



**Infectious Disease Surveillance and Monitoring for Animal and Human Health: summary of notable incidents of public health significance. April 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*
<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 improve. In the last month, incidence decreased again with 362 cases, compared with 578 in March. As of 30 April, a total of 6,822 suspected cases, of which 222 were laboratory confirmed, and 42 deaths have been reported. The <a href="#">pre-monsoon rains</a> started at the end of April with storms already damaging shelters in the camps. The rains are expected to increase over the next few months, with heaviest downpours expected between <a href="#">June and August</a>. <a href="#">Preparedness and response activities</a> are ongoing.</p> <p><b>Yemen</b></p> <p>The outbreak in Yemen is improving, with 117 cases reported in April compared to 344 in March. As of <a href="#">21 April</a>, at least 1,633 suspected cases, including 88 deaths, have been reported in 20 of 23 governorates. <a href="#">41 cases have been confirmed</a>. Ibb and Sana’a are the most affected governorates.</p>	
<b>Yellow fever, Brazil</b>	 ▲
<p>The yellow fever outbreak in Brazil continues to improve with a steady <a href="#">decreasing trend in reported cases</a>, although there is a significant lag in reporting and confirmation. <a href="#">As of 02 May</a>, 1,257 confirmed cases of yellow fever had been reported. Notably, reports of <a href="#">yellow fever in unvaccinated travellers</a> continue.</p> <p>Within Brazil, vaccination campaigns using fractional dosing are ongoing, though some states, particularly Rio de Janeiro, Bahia and São Paulo, remain well <a href="#">below the target of 95% of the population</a>.</p> <p>On 3 May, WHO <a href="#">revised its vaccination recommendations for international travellers</a>. In addition to the areas listed previously, the entire States of Paraná, Santa Catarina and Rio Grande do Sul should also be considered at risk of yellow fever transmission and vaccination is recommended for international travellers visiting these states.</p>	

## Other incidents of interest

- **Réunion** is experiencing a [large dengue outbreak](#), predominantly in the western and southern parts of the island. While dengue virus transmission is not new here, this [outbreak is of unusual magnitude](#). As of 23 April, 1,816 cases have been reported, compared to less than 100 during 2017. The dominant viral serotype is DENV-2
- following an interim ruling in December concerning the use of the dengue vaccine **Dengvaxia**, WHO's strategic group of experts on immunisation announced that the [vaccine should not be given until previous dengue infection is confirmed](#)
- the Lassa fever outbreak in **Nigeria** has improved considerably with continual declines in cases over the past 10 weeks. In weeks 14-17 (to April 29), only 18 cases were confirmed. As of [29 April](#), a total of 420 confirmed cases, 106 fatal, had been reported during 2018
- the monkeypox outbreak reported in **Central African Republic** in March is ongoing. As of [24 April](#), a total of 20 cases, including 9 confirmed and 1 death, have been reported from Ippy and Bangassou health districts

## Vaccine derived polio viruses (VDPV)

- circulating VDPV type 2 has been identified in environmental samples, with the same strain confirmed in [Kenya](#) and [Somalia](#) (previously reported in March). In addition, four VDPV type 3 positive environmental samples were also found in Mogadishu, Somalia in April. No associated cases of human cases of acute flaccid paralysis have been reported
- the [cVDPV2 outbreak](#) first reported in the **Democratic Republic of Congo** in 2017 is ongoing. In April, there was one new case in Haut Katanga province, bringing the total in DRC in 2018 to four
- [six cVDPV2 positive environmental samples](#) were found in **Nigeria**, from samples collected in Gombe and Jigawa states, without associated cases of human cases of acute flaccid paralysis

## Publications of interest

- chronic wasting disease (CWD) is a fatal prion disease affecting cervid mammals, though it is unknown if humans are susceptible. Several human prion diseases have been previously transmitted to *Cynomolgus* macaques (CM), suggesting they are an appropriate surrogate model for prion transmission to humans. [Long-term follow-up of CM previously inoculated with CWD prions](#) intracerebrally or orally, found no evidence of transmission 13 years post-infection
- the [first detection of European Bat Lyssavirus-1 \(EBLV-1\) in \*Eptesicus serotinus\* \(serotine\) bats](#) south of the Pyrenees mountains has been made in Spain. The virus grouped within a cluster of EBLV-1 sequences from Southern France, suggesting southward expansion of the virus
- [Madariaga virus](#) (MADV) (previously known as South American eastern equine encephalitis virus) is known to cause outbreaks among horses. It also infects other mammals including humans, although symptomatic human disease appears rare. A case was reported in a [child in Venezuela with an acute febrile rash illness](#) initially suspected of having Zika virus infection. Blood was positive on PCR for Alphavirus, and confirmed as MADV on sequencing. The mode of transmission remained undetermined
- [Plasmodium-induced changes in human odour](#): although previously recognised to influence 'attractiveness' to mosquitoes, the underlying mechanism was unknown. Researchers have now found that malaria-infected children in Kenya produced higher

concentrations of aldehydes in their skin. Such chemicals are used by some insects for host location and elevated aldehyde production was found to increase the attractiveness of *Plasmodium*-infected people to mosquitos. It is not yet known if this phenomenon is under parasite control, but the findings may allow further improvement of lures for trapping malaria mosquitoes or be used in developing novel diagnostic tools for malaria

- following the introduction of meningococcal A conjugate vaccine in the Africa meningitis belt, the incidence of *Neisseria meningitidis* serogroup A infections significantly decreased. However, in 2017 the [epidemic season was dominated by \*N. meningitidis\* serogroup C](#) with large-scale epidemics in Nigeria and Niger. A limited global supply of serogroup C-containing vaccine remains a concern for future epidemic seasons. Data for 2018 to date can be found [here](#)
- superspreaders are infected individuals who then go on to infect a disproportionately large number of secondary patients. This phenomenon has occurred with MERS patients in nosocomial settings, usually due to excessive aerosol-generating procedures and/or delayed diagnosis and isolation. Such an event occurred in 2017 when the index patient was afebrile and presented with renal failure. This led to a [delayed suspicion of MERS and sparked a multihospital outbreak](#)
- a [new prion disease was detected in camels at an abattoir in Algeria](#). Retrospective analysis determined 3.1% of animals with physical and behavioural neurologic signs were positive for the novel prion. As dromedaries are widespread throughout parts of Africa, Middle East and Asia and an integral part of life in those areas, investigations are ongoing into the geographic distribution of the disease and its possible origins
- [sexual transmission of Zika virus](#): Zika virus RNA was detected in semen samples from men in the USA up to 281 days after illness onset. In comparison, and of more relevance in determining transmission risk, infectious virus was only isolated from semen samples collected within 30 days of illness onset. This [suggests the period during which Zika virus might be sexually transmitted is limited](#)
- an [unusual route of acquiring \*Francisella tularensis\* infection](#) was reported from Germany. A female jogger was attacked by a common buzzard and reported fever, headache and neck pain a week later. Serological tests were positive for *F. tularensis* and the patient was diagnosed with ulcero-glandular tularaemia. This is the first time tularaemia has been reported resulting from a bird of prey attack
- in late 2016, the Netherlands reported a [fatal case of \*Brucella suis\* biovar 1 in a dog which had been fed raw pet food](#) containing hare carcasses imported from Argentina. No other relevant exposures for acquisition of non-European biovar were reported. Samples of the hare carcasses from the supplier were positive for *B. suis* biovar 1 by PCR and culture. All the strains were highly similar indicating a common origin and further highlighting the risks from raw pet food. *(We first highlighted the incident in [November 2017](#) when the UK was notified about the contaminated product)*
- France updated their [Aedes albopictus vector distribution maps](#), showing that the vector is now present in 42 departments around the country
- WHO updated its [position paper on rabies vaccines](#). PHE is currently reviewing and revising its rabies guidance, with release planned for June 2018
- ECDC published an updated [Rapid Risk Assessment for \*Candida auris\* in healthcare settings](#). The number of reported cases in Europe has significantly increased in the past two years, suggesting repeated introductions into hospitals. Transmission has been documented between wards that did not share healthcare personnel and between different facilities, increasing the risk of further spread in healthcare settings
- [ECDC undertook a risk assessment of hospital-acquired malaria in the EU](#) following the unusual occurrence of six cases in four European countries (Germany, Greece,

Italy and Spain) between January 2016 and April 2018. Despite thorough investigation, the precise mode of transmission could not be determined for any of the cases. A useful annex is included to guide the epidemiological investigation of any future cases

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

- [five human cases of malaria caused by \*Plasmodium cynomolgi\*](#), a malaria parasite of Old World monkeys, were reported in Malaysia. Only one previous human case had been reported, though human infection is most likely underdiagnosed as the parasite is morphologically indistinguishable from *P. vivax*. All five cases were also said to be infected with *P. knowlesi*, the only other species of malaria known to infect both humans and monkeys. Investigations into the public health significance and prevalence of the disease in human populations are ongoing
- *Streptococcus gallolyticus* (previously *S. bovis*) is an uncommon cause of bacterial meningitis. [A rare case of community-acquired meningitis due to \*S. gallolyticus\* was reported from Australia](#). The presentation in a splenectomised patient was typical, and *S. gallolyticus* was isolated from blood and CSF samples. After discharge, the patient subsequently developed cerebral venous thrombosis; the first time this complication has been reported to be associated with this infection, although it is seen in ~10% of pneumococcal meningitis
- *Bordetella bronchiseptica* is a zoonotic bacterium that can cause illness in immunocompromised individuals. A rare case of [severe respiratory infection due to \*B. bronchiseptica\*](#) was reported from the UK in a quadriplegic male. The patient had regular contact with a dog in his nursing home, considered the most probable source of his infection

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