



**Infectious Disease Surveillance and Monitoring for Animal and Human Health:
Summary of notable incidents of public health significance. June 2016**

***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*
Zika virus outbreak and neurological disorders	<div style="display: flex; justify-content: space-around; width: 100px;"> <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>The Zika virus outbreak continues. As of 7 July 2016, 51 countries have reported active autochthonous transmission within the last three months. This listing is in constant flux. While the geographical range of Zika continues to expand (eg Indonesia, Sint Eustatius and Guinea Bissau reported recent active transmission for the first time in the last month), other countries are reporting cessation of transmission, either naturally due to seasonality or reduction in susceptible population or through vector control (eg New Caledonia, Cuba, Papua New Guinea and Marshall Islands have not reported any cases in the last three months). There is currently no evidence to suggest an overall decline in the outbreak and the World Health Organization (WHO) still considers this outbreak to constitute a public health emergency of international concern.</p> <p>There is an international scientific consensus that Zika virus is the cause of congenital neurological disorders. To date, 13 countries have reported cases of congenital Zika syndrome (CZS), including three countries who report cases born to mothers with a recent travel history to known affected countries. Brazilian authorities continue to report the majority of cases of CZS with 1,656 cases as of 2 July.</p> <p>Globally, cases of Zika virus infection continue to be reported in travellers returning from countries with active transmission. In the UK, a relatively low number of cases have been diagnosed. As of 7 July, 37 cases have been confirmed by PCR which represents an increase of 10 cases since the last report.</p>	
Yellow fever outbreaks, Africa	<div style="display: flex; justify-content: space-around; width: 100px;"> <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>During June, yellow fever (YF) outbreaks continued in at least two African countries. In Angola as of 4 July 3,552 [an increase of 598 since the last report] suspected cases (875 confirmed [+56]) including 355 deaths, have been reported since December 2015. Encouragingly, the number of new suspect cases being confirmed each week appears to be declining. However, there are still reporting delays, particularly in Benguela province, and the situation remains of concern. Local transmission is now being reported less</p>	

frequently in new districts, but overall, transmission has occurred in 11/18 provinces and confirmed cases (imported cases and ongoing transmission) are widespread across the country (in 16/18 provinces). Over 11.5 million people have been vaccinated so far (of a targeted 15 million), with [ongoing campaigns in many areas](#). These continue to be logistically difficult, due in part to shortages of syringes and resistance to vaccination, but also due to [challenging security situations in some areas](#).

As of [24 June](#) 1,307 suspect YF cases have been investigated in the **Democratic Republic of Congo** (DRC) since March 2016. Of these, 68 (+12 in last month) were laboratory confirmed and 59 determined to have been imported from Angola. Local transmission has occurred in three provinces with 7 confirmed cases: 4 in Kinshasa (Ndjili, Kisenso and Kimbanseke); 2 in Kwango (Kahamba); and 1 in Kongo Central (Matadi) [see [map](#)]. Earlier in 2016, 2 sylvatic cases were identified in northern provinces. While the number of autochthonous cases remains low at present, the situation in DRC remains of concern, with [a new report](#) suggesting that suspected cases have not been accurately recorded or investigated in Kongo Central. In part this has been due to the inaccessibility of remote areas and failures in official notifications/alerts.

[In response to these two outbreaks](#), WHO is targeting further vaccination campaigns at cross-border regions, focusing on districts with trade activities and movement of people between the two countries, as well as targeted health zones or communes at risk in the DRC's capital, Kinshasa.

In **Uganda**, no new confirmed cases have been reported since 1 June. [WHO reports](#) that the situation there is stable.

Guinea, whose last major YF outbreaks were between 2000 and 2005, reported [39 suspect YF cases](#) which are currently under investigation.

As more yellow fever incidents are reported concurrently ([in Africa and in the Americas](#)), further pressure is exerted on already stretched vaccine supplies. WHO convened an expert group to [consider dose-sparing vaccine administration schedules](#) which concluded that this was an appropriate measure during outbreak response. A formal evaluation is expected later in 2016. WHO currently produces a weekly global YF situation report [found here](#).

Other incidents of interest:

- Kenya – [cholera and chikungunya outbreaks](#). The response to an ongoing cholera outbreak in north-eastern Kenya, close to the border with Somalia, has been complicated by a simultaneous chikungunya outbreak which affected many healthcare workers. [MSF and other agencies](#) are providing support
- earlier this year, a case of [chikungunya infection was diagnosed in a Japanese traveller](#) who had recently returned from Cuba. Although autochthonous transmission of chikungunya fever has been reported in most Caribbean islands, [only imported cases](#) have been previously reported in Cuba
- [vaccine derived polio virus](#) was detected in a sewage sample in Hyderabad, India. Vaccine coverage in the area is high (94% children had received at least 3 doses of oral polio vaccine in a recent survey) and transmission is considered unlikely. No clinical cases have been identified. Nevertheless, a [vaccination campaign is underway](#). Environmental sampling forms part of India's polio surveillance

- programme; only Afghanistan and Pakistan remain endemic for wild poliovirus
- [tickborne encephalitis virus has been detected in ticks](#) for the first time in The Netherlands demonstrating the continued expansion of TBE in Europe

Noteworthy publications of public health significance

Zika virus infection, multiple publications

Information on recent and past publications on Zika infection can be found in the following collections: [WHO](#), [PAHO](#), [CIDRAP](#), [The Lancet](#) and [Transactions of the RSTMH](#). The following is a selection of Zika publications released in June:

- [Franca et al.](#), report on clinical features of the first 1,501 suspected CZS cases in Brazil. In a fifth of the cases, brain abnormalities were found despite normal head circumferences – including in women with a history a rash in the third trimester. In a third of cases, there was no history of rash during pregnancy. These findings highlight the fact that Zika virus may affect the fetus throughout the entire pregnancy and current surveillance definitions used in many countries are insufficient to detect all affected babies. Note: the case definition used for [UK surveillance for CZS](#) is not restricted to head size and would have captured these cases
- [Martines et al.](#) demonstrates presence of Zika virus in tissues of 5 affected fetuses and newborns, and describes extensive placental and fetal damage, providing evidence for a direct link between Zika virus infection and severe birth defects and further evidence of Zika virus as the cause of pregnancy loss
- [Larocca et al.](#) report that 2 candidate Zika vaccines provided complete protection in susceptible mice against challenge with a ZIKV outbreak strain from Brazil, encouraging early results in vaccine development research
- [Pacheco et al.](#); report preliminary data on Zika virus disease in Colombia. The data suggest that maternal infection during the third trimester of pregnancy is not linked to structural abnormalities in the fetus. The majority of women infected with Zika virus during the presumed higher risk period (first or second trimester) were still pregnant at the time of this report and cases of CZS are only starting to be born
- [Perez et al.](#), report on a confirmed case of CZS diagnosed in Spain in a woman who was exposed to Zika virus infection while in Venezuela

Other publications of interest:

- Further analysis of a [candidate malaria vaccine efficacy](#) in young children in Tanzania and Kenya over an extended period of follow-up (7 years) demonstrated a significant waning of efficacy that may limit its public health utility. See also [accompanying editorial](#)
- [Epidemiology of MERS-CoV in humans in Saudi Arabia](#): phylogenetic analyses demonstrated appearance and spread of a novel recombinant clade (including viruses from China, Thailand and Korea) which became the predominant strain
- a [third Usutu virus \(USUV\) strain](#) has been identified in Germany in 2 great grey owls at a Berlin zoo. Phylogenetic analysis of USUV-Berlin indicated it was closely related to a mosquito-derived USUV [detected in Spain in 2006](#). The authors suggest that repeated findings of different USUV strains may reflect more frequent introductions into Europe and a higher mobility of this virus than assumed to date

- the African regional office of WHO has produced a [technical report mapping the risk and distribution of epidemics in Africa](#). A useful resource, it maps the ecological zones and district of occurrences of significant infectious diseases
- [Phylogeographic Evidence](#) for 2 genetically distinct *Plasmodium knowlesi* parasites which independently became zoonotic in Malaysia
- travel-associated rabies in pets and [Residual Rabies Risk](#)

Novel agents, rare pathogens and disorders:

- an [outbreak of *Candida auris*](#), an emerging multi-drug resistant fungal pathogen, is currently reported in a critical care unit in England. Since April 2015, at least 40 colonisations or infections have been reported, of which ~20% had candidaemia. *C. auris* can be difficult to identify and appears significantly different from other pathogenic yeasts in its propensity for transmission between hospital patients. Nosocomial outbreaks have previously been reported in India, Pakistan, Venezuela and Colombia. PHE has developed [guidance on testing and treatment](#)
- human infections with the tapeworm *Adenocephalus pacificus* are reported [predominantly from South America](#). Recently, the [first case was recorded in Australia](#) in a child who frequently consumed locally caught raw marine fish. Infection with *A. pacificus* is the third most common fish-borne cestodosis and is recognised as a re-emerging, global parasitic disease
- as raccoons have expanded their geographical distribution in the Americas, so has *Baylisascaris procyonis*, the [raccoon roundworm](#). A recent study detected *B. procyonis* in faecal samples from raccoons trapped in the [populous Greater Metropolitan Areas in San José, in Costa Rica](#), the southernmost detection of this parasite in the Americas. *B. procyonis* is a rare but recognised cause of visceral and ocular larva migrans, and occasionally [encephalitis](#)
- a novel lyssavirus has been discovered in Indian flying foxes in Sri Lanka. Designated [Gannoruwa bat lyssavirus](#), it is closely related to rabies virus and Australian bat lyssavirus and caused fatal disease in flying foxes
- a [novel poxvirus](#) has been identified in a horse in Finland with nodular skin lesions. Although sequence analysis was limited, the virus was found to be closest related to [a novel poxvirus isolates from humans](#) with equine contact in the US in 2014

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