienced an unusually large outbreak of Lassa fever leading to concern that a change in virus epidemiology may have occurred. [Genetic sequencing showed that no one particular viral strain was responsible for the increase](#) suggesting that there were numerous distinct transmissions from the rodent reservoir. Limited human-to-human transmission was observed
- in May and June 2018, Kerala experienced the [first recorded Nipah virus outbreak in South India](#). In total, 23 cases, of which 18 were confirmed, and 21 deaths were identified. The index case reported frequent outdoor exposure, with possible animal contact. The index patient transmitted infection to 19 close contacts, with onward transmission to the remaining 3 cases. All 22 were nosocomially acquired and occurred in three clusters in different hospitals. Overall, 20/23 (87%) of the cases had respiratory symptoms. Phylogenetic sequencing of the virus revealed 97% similarity to the Bangladesh lineage. While the human to human transmission and fatality rates in this outbreak were very high, they were [consistent with previous outbreaks from the same virus lineage](#)
- human symptomatic infections with simian (non-human primate) malaria parasites are well described, though the true epidemiology of these infections is not known. Researchers in Cambodia found [asymptomatic infections with *Plasmodium cynomolgi* and *P. knowlesi* parasites in 21 individuals](#) living close to forested areas near the Thai border. This is the first time asymptomatic infection with *P. cynomolgi* has been reported in humans. [Malaria control programmes have successfully focussed on *P. falciparum* and *P. vivax*](#), and although some countries have subsequently seen rises in zoonotic malaria, the full public health implications of these species are not yet clear

- a [systematic review of characteristics of One Health surveillance systems](#) was published in Preventive Veterinary Medicine
- guidance and infographics for the [handling and prevention of infection from raw pet foods](#) were published by Public Health England

Novel agents, rare pathogens and disorders:

- Borna disease virus and human infection

The [first confirmed human cases of encephalitis associated with Borna disease virus 1](#) (BoDV-1, species *Mammalian 1 bornavirus*) infection were reported in Germany. These occurred in three solid-organ transplant recipients (kidneys and liver), though the donor (who died following a cardiac arrest) had no signs or symptoms of neurological disease or infection. Both kidney recipients developed progressive weakness in all limbs which progressed to fatal coma. Brain tissues yielded identical BoDV-1 sequences which were highly related to field isolates from shrews and horses in Southern Germany. In contrast, the liver recipient developed facial palsy and cognitive deficit but survived. Their diagnosis was through BoDV-1 specific antibody detection in serum and CSF, and seroconversion. The source of the infection of the donor remains unknown.

In an unrelated incident, a [fatal case of severe encephalitis](#) due to BoDV-1 was reported in a young German man. Virus was detected by PCR, sequencing, and immunohistochemistry, and was shown on phylogenetic analysis to also be closely related to isolates from horses and shrews in central Europe.

The natural host of BoDV-1 (the bicoloured white toothed shrew) is not known to be present in the UK.

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