



Infectious Disease Surveillance and Monitoring for Animal and Human Health: summary of notable incidents of public health significance. June 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	
<p>The last confirmed EVD case was reported in Iboko on 06 June and died on 09 June. Bikoro and Wangata both reported their last confirmed case in May. Overall during June, one new confirmed and two new probable cases of EVD were reported in Équateur Province raising the total number of reported cases to 55, including 29 deaths. As investigations progressed, suspected case numbers continued to be reported and fluctuated throughout the month but most were quickly negated after laboratory testing. All contacts linked to the confirmed/probable cases completed their monitoring period by 27 June. The end of the outbreak will be declared when 42 days (two incubation periods), has passed without notification of a new confirmed case. This would be on 24 July 2018, calculated from the date that the last confirmed case was discharged from an Ebola treatment centre (12 June).</p> <p>Since the vaccination campaign began on 21 May, 3,330 people have been vaccinated against EVD. On 4 June, a DRC ethics committee approved the use of 5 investigational therapeutics under the framework of compassionate use, following recommendations from a group of experts convened by WHO.</p> <p>A nine-month strategic plan was implemented to improve readiness and preparedness in nine countries neighbouring the DRC to reduce the risk of further spread, with Central African Republic and Republic of Congo categorised as having the highest risk due to their proximity to the outbreak area. WHO has revised the risk of further spread at the national level to moderate, and low at the regional and global levels.</p> <p>An initial epidemiological study was published in the Lancet.</p>	
Nipah virus, India	
<p>The Nipah virus outbreak reported in May in Kerala, India has been contained. As of 25 June, a total of 18 confirmed cases, including 16 deaths, had been reported from Kozhikkode and Malappauram districts in Kerala, India. Only 1 new case was confirmed in June – a retrospectively investigated case with symptom onset on 17 May. Enhanced surveillance was conducted until the end of June and the area was declared free of the virus on 1 July. Human-to-human transmission was reported, occurring primarily in two</p>	

hospitals in Kozhikkode. Investigations confirmed [Nipah virus in fruit bats in Kerala's Kozhikkode district](#), likely the source of the outbreak.

Other incidents of interest

- a Rift Valley fever outbreak was reported in Wajir County, **Kenya** on 08 June. The index case reported a history of consuming meat from a sick camel. As of [27 June](#), a total of 90 cases, including 10 deaths, have been reported from 3 counties. 18 cases have been confirmed. There have been reports of high numbers of deaths among animals, as well as abortions in camels and goats, in affected and neighbouring counties over the past two months. The [last documented outbreak in Kenya](#) occurred in 2014/2015, with over 150 human deaths
- the monkeypox outbreak reported in **Cameroon** in May is ongoing. As of [17 June](#), one confirmed and 35 suspected cases have been reported in the [Northwest, Southwest and Central regions](#)
- the diphtheria outbreak in **Cox's Bazar, Bangladesh** continues with 120 suspected cases in June compared with 127 in May. As of [26 June](#), a total of 7,069 cases have been reported, including 243 confirmed. Monitoring for disease outbreaks is ongoing following [heavy rains](#)
- the diphtheria outbreak in **Yemen** is ongoing, with 225 cases reported in June compared with 167 in May. As of [23 June](#), a total of 2,025 suspected cases, including 105 deaths, have been reported in 20 of 23 governorates
- WHO certified **Paraguay** [free from malaria transmission](#) in May, the second country in the Americas to be granted this status, following Cuba in 1973. Ten more countries are on track to eliminate malaria by 2020
- WHO certified **Ghana** as having [eliminated trachoma](#), (a major cause of blindness), as a public health problem - the first country in Africa to achieve this milestone

Vaccine derived polio viruses (VDPV)

- the [circulating vaccine-derived poliovirus 2](#) (cVDPV2) outbreak first reported in the **DRC** in 2017 is ongoing, [with increased geographical spread](#). The DRC is now affected by three separate strains of cVDPV2 in different locations: (1) Haut Lomami/Tanganika/Haut Katanga/Ituri provinces, (2) Maniema province and (3) Mongola province. Three new cases were reported in June, all with symptom onset in 2018, bringing the total in 2018 to 7
- [cVDPV1](#) was reported in a symptomatic individual in **Papua New Guinea** (Morobe Province) in June. The same virus was also isolated from [stool specimens of two healthy children, indicating community circulation](#). Papua New Guinea was certified polio-free in 2000
- in **Somalia**, cVDPV types 2 and 3 continue to be detected in environmental samples. However, [three human cases of acute flaccid paralysis](#), all with onsets during May were reported in June: one with both type 2 and 3 viruses, and two with cVDPV3 virus alone

Publications of interest

- in December 2017, WHO ruled that Dengvaxia (dengue vaccine) should not be administered until previous dengue infection has been confirmed, due to an observed increase in severe infections following vaccination of dengue naïve individuals. A [case-cohort study re-analysed data from three vaccine efficacy trials](#), and corroborated the earlier observations. A [linked perspective paper](#) outlines the dilemma that these results have for countries with significant dengue transmission

- babesiosis is a tick-borne zoonotic disease. Clinical disease can range from asymptomatic to a fulminant malaria-like illness. The incidence of *B. microti* in Africa is largely unknown. A human [case misdiagnosed as malaria was reported from Equatorial Guinea](#) in a missionary who frequently visited rural Spain, an area where babesiosis had previously been reported. The patient presented to hospital with fever, chills and fatigue, and over an 8-month period received 6 consecutive diagnoses of malaria and treatment, which all failed. *Babesia* sp was finally detected by PCR
- Chikungunya virus is known to cause foetal infections after maternal infection during pregnancy but the true impact of acute infections during pregnancy has not been well documented. A [systematic review](#) estimated that the overall pooled risk of mother to child transmission was 15.5%, although available literature was mostly limited to symptomatic neonatal infections. For intrapartum maternal infection, the risk was 50%. Long-term neurodevelopmental complications were reported at high frequency (50%) in the small number of symptomatic neonates evaluated
- review of [EVD transmission by persistently infected survivors](#): following the first declaration of the end of the 2014-16 EVD outbreak in West Africa, eight episodes of re-emergence occurred in the 3 affected countries before the outbreak was finally over. Six were due to transmission from a survivor persistently and sub-clinically infected after clinical recovery, while the sources for two were unknown. Transmission through sexual intercourse was confirmed or suspected in four flare-ups. Transmission from survivors almost certainly also occurred earlier in the outbreak but was unrecognised at the time
- a [3-year genetic and serological survey for filoviruses in Rousettus aegyptiacus bats](#) was conducted in Zambia, a country that has not previously reported EVD or Marburg virus. Out of 290 screened bats, 158 (54.5%) were positive for anti-filovirus antibodies, particularly Marburg virus (43.8%). Even though no viral RNA genomes were detected, the results suggest Zambia is at risk for filovirus transmission
- treatment for Lassa fever is mainly supportive, although ribavirin has been used despite limited efficacy. Initial studies of favipiravir using small animal models had positive results. [A new study assessing the experimental efficacy of favipiravir in cynomolgus macaques](#), showed that all treated animals survived challenge with Lassa virus. Clinical trials to determine its utility as a treatment for human disease are warranted
- the [first presence of the human malaria parasite, Plasmodium ovale wallikeri, was reported in a western lowland gorilla](#) in a protected area of Central African Republic. 23/95 (24%) samples from asymptomatic humans in the same area were positive in a *Plasmodium*-specific PCR, including 2 for *P. ovale wallikeri*. Of 131 gorilla faecal samples, one was positive and genetically identical to that detected in an asymptomatic human, indicating possible human-ape transmission. The role of great apes as recipients or reservoirs of human malaria parasites and the possible implications for malaria epidemiology remain unclear
- [livestock-associated methicillin resistant Staphylococcus aureus \(LA-MRSA\), with zoonotic potential](#) (CC398, *spa* type t899) were isolated in the UK in 2016 (a turkey) and 2017 (a pheasant). Both were multi-resistant and contained an immune evasion cluster gene absent from animal strains previously reported in the UK. Phylogenetically, the isolates did not cluster by either host species or country of origin, considered suggestive of independent incursions not clonal expansion
- a [rapid risk assessment for carbapenem-resistant Enterobacteriaceae](#) was published by ECDC
- a [systematic analysis of operations of One Health Networks](#) was published in Lancet Planetary Health, with an [associated commentary](#). Omission of an environmental

health component was common (31%). A supplementary appendix contains a listing of the 100 networks with web links

Novel agents, rare pathogens and disorders

- Keystone virus is an orthobunyavirus first isolated in 1964 from mosquitoes in Keystone, Florida. While historical human seroprevalence studies suggested positivity rates of ~20%, the virus had never been isolated from humans. However, the [first case has been reported in a Florida teenager with a febrile rash illness](#). Extensive virological testing was undertaken in the context of possible Zika virus infection, but Keystone virus was the only positive finding. Viable virus was isolated from urine samples
- A [novel orthobunyavirus, Ntwetwe virus, was detected via metagenomics in a Ugandan child with fatal encephalitis](#). Ntwetwe virus genes clustered with the clade of viruses that are transmitted by *Anopheles* mosquitoes
- a [case of dengue encephalitis was reported from India](#). While dengue fever is common, neurological complications are rare. The patient presented with fever, vomiting and a severe headache followed by a seizure. Dengue was confirmed by serology and an antigen assay

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