



Infectious Disease Surveillance and Monitoring for Animal and Human Health: summary of notable incidents of public health significance. December 2015

***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*
Avian influenza A(H5N6), China	
<p>In late December and early January four new human cases of avian influenza A(H5N6) have been reported in Guangdong Province, southern China (WHO 4 January, WHO 11 January). H5N6 is a recently emerged but relatively widespread avian influenza subtype in poultry in Asia (China, Laos and Vietnam). However, it is a rarely reported infection in humans with only eight cases recorded to date (all in China) with the majority of cases reporting poultry contact prior to symptom onset. Further cases are possible, particularly during Chinese New Year when chicken is frequently prepared and consumed as part of celebrations.</p>	
Highly Pathogenic Avian Influenza, France	
<p>Since the end of November 2015, France has reported 69 outbreaks of highly pathogenic avian influenza (HPAI) in poultry (backyard and commercial) in eight southwestern departments caused by HPAI H5N1, H5N2, H5N9 and H5 unspecified neuraminidase. The scale and the distribution of this outbreak is unusual and the situation continues to evolve with the latest outbreaks reported in Dordogne and Lot in late December. Initial phylogenetic analysis has determined the H5N1 strains responsible to be closely related to low pathogenic avian influenza European strains and not the Eurasian strains responsible for human infections. To date, no human infections associated with these outbreaks have been reported in France and the risk to the UK poultry industry remains at a low but heightened level.</p>	
Ebola virus disease, West Africa	
<p>During December, no new confirmed cases of Ebola virus disease (EVD) were reported from West Africa. The last newly confirmed cases (a family cluster of three) were reported at the end of November in Liberia as the result of the re-emergence of Ebola virus that had persisted in a previously infected individual. Liberia will be declared EVD transmission-free on 14 January if no further cases are reported. In Sierra Leone, human-to-human transmission linked to the primary outbreak was declared to have ended on 7 November 2015. On 29 December, WHO declared that human-to-human transmission of Ebola virus has ended in Guinea. Both Guinea and Sierra Leone have now entered a 90-day period of enhanced surveillance. Despite the significant improvements in the</p>	

epidemiological situation in West Africa, it continues to constitute a [Public Health Emergency of International Concern](#).

Polio, Global update



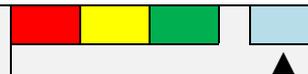
During December, [ten new cases](#) of wild poliovirus type 1 (WPV1) were reported, all in endemic countries (8 in Pakistan, 2 in Afghanistan). In addition, two further cases of circulating vaccine-derived poliovirus (cVDPV) type 2 have been reported, one each in Myanmar and Guinea. [In Myanmar](#), the case was found to be genetically linked to a case diagnosed in April and genetic changes to the virus indicate it has been circulating for more than a year. In Guinea, the latest cVDPV case was diagnosed in Siguiri district and, like the other 2015 case, is genetically linked to the case diagnosed in 2014. To [29 December 2015](#), a total of 70 WPV1 and 26 cVDPV cases have been reported, a significant decrease on the 359 and 51 cases respectively reported in 2014.

Zika virus, epidemiology - Americas



The outbreak of Zika virus in Central and South America continues to [spread geographically](#). [First reported in Easter Island, Chile in February 2014](#), autochthonous cases have also been reported in [Brazil](#), [Colombia](#), [El Salvador](#), [Guatemala](#), [Haiti](#), [Honduras](#), [Martinique](#), [Mexico](#), [Panama](#), [Paraguay](#), [Puerto Rico](#), [Suriname](#) and [Venezuela](#). Further cases are expected in other countries in the Americas in coming weeks and months. While imported cases of Zika virus might be expected in the UK, no further transmission would occur due to the absence of competent vectors.

Microcephaly, Brazil - potential association with Zika virus



The [unprecedented increase in the number of babies born with microcephaly](#) continues in Brazil. [As of 2 January](#), 3,174 suspected cases of microcephaly including seven deaths have been reported across 21 states in Brazil, an increase of 1,926 cases in the last month (normally expect 150-200 cases). The Ministry of Health of Brazil has [suggested a possible relationship between the increase in microcephaly and the ongoing Zika virus outbreak](#), and although not conclusive, there is currently [some evidence to support an association with Zika virus infection](#). To date, no other countries currently or previously affected with Zika virus have reported an increase in cases of microcephaly. However, [in French Polynesia](#) which experienced a Zika virus outbreak in 2013/14, an unusual increase of at least 17 cases of central nervous system malformations (not microcephaly) in fetuses and infants was reported during 2014–2015. While an association between congenital malformations and Zika virus is plausible, further evidence is required to definitively prove or disprove causality.

Other incidents of interest

- a [cholera outbreak is ongoing in the Democratic Republic of Congo](#), with more than 19,000 cases reported in 2015 to late November. There are particular concerns that the outbreaks in [Maniema and South Kivu provinces](#) could spread into refugee camps, across borders and along the Congo River to the capital Kinshasa, [as in the large 2011 outbreak](#)
- a cholera outbreak which began in August 2015 in Tanzania has progressively spread to more than half of the country's regions, including the commercial capital Dar es Salaam. [To early December](#), more than 10,000 cases have been reported. While the [number of daily reported cases is declining](#), the upcoming rainy season and the forecasted strongest El Niño event in twenty years could bring extensive flooding and unusually high rainfalls, and increase the transmission and international spread of the

disease

- the outbreak of acute atypical pneumonia in university workers in Seoul, South Korea has [been attributed to *Saccharopolyspora rectivirgula*](#), a recognised aetiological agent of farmer's lung which is consistent with symptoms described in this incident

Noteworthy publications of public health significance

Chikungunya virus and Guillain-Barré syndrome, French Polynesia

During the [2014/15 outbreak of Chikungunya virus \(CHIKV\) in French Polynesia](#) which affected an [estimated 66,000 individuals](#), a [cluster of nine cases of Guillain-Barré syndrome \(GBS\)](#) was observed. All cases had evidence of recent CHIKV infection (serological evidence for 8 cases and RT-PCR positive for 1 case). Interestingly, the cases also had serological evidence of past flavivirus infection (dengue and/or Zika virus), a finding similarly reported in a Zika virus GBS case with evidence of a past dengue virus infection ([Oehler *et al.*, 2014](#)). Further research is required to determine the association between CHIKV infection, GBS and past flavivirus infections. GBS should be considered a rare but severe complication of CHIKV infection.

Ebola virus disease, survivor health issues

[A large study of survivors of Ebola virus disease](#) (EVD) from the district of Port Loko, Sierra Leone reported a high prevalence of clinical sequelae among 277 survivors, including arthralgia (76%), uveitis (18%) and auditory disturbance (24%). High viral load at acute EVD presentation was significantly associated with uveitis in convalescence but not with arthralgia or auditory symptoms. This study adds further weight to the hypothesis that severe illness may lead to virus persistence and long-term complications in EVD survivors.

El-Niño & Rift Valley Fever, East Africa – early warning

[El Niño](#) is a naturally occurring phenomenon characterised by the abnormal warming of sea surface temperature in the central and eastern equatorial Pacific Ocean. Occurring normally every two to seven years and lasting up to 18 months, normal patterns of precipitation are disrupted causing extreme climate events which can have a significant impact [on agriculture, aquaculture](#) and human and animal health. In East Africa, outbreaks of Rift Valley fever (RVF) are associated with periods of heavy rainfall that occur during the warm phase of the El Niño event ([Anyamba *et al.*, PLoS NTD](#)) due to an increase in habitat suitability for vector populations. El Niño conditions are currently present in East Africa and are likely to continue through winter and weaken during spring in the Northern Hemisphere, with similarities being drawn to the 1997-1998 event which caused an [RVF epidemic in East Africa](#). Based on observed and modelled data, [FAO, WHO and OIE](#) have recommended that Sudan, South Sudan, Somalia, Kenya and Tanzania prepare for the risk of increased RVF activity in the coming months. This situation will be monitored closely.

Other publications of interest

- in the last month, [further countries have reported the presence of MCR-1 \(Colistin\) resistance](#) genes, [including the UK](#), in human, animal and food isolates
- recent study has found that [Eurasian avian-like H1N1 swine influenza viruses](#) circulating in pigs in China may have obtained the traits required to transmit efficiently in humans
- ECDC has launched a [new toolkit to calculate disability-adjusted life years](#) for a selection of 32 communicable diseases and six healthcare-associated infections
- in December, both [the EU](#) and [UK zoonoses reports](#) for 2014 were published
- WHO has published their [list of top emerging diseases](#) likely to cause major epidemics which will inform the new WHO Blueprint for R&D preparedness

- WHO has published their first [report on the global estimates of foodborne disease](#)
- a [review of tularaemia](#) highlights the epidemiology of the disease across Europe
- a [new dengue vaccine](#) has been approved for use in Mexico, the Philippines and Brazil

Novel agents, rare pathogens and disorders

- [Tula hantavirus infection](#) in an immune competent individual has been reported in France. Known to be present in [rodents across Europe](#), only [one symptomatic case of Tula virus infection](#) has been reported previously in an immune compromised individual
- a [case of *Mycobacterium marinum* infection](#), normally associated with contact with fish and aquariums, has been reported associated with contact with coal mine water
- [three autochthonous cases](#) of the [recently recognised human pathogen](#) *Nocardia cerradoensis* were reported in Spain between 2011 and 2014
- a [novel human pegivirus \(human pegivirus 2\)](#) has been described in patients co-infected with hepatitis C virus
- the BMJ Christmas 2015 satirical article focussed on the epidemiology, treatment and prevention of [zombie infections](#)

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