



**Infectious Disease Surveillance and Monitoring for Animal and Human Health: summary of notable incidents of public health significance. September 2019**

\*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>Ebola virus disease (EVD), Democratic Republic of Congo</b>	
<p>As of <a href="#">1 October 2019</a>, there had been 3,194 confirmed and 114 probable cases across 3 provinces (North Kivu, Ituri and South Kivu). During September, 157 confirmed cases were reported, a decline from 307 in August and the lowest monthly total since February 2019. Over 2,130 patients have died (overall case fatality ratio 67%).</p> <p>No new health zones or provinces in DRC were affected during September. Known active EVD transmission is gradually occurring in a smaller number of health zones as control activities successfully stop chains of transmission. Thirteen health zones (of the 29 ever affected) reported cases in the 21 days to 1 October, compared to 17 in the similar period in August.</p> <p>However, these apparent decreases in case incidence must be interpreted cautiously. There continue to be security and operational challenges in some areas which has meant that access for response teams was greatly reduced. A prolonged cessation of activities in one health area resulted in many contacts being lost to follow-up, and likely under-reporting of new suspected cases. In addition, the shift away from urban settings to more rural isolated locations, may present logistical challenges for accessibility particularly as the rainy season commences. The risk of re-introduction into areas which have achieved control remains as long as there are areas with active transmission.</p> <p>On a positive note, no further cases were reported in Uganda following the single case confirmed there in late August.</p> <p>On <a href="#">23 September</a>, DRC health authorities announced plans to introduce the Johnson &amp; Johnson Ebola vaccine. This is administered as a two-dose course, 56 days apart, and will be provided to at-risk populations in areas that do not have active EVD transmission. Regular vaccination activities in EVD-affected areas will continue, using the Merck/MSD vaccine which has already been administered to over 230,000 people.</p> <p>Eastern DRC, particularly North Kivu, is currently challenged by <a href="#">multiple infectious disease</a> threats; large outbreaks of cholera and measles are also ongoing, providing further strains on the already fragile health care infrastructure.</p>	

## Other incidents of interest

- [undiagnosed febrile illness in Tanzania](#): WHO was made aware of unofficial reports of an unexplained death of a person in Dar es Salaam, United Republic of Tanzania. It appears probable that this was an Ebola-related death. No further information is currently available, but [WHO, international public health agencies and PHE continue to monitor the situation closely](#)
- a [chikungunya outbreak](#) is ongoing in Dire Dawa city, **Ethiopia**, with [46,326 suspected cases](#) reported between the end of July and 22 September. The peak of the outbreak was in early September. This is only the second outbreak there, the first was in 2016
- the longstanding cholera outbreak in **Yemen** saw a small increase in cases to [81,127](#) in September, from 73,858 in August. A [vaccination campaign](#) took place in three badly affected districts of the capital Sana'a
- a [third cervid with chronic wasting disease](#) was detected in **Sweden**, in a 10-year-old moose in the [same county \(Norbotten\) as the previous cases](#). The previous cases, also in aged animals, were hypothesised to involve spontaneous rather than contagious variants, but the apparent clustering in a limited geographical area raises concerns
- **Spain** and **France** both reported autochthonous dengue cases. In Spain, a single case was detected in [Barcelonès county, Catalonia](#). In France, five cases were detected in [Alpes-Maritimes department](#). An additional case was detected in the [Rhône department](#). Spain first reported locally acquired cases in 2018, whereas France has had sporadic autochthonous cases since 2010. *Aedes albopictus* is the main vector for dengue in the Mediterranean region. ECDC published a risk assessment: the [risk for sustained local transmission is low](#), as environmental conditions become progressively less suitable during autumn
- the **United States** is experiencing an [unusually active eastern equine encephalitis season](#), with [31 human cases reported as of 1 October](#), compared to an [average of 7 cases per year](#). Cases were detected in Massachusetts (12), Michigan (9), New Jersey (3), Rhode Island (3), Connecticut (2), North Carolina (1) and Tennessee (1)
- polio due to vaccine derived polioviruses continue to be reported from many countries - 28 cases were reported in September. The **Philippines** [reported its first two cVDPV2 cases](#), together with environmental detections of VDPV2 and VDPV1 viruses. As of 1 October, [88 cVDPV cases](#) had been reported in 2019
- wild poliovirus (WPV) news: in **Afghanistan**, the Taliban [lifted its ban on WHO's vaccination activities](#). **Pakistan** continues to report WPV, with 11 new cases during September
- the [first mosquito-transmitted, autochthonous human case of West Nile virus encephalitis](#) was reported in **Germany**, in rural Saxony. Disease onset was in August. This case is the [furthest north](#) in central Europe to date
- an extensively drug resistant (XDR) typhoid outbreak has been ongoing in Sindh province, **Pakistan** since November 2016. A total of [10,365 cases, including 4,879 this year, have been reported as of August 2019](#). In September, XDR typhoid cases with a history of travel to Pakistan were reported for the first time in [Australia](#), [Taiwan](#), and [Ireland](#)
- a [yellow fever outbreak was reported in Bauchi State, Nigeria](#), linked to the Yankari game reserve in Alkaleri Local Government Area. As of 18 September, 243 suspected cases across five Nigerian states had an epidemiological link to Bauchi. The outbreak is of interest given the involvement of a major tourist destination, and the resulting [broad geographical distribution](#) of associated cases. The area had not been affected since the resurgence of yellow fever in the country in 2017

- an increase of [bloody diarrhoea, resulting in rapid deterioration and at times death, was detected in dogs](#) in **Norway**. The aetiology is unknown, but *Providencia alcalifaciens* was detected in ~ 50 dogs. Further investigations, including whole genome sequencing, are ongoing. There appears to be low transmissibility between dogs. By the end of the month, the [outbreak was on the wane](#)

### Publications of interest

- [a phylogenetic analysis of \*Corynebacterium ulcerans\* and \*C. diphtheriae\* strains and their toxins](#) revealed diversification of the diphtheria toxin in *C. ulcerans*. Suggested explanations include the maintenance by various animals (compared to humans only for *C. diphtheriae*) and a phage-independent pathway to acquire the toxin-encoding gene. Toxin diversification could lead to decreased vaccine and antitoxin effectiveness
- the [simian malaria parasite \*Plasmodium cynomolgi\*](#) was detected in a symptomatic tourist after travel in southeast Asia. Nucleic acid detection methods were positive, but rapid diagnostic tests negative. Species identification was only achieved by DNA sequencing as typical species-specific PCR were negative. These diagnostic issues suggest that this simian *species is likely to be* underdiagnosed in both residents and visiting travelers
- the [report by the Lancet Commission on Malaria Eradication](#) argues that malaria eradication by 2050 is “a bold but attainable goal, and a necessary one” given the threats by drug and insecticide resistance and costs associated with failure to eradicate. In contrast, the [executive summary by the WHO Strategic Advisory Group on Malaria Eradication](#) considers it premature to set a deadline. Commentaries emphasise the [different views and a historical perspective](#), the [need for new tools and strategies to succeed](#), and [an African perspective](#).
- the PHE Advisory Committee on Malaria Prevention has published its [annual update of malaria prevention guidelines for UK travellers](#)
- The Global Preparedness Monitoring Board, convened by WHO and the World Bank, published its first [annual report on global preparedness for health emergencies](#). It warns that recommendations following recent international outbreaks had been poorly implemented, and that there are serious gaps. It calls for greater commitment to investment in and coordination of global preparedness. The board also commissioned [seven review papers that explore the challenges of preparedness from different perspectives](#).
- severe fever with thrombocytopenia syndrome virus (SFTSV) can be transmitted from person to person, with blood exposure the most common risk factor. In a new case report, [SFTSV RNA was found in a patient's semen](#) between days 30 to 44, and after clearance of viral RNA from the blood. Virus isolation was not attempted. Sexual transmission of SFTSV may be possible
- yellow fever vaccination: two studies cast doubt on the single-dose recommendation. In the [first study](#) (+ [commentary](#)), persistence of neutralising antibodies was measured in children in endemic settings (Mali and Ghana), who had been vaccinated at ~9 months of age. Rapid waning of immunity was observed, suggesting that booster vaccination is necessary to meet the 80% population immunity threshold for prevention of outbreaks in these endemic settings. In the [second study](#) (+ [commentary](#)), the persistence of neutralising antibodies was measured in vaccinees in a non-endemic setting (USA). In this cohort, 63.8% were seropositive at ≥10 years after vaccination. Combined with previous studies in non-endemic settings, the overall proportion of vaccinees remaining seropositive ≥10 years post-vaccination was estimated to be 79%. Consequently, 1:5 vaccinees will lack long-term protection, suggesting that booster vaccinations should be considered for people from non-endemic countries travelling to high-risk settings

- a study characterised [the emergence of Zika virus in Angola in 2016](#) and identified the outbreak virus as belonging to the Asian lineage. Analysis of viral genomes suggested that this virus was probably introduced from Brazil in 2015 or 2016, and circulated locally until at least June 2017. Epidemiological, climatic and human mobility data support this origin. The paper also contains surveillance data and clinical findings from a mother-child pair, supporting that Asian lineage Zika virus caused microcephaly in Angola

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

More than 20 *Leishmania* spp are known to cause human leishmaniasis, but other parasites are occasionally found. A novel [Crithidia-like parasite was identified as the aetiological agent of a fatal visceral leishmaniasis \(VL\)-like disease](#) in Sergipe state, Brazil. The parasite was isolated from a patient presenting with atypical VL-like disease that was refractory to treatment. Experimental infections in mice reproduced the patient's clinical manifestations. Genetic sequencing showed that the parasite was closely related to trypanosomatids that only infect insects, particularly *Crithidia fasciculata*. Subsequent PCR screening of clinical samples identified approximately [150 further cases](#), all from Sergipe.

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