

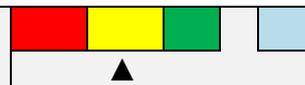


Infectious Disease Surveillance and Monitoring for Animal and Human Health: summary of notable incidents of public health significance. May 2018

***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, Democratic Republic of Congo	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="width: 20px; height: 20px; background-color: red;"></div> <div style="width: 20px; height: 20px; background-color: yellow;"></div> <div style="width: 20px; height: 20px; background-color: green;"></div> <div style="width: 20px; height: 20px; background-color: lightblue;"></div> </div> <div style="text-align: center; margin-top: 5px;">▲</div>
<p>An Ebola outbreak was declared in Bikoro Health Zone, Équateur Province [map] in the Democratic Republic of Congo (DRC) on 08 May. After a cluster of undiagnosed illness and deaths was reported by local authorities to DRC health officials in early May, PCR testing confirmed Ebola virus (Zaire subtype) in two cases. As investigations progressed, suspected case numbers fluctuated throughout the month but many were negated after laboratory testing. As of 31 May, a total of 37 confirmed and 13 probable cases, including 25 deaths, have been reported from three health zones: Bikoro, Iboko and Wangata, with the majority from Bikoro and Iboko. Five healthcare workers have been affected. At least 74% of the 992 identified contacts have been traced.</p> <p>International organisations assisted in the establishment of mobile laboratories and Ebola treatment centres in affected health zones. A protocol for conducting ring vaccination with the rVSV-ZEBOV vaccine was submitted and formally approved by the national regulatory authority and Ethics Review Board of DRC. The campaign started on 21 May, and over 809 front-line health professionals, contacts of confirmed cases and contacts of contacts had been vaccinated by 31 May; 529 in Mbandaka, 169 in Bikoro and 111 in Iboko. Discussions surrounding the use of experimental treatments in response to the outbreak are ongoing.</p> <p>An IHR Emergency Committee convened on 18 May to consider whether this outbreak constitutes a public health event of international concern (PHEIC). It was the view of the Committee that the conditions for a PHEIC have not currently been met.</p> <p>The DRC has considerable experience dealing with Ebola outbreaks, as this is the ninth in the country since 1976. Most previous outbreaks occurred in relatively remote and isolated areas, with little risk of further spread. However, one of the currently affected health zones, Wangata, is in Mbandaka, a Congo River city of more than 1 million people with established transportation links. Accordingly, WHO assessed the risk of spread as very high at the national level, and high at a regional level. They provided recommendations for travellers and undertook preparedness activities in nine neighbouring countries. The risk at the global level is low, and presents a negligible to very low risk to the UK public.</p>	



[Nipah virus](#) is an emerging zoonotic virus which has caused multiple outbreaks in Southern and South-eastern Asia since 1999, including near annual outbreaks in Bangladesh since 2001 (normally between December and May). Transmission occurs through contact with infected animals or their excretions, although limited human-to-human transmission can also occur. [In early May](#), authorities in Kerala, India were notified of an unexpected cluster of deaths among three family members in Perambra town, Kozhikode district; all after displaying signs of viral encephalitis. Nipah virus was subsequently confirmed by PCR. As of [31 May, a total of 25 clinically compatible cases](#), (17 confirmed and 8 suspected), including 16 deaths, have been reported from 2 districts within Kerala [\[map\]](#); Kozhikode (13 confirmed) and Malappuram (4 confirmed). Human-to-human transmission has been reported, and one healthcare worker (confirmed case) has died. The last confirmed case was reported on 17 May. [Over 1,300 people](#) who are reported to have been in contact with confirmed cases are under observation.

Investigations are ongoing to determine the source of the outbreak and to explain chains of transmission. India is a known country at risk for Nipah virus transmission as it falls within the [geographic distribution](#) for *Pteropus* bats (common reservoir). Although the current outbreak is located 2,600km from the known “Nipah belt”, early genetic analyses indicate that the causal virus is closely related to the [Nipah virus-BD strain](#).

This is the third known outbreak in India; the first from southern India and the first Indian outbreak in 11 years. The current outbreak appears to be small and appropriate public health measures have been rapidly implemented to prevent further spread, so WHO has assessed the [risk of further spread at the national and regional levels to be low](#). The Indian Government has initiated response measures including [producing guidelines and advisories](#) for healthcare workers. [Diagnostic kits](#), personal protective equipment and risk communication materials have been made available and isolation wards have been opened in many hospitals in Kozhikode.

Other incidents of interest

- the yellow fever outbreak in **Brazil** has significantly improved, with a significant reduction in both reported human cases and epizootic notifications. It is also now the end of the seasonal YF period (December through May). [As of 16 May](#), a total of 1,266 confirmed cases, including 415 deaths, had been reported. Continued sporadic cases are likely.
- the dengue outbreak reported in **Réunion** in April is ongoing. As of [20 May](#), a total of 3,756 cases have been reported mainly in the western and southern parts of the island, with 1,940 reported in May alone. [Cases are expected to continue](#) as weather conditions remain favourable for mosquitoes
- a [monkeypox outbreak](#) was declared in the North-west Region of **Cameroon** on 18 May. As of [30 May](#), a total of 16 cases have been reported in 5 of the 10 regions in the country. Cameroon last reported a human case in 1989, though cases among captive chimpanzees were reported last year
- the diphtheria outbreak in **Bangladesh** continues to improve; 127 cases were reported in May compared with 362 in April. As of [26 May](#), a total of 6,949 cases have been reported, including 238 confirmed. [Preparedness and response activities](#) are ongoing as monsoon season continues
- the diphtheria outbreak in **Yemen** is ongoing, with 167 cases reported in May compared to 117 in April. As of [25 May](#), around 1,800 suspected cases, including 94 deaths, have been reported in 20 of 23 governorates

- the [17th meeting of the Emergency Committee](#) under IHR 2005 took place in May. The Committee agreed that the risk of international spread of poliovirus remains a Public Health Emergency of International Concern (PHEIC) and recommended the extension of revised Temporary Recommendations for a further three months
- four additional European countries (Turkmenistan, Moldova, Uzbekistan and Kyrgyzstan) have [added inactivated polio vaccine \(IPV\) to their routine immunization schedule](#). Once Tajikistan introduces the vaccine in June, IPV will be routinely offered to all children in every European Member State as part of the next step of global polio eradication

Vaccine derived polio viruses (VDPV)

- [circulating VDPV type 2 and type 3 positive environmental samples](#) continued to be reported in **Somalia** in May. [No associated human cases of acute flaccid paralysis](#) have been reported
- following the initial cVDPV2 positive environmental samples from January and February, a human case of cVDPV2 was reported in Jigawa State, **Nigeria** in May with onset of paralysis on 15 April

Publications of interest

- [asymptomatic dengue virus infection](#): following indications that inapparent dengue infections may play a significant role in transmission, a modelling study determined that approximately 85% of new dengue infections may be caused by asymptomatic individuals. Such individuals would not be detected by surveillance systems, with resultant implications for dengue control and prevention
- [dengue RNA viral persistence in semen](#): dengue virus RNA was detected in semen samples from a man with recent travel to Thailand up to 37 days post-symptom onset. Virus isolation was unsuccessful. This is the first time dengue virus persistence in semen has been documented, but sexual transmission of dengue has not been reported
- [reappearance of Reston Ebolavirus](#): in August 2015, 6 cynomolgous macaques in a non-human primate facility in the Philippines unexpectedly died. Of 174 monkeys tested, 4 macaques were positive for Reston ebolavirus by PCR. Sequencing determined that the strain was closest to that which caused the 2008 porcine outbreak in the Philippines. No evidence of infection was detected in any of the personnel in the facility. The source of infection in the macaques remains unknown
- in a multi-country study, [genetic sequencing of medieval *Mycobacterium leprae* genomes](#) revealed an unexpectedly high degree of genetic diversity in Europe over the last 1500 years. Genomes from the 5th-6th, 11th and 10th – 13th centuries were also closely related to recent strains isolated from red squirrels in England, suggesting that contact with red squirrels was a plausible contributing factor in the spread of the disease at that time
- a report on the [classes of pathogens most likely to pose a global catastrophic biological risk](#) (GCBR) was published by the Center for Health Security, with respiratory RNA viruses assessed as the most probable naturally occurring human GCBR. The report includes a series of recommendations for preparedness
- porcine deltacoronavirus (PDCV) was first identified as a cause of mortality in pigs in China in 2012. To date, no human cases have been reported. A recent study determined that [PDCV possesses the ability to bind to human, mammalian and avian receptor cells](#). This is the first study to demonstrate the possibility of PDCV transmission between species
- two cases of [Salmonella Oranienburg associated with rattlesnake pills](#), commonly

consumed as an unregulated remedy for various conditions, were reported from Kansas and Texas, USA in November 2017. While salmonellosis has previously been associated with rattlesnake pills, this is the first report of *S. Oranienburg* infection associated with their consumption

- ECDC published a [Rapid Risk Assessment for extensively drug-resistant *Neisseria gonorrhoeae*](#) following reports of cases in the United Kingdom (one case) and Australia (two cases), the first such cases in the world. As two of the three had recent travel history to South-East Asia, this highlights the importance of providing safer sex information to all travellers
- the HERACLES project was launched in 2013 to further research and assess the public health burden of cystic echinococcosis, a common zoonosis. [Using data collected as part of the project, a cross-sectional study was conducted to estimate population-based prevalence](#) in Bulgaria, Romania and Turkey. Active infection was found in 119 of 24,681 people screened, suggesting [around 150,000 people living in rural areas of these countries](#) are currently infected, almost a third of whom have active infection, indicating a significant public health burden
- as part of a biosurveillance programme investigating the presence of viral zoonotic pathogens in bats in Matlapitsi Cave, Limpopo Province, South Africa between February 2013 and 2014, [53% of Egyptian rousette bats had antibodies against Marburg virus](#). Three of 159 samples were positive on PCR, but no live Marburg virus was isolated. Sequencing of a PCR product showed that the virus was very similar to a human isolate from 1975, indicating sustained circulation in bats in this area

Novel agents, rare pathogens and disorders

- Pseudorabies, also known as Aujeszky disease virus or Suid herpesvirus 1, has not previously been proven to be zoonotic. The [first confirmed human case was reported from China](#) in a patient with occupational exposure to sewage on a hog farm. The case presented to hospital with a headache, fever and visual impairment, and pseudorabies virus was detected by PCR in the vitreous humor. A diagnosis of pseudorabies virus endophthalmitis was made
- following detection of variegated squirrel bornavirus 1 (VSBV-1) in a Prevost's squirrel in a German zoo, a retrospective investigation was conducted into [a fatal case of limbic encephalitis in an animal caretaker](#). VSBV-1 RNA was detected in brain tissues, and phylogenetic analyses showed that the strain from the caretaker was genetically highly similar to the virus from the infected Prevost's squirrel

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