



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

\*Incident assessment:

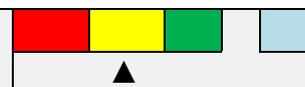
<b>Deteriorating</b>	<b>No Change</b>	<b>Improving</b>	<b>Undetermined</b>
Incident is deteriorating with increased implications for public health	Update does not alter current assessment of public health implications	Incident is improving with decreasing implications for public health	Insufficient information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

Notable incidents of public health significance	Incident assessment*
<b>Diphtheria, Bangladesh and Yemen</b>	
<p><b>Bangladesh – Cox’s Bazar</b></p> <p>The diphtheria outbreak reported since November in Cox’s Bazar continues to slowly improve. In the last month, the incidence decreased by nearly a quarter with 578 cases reported in March, compared with 718 in February. As of <a href="#">31 March</a>, a total of 6,460 suspected cases, including 201 laboratory confirmed cases and 40 deaths, have been reported. Although suspected cases have declined among the refugee population over the past three months, reports of cases in the Bangladeshi host community have remained constant, with 58 to date. Investigations are ongoing to determine risk factors and transmission patterns.</p> <p>During the <a href="#">upcoming rainy season</a>, there is a high risk of further infectious disease spread due to the <a href="#">precarious living conditions</a>. While <a href="#">monsoon</a> and <a href="#">cyclone</a> preparedness activities are ongoing, it is notable that camps of this scale have not existed here before. Evacuation of the camps is constrained by limited space and resources, increasing the likelihood of informal displacements in response to flooding, and exacerbation of overcrowding and many other impacts.</p> <p><b>Yemen</b></p> <p>The outbreak in Yemen is stable, although the incidence slightly increased in March with 344 cases reported, compared to 258 in February. As of <a href="#">02 April</a>, at least 1,516 suspected cases, including 84 deaths, have been reported in 20 of 23 governorates. Ibb and Al Hudaydah governorates remain the most affected. <a href="#">Vaccination campaigns</a> are ongoing.</p>	
<b>Lassa fever, Nigeria</b>	
<p>The outbreak reported since January continues to evolve, but is beginning to show signs of improvement. As of <a href="#">01 April</a>, a total of 1,706 suspected cases, including 142 deaths, have been reported from all states. In weeks 10 to 13, only 45 cases were confirmed, a significant decline compared to the previous 4 weeks (&gt;125 cases). Overall in 2018, 400 cases have been confirmed in 20 states, with 81% occurring in Edo, Ondo and Ebonyi.</p>	

Since mid-February there has been a [downward trend in weekly reported cases](#), however the number of cases has [not reached usual epidemic levels](#) and the recognised transmission period continues until the end of the dry season.

Results of [Lassa virus sequencing](#) on strains currently circulating in Nigeria showed that no new lineages were present indicating they originated from viruses known to have previously circulated in the country. Investigations continue to determine the cause of the increase in cases seen this year compared to previous years.

### Yellow fever, Brazil and Peru



The yellow fever outbreak in Brazil is improving. As of [27 March](#), a total of 4,414 suspected cases, including 1,131 confirmed cases and 338 deaths, have been reported in 27 states. The majority of cases had symptom onset in the third week of January and the outbreak has been on an overall downward trend since then. Cases continue to be reported near large cities and areas with high population density. The number of [cases in unvaccinated travellers](#) has increased - as of 20 March, 11 cases had been reported in travellers to Brazil from Europe and other countries in South America. The Brazil Ministry of Health announced that the [entire country will be a recommended area for national yellow fever vaccination](#). Fractional dosing will continue in the outbreak areas as per WHO recommendations.

Between January 2016 and March 2018, the number of human cases and epizootics [reported in the Americas](#) was the highest observed in decades. Since January 2018, Peru has reported 22 cases of yellow fever, compared to 5 during the same period of 2017. The probability of local yellow fever transmission in Europe following introduction of the virus via a viraemic traveller is considered [very low](#) as the main vector is absent in continental Europe.

### Other incidents of interest

- the [first known human cases of encephalitis associated with Borna disease virus 1](#) (BoDV-1, species *Mammalian 1 bornavirus*) infection was reported in **Germany**. In total four cases were reported, three from a cluster of solid organ recipients from a single donor. Investigations continue
- the [circulating vaccine-derived poliovirus 2](#) (cVDPV2) outbreak first reported in the **Democratic Republic of Congo** in 2017 is ongoing. In March, there were three new cases with symptom onset in 2018. As of 29 March, a total of 24 cases associated with the outbreak have been reported from Haut-Lomami, Maniema and Tanganyika provinces. For the first time, in 2017 more cases of cVDPV2 than wild-type polioviruses occurred around the world. This reflects the difficulties faced for polio eradication since the [global switch to bivalent from trivalent oral vaccine](#), and [challenges for the future transition to inactivated vaccines](#)
- on 17 March 2018, the **Central African Republic** Ministry of Health declared an outbreak of [monkeypox](#) in Ippy, Bambari district [[map](#)]. Eight cases have been reported, including 6 confirmed. CAR has previously reported sporadic cases of monkeypox, most recently in 2017
- the yellow fever outbreak in **Nigeria** continues to improve. As of [25 March](#), a total of 1,640 suspected cases, including 47 deaths, have been reported from across the country. 41 cases have been laboratory confirmed, from seven States (Kwara, Kogi, Kano, Zamfara, Kebbi, Nasarawa and Niger)
- **Oman** reported [one laboratory confirmed case of MERS](#) in March. This is the first laboratory confirmed case of MERS in Oman in 2018, bringing the total number ever reported to 11

- WHO certified **Kenya** [free from dracunculiasis \[Guinea-worm disease\] transmission](#) in March. Four countries remain endemic - Chad, Ethiopia, Mali and South Sudan, however **South Sudan** has achieved [interruption of transmission](#) with no new cases for the past 15 months
- the cholera outbreak in **Yemen** continues to improve. As of [02 April](#), a total of 1,086,138 suspected cases, including 2,271 deaths, had been reported since April 2017, including 63,583 in 2018. 14,027 cases and 8 deaths were reported in March. A [new wave of cholera is expected](#) when the rainy season begins again in April. Response efforts are ongoing
- the UK is currently experiencing a significant increase in [scarlet fever](#) cases compared to previous years. As of 9 March, 11,982 cases of scarlet fever have been reported since mid-September 2017, compared to ~ 4,480 during the same period over the last 5 years. The cause is still being investigated - greater awareness and improved reporting practices may have contributed to the apparent increase
- [three cases of Vibrio cholerae](#) were found to be associated with eating herring eggs (a traditional First Nations dish) in Vancouver Island, **Canada**. Subsequent testing revealed the bacteria in both herring eggs and water samples from the egg harvest areas. Typing of the isolates is awaited and investigations continue.
- the first reported case of [Neisseria gonorrhoeae with high-level resistance to azithromycin and resistance to ceftriaxone](#) in the world was reported from the **UK**. The isolate is therefore resistant to the current recommended combination first-line therapy. The patient reported casual sexual contact in South-east Asia a month prior to symptom onset. Follow-up is ongoing for the case and sexual contacts

#### Publications of interest

- between 1975 and 2017, Japan reported [154 cases of cadaveric dura mater graft-associated Creutzfeldt-Jakob disease](#). Use of contaminated grafts has led to at least 238 cases of iatrogenic CJD worldwide, and the majority (65%) of these occurred in Japan. Use of contaminated grafts stopped in 1993 but cases continue to occur, some after an incubation period of 30 years. In the UK, 7 cases of CJD following dural implants were diagnosed between 1970 and 2003. Data on the past use of implicated dural grafts in the UK is not available, but Japan's historic usage is recognised to have been unusually high/much more frequent than elsewhere
- human infections with *Plasmodium knowlesi* are being increasingly reported from Southeast Asia. A recent paper describes the findings of the [largest prospective study of the clinical spectrum of P. knowlesi disease of all age groups in Malaysia](#). This determined that the majority of affected adults had uncomplicated disease, as did all children with knowlesi malaria. Children did however have a risk of anaemia and acute kidney injury. Both children and adults with knowlesi malaria had lower parasite counts than that seen with non-zoonotic *Plasmodium* species. The proportion of adults with severe *P. knowlesi* disease was comparable to that seen in *P. falciparum*, and parasitaemia and age were independently predictive of severe disease. [Laos recently reported their first human case](#). Infection appears rare there, but false-positive rapid diagnostic test results for *P. vivax* and *P. falciparum* have been observed with *P. knowlesi* infections and such difficulties with microbiological diagnosis may contribute to underreporting
- in the past 20 years, the [number of human cases of monkeypox in West and Central African countries has significantly increased](#), particularly in countries that had seen few or no cases in several decades. The main hypotheses for this increase include better detection and surveillance of cases, closer contact between humans and animals due to deforestation, climate change and population movement, and cessation of routine

smallpox vaccination leading to waning immunity

- in 2013, the [EpiCore global disease surveillance project](#) was created through a partnership between four global health organisations, to draw on local knowledge via crowdsourcing - a global community of human, animal and environmental health professionals - in order to verify or negate reports on disease outbreaks. An evaluation of the project showed it improved verification and identification of unconfirmed outbreaks which could then be reported on the [ProMED website](#), although significant gaps in geographical coverage remain. Further developments are in progress
- the [Global Virome Project](#) is an ambitious 10-year partnership of scientists, policymakers, funders and others from different disciplines across the globe with the goal of developing a global atlas/database of potentially zoonotic viruses of mammalian and avian origin. Using novel technologies, the database will underpin diagnostics, risk assessment and countermeasures, bolstering prevention efforts against future zoonotic threats

### **Novel agents, rare pathogens and disorders**

- a rare case of Usutu virus (USUV) [associated with idiopathic facial paralysis](#) was reported from France, after retrospective screening of stored samples. USUV was detected in CSF by PCR and shown to be infectious on cell culture. Usutu virus is a zoonotic mosquito-borne flavivirus, however, human infections appear uncommon and are predominantly asymptomatic. USUV encephalitis has occasionally been reported in immunocompromised individuals
- neurological complications following successful treatment of malaria are considered rare. A case of [acute disseminated encephalomyelitis](#) (ADEM) was reported from Angola after complete recovery from *P. falciparum* infection. The case initially experienced a severe frontal headache and presented with generalised tonic-clonic seizures. Diagnosis was made on the basis of clinical history, neurological manifestations and MRI findings

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