HM Government

Infectious Disease Surveillance and Monitoring for Animal and Human Health: summary of notable incidents of public health significance. February 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*
Diphtheria, Bangladesh and Yemen	▲

Bangladesh – Cox's Bazar

Epidemiological evidence suggests the diphtheria outbreak reported in November in Cox's Bazar is stabilising. In the last month the reported incidence has more than halved with 718 cases reported in February, compared to 2,358 in January. As of 28 February, a total of 5,882 suspected cases, including 164 laboratory confirmed cases and 38 deaths, have been reported, with the vast majority of cases reported among Rohingya refugees. Recent vaccination campaigns have achieved high coverage among the local Bangladeshi community (99% coverage in 1 to 15 year olds since January 2018) and vaccination campaigns are ongoing for refugees in Cox's Bazar. The risk for further spread to the host population remains moderate.

The upcoming rainy season presents a risk of further spread of diphtheria as well as other disease outbreaks. Aid groups are working to stabilise homes in the camps before the monsoon season begins in late April/May as many lie within flood areas. To prevent further disease spread, WHO and the Bangladeshi Ministry of Health are planning to roll out vaccination campaigns against cholera, measles and rubella, polio and diphtheria.

Yemen

The outbreak reported in Yemen in November is improving. The incidence has nearly halved in the last month with 258 cases reported in the past month, down from over 500 in January. As of 24 February, at least 1,172 probable cases, including 72 deaths, have been reported in 20 of 23 governorates. Ibb and Al Hudaydah governorates remain the most affected. Vaccination campaigns are ongoing across the country.

Lassa fever, Nigeria	▲

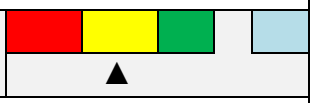
Lassa fever is endemic in parts of Nigeria, with cases occurring every year during the dry season from October to March. Currently, Nigeria is experiencing a large outbreak. Between 1 January 2018 and 25 February, a total of 1,081 suspected cases, including 90 deaths, have been reported from 18 states. The number of cases being reported

currently shows an increasing trend. 317 cases have been confirmed; the largest ever recorded, with over 80% of confirmed cases in Edo, Ondo and Ebonyi states [map]. The increased number of confirmed cases this year can be partly explained by improved labs and diagnostic testing across West Africa following the Ebola outbreak in 2014-2016 but preliminary analyses suggest this also represents a true increase.

Given the porous borders with neighbouring countries, there is a moderate risk of further spread. To date, Benin has reported 10 suspected cases associated with the Nigerian outbreak. There is also concern regarding spread to Cameroon, where Lassa fever is regarded as non-endemic, as cases are occurring in bordering Nigerian states.

The UK Rapid Support Team, jointly run by PHE and the London School of Hygiene and Tropical Medicine, has deployed to provide technical and analytical support to the Nigerian government.

Yellow fever, Brazil



The yellow fever outbreak in Brazil continues. As of 28 February, a total of 2,867 suspected cases, including 723 confirmed cases and 237 deaths, have been reported in 27 states, with most onset of symptoms dates in the third week in January. The majority of confirmed cases have been reported from São Paulo and Minas Gerais, with further cases reported from Rio de Janeiro, Espírito Santo and the Federal District [map]. The current outbreak has surpassed last year's total with more cases and wider geographical spread into areas not considered at risk for yellow fever. As a result, the Ministry of Health is considering expanding routine yellow fever vaccination to the whole country.

Large numbers of cases are being reported near major cities; 57% of confirmed cases in São Paulo had a probable site of infection in a town only 15 kilometres from São Paulo city. While investigations are ongoing, the Brazilian Ministry of Health maintains that there has been no evidence of urban yellow fever transmission. The last reported outbreak of urban yellow fever in Brazil was recorded in 1942.

Exported cases have been reported in unvaccinated travellers from four European countries, as well as Argentina and Chile. Yellow fever vaccination is recommended for international travellers going to areas within Brazil with increased risk for yellow fever transmission (see further travel advice on NaTHNaC).

Other incidents of interest

- the first human case of avian influenza A (H7N4) was confirmed in Jiangsu Province, **China** in February. The case reported contact with live poultry before developing symptoms. Genetic sequencing showed that the virus is genetically distinct from the H7N9 viruses currently circulating in China. While it is possible that further human cases will be detected, current evidence suggests that the virus does not possess the ability of sustained transmission in humans
- the widespread outbreak of listeriosis first reported in **South Africa** in December has been traced back to a food-production facility that prepares ready-to-eat processed meats. Polony [processed meat sausages] was the most commonly reported food product eaten by ill people. Since January 2017, a total of 948 confirmed cases, including 180 deaths, have been reported

Cholera

- on 7 February, **South Sudan** declared the end of its longest and largest cholera outbreak. The outbreak was first declared on 18 June 2016 and over 20,000 suspected cases, including 436 deaths, were reported
- the cholera outbreak in **Yemen** is improving. As of 28 February, a cumulative total of 1,070,793 suspected cases, including 2,263 deaths, have been reported, with 16,996

cases and 18 deaths reported in February. The weekly number of cases has been decreasing for the past 23 weeks. However, as cases are expected to increase again during the upcoming rainy season, the outbreak continues to be closely monitored and response efforts are ongoing

Polio

- **DRC**: the ongoing circulating vaccine-derived poliovirus 2 outbreak has been declared a Public Health Emergency of National Concern. As of 22 February, a total of 21 cases have been reported (all with onset dates in 2017) in Haut-Lomami, Maniema and Tanganyika provinces [map]. Vaccination campaigns are ongoing
- **Somalia:** three vaccine-derived poliovirus type 2 positive environmental samples were reported in February from Hamarweyn district, Banadir province in Mogadishu. The isolates are genetically linked to samples collected from Banadir province in 2017. No associated human cases of acute flaccid paralysis have been reported
- the 16th meeting of the Emergency Committee under IHR 2005 took place in November. The Committee agreed that the risk of international spread of poliovirus remains a Public Health Emergency of International Concern (PHEIC)

Publications of interest

- diagnosis of alveolar echinococcosis is usually based on imaging findings and serological tests. A recent case report from Germany highlights the difficulty in diagnosing cases of echinococcosis in immunocompromised patients. The patient was suffering from multiple myeloma and had negative serology while the liver biopsy was positive for *Echinococcus multilocularis*
- influenza viruses typically cause respiratory disease in humans. Avian and human influenza A viruses have also demonstrated the capacity to infect human eyes, with conjunctivitis as the most common ocular complication reported during influenza infections. While the H7 subtype appears to possess ocular tropism, further elucidation of the true public health implications is necessary
- although a well-described zoonosis, pneumonia complications associated with *Corynebacterium ulcerans* are rarely described. Two cases recently diagnosed in Japan presented with severe pneumonia complicated by diffuse pseudomembrane formation. Both cases had cats, some of which also tested positive for *C ulcerans*
- phylogenetic analysis of an imported Lassa fever case from Togo in 2016, and associated secondary cases in Germany, showed a novel strain related to lineage II or lineages I/VI, all of which circulate in Nigeria. While Lassa fever is endemic in many countries in West Africa, prior to this incident it had never been reported from Togo
- research into an outbreak of drug-resistant typhoid that began in Hyderabad, Pakistan in November 2016 found that the strain causing the outbreak is now resistant to five antibiotics. The strain, H58, has previously been linked to drug-resistance, however the current strain has gained an extra strand of DNA that encodes for additional antibiotic resistance
- a case of subclinical urinary *Burkholderia pseudomallei* was reported in a dog in the USA that had been adopted from Thailand. Worldwide movement of animals is becoming more common and may result in the importation of *B pseudomallei* (and other zoonotic infections) to non-endemic areas and subsequent human infection
- amyloid-β (Aβ) is a peptide commonly found in the brain of patients with Alzheimer's disease. It is experimentally transmissible in animals and has been found in patients with iatrogenic CJD suggesting it may be transmissible like prion disease. A review of cases of possible Aβ transmission through neurosurgical procedures from 3 countries was reported in Acta Neuropathologica
- analyses of data captured through PHE's passive Tick Surveillance Scheme from

2010-2016 found Ixodes ricinus was the most frequently recorded endemic tick species and confirmed that the species is widespread throughout the UK • monthly high consequence infectious disease (HCID) reports that detail global HCID events detected during PHE's epidemic intelligence activities are now available online at gov.uk
Novel agents, rare pathogens and disorders
• although *Burkholderia pseudomallei* (melioidosis) is a well-described disease endemic in South-East Asia and Northern Australia, pelvic involvement associated with infection) is rarely described. A case report of a patient with a primary tubo-ovarian abscess due to melioidosis was reported from Thailand. Infection likely resulted from exposure to contaminated soil • the first case of human infection with *Thelazia gulosa*, cattle eyeworm, has recently been reported in the United States. Previously only *T callipaeda* and *T californiensis* have been implicated in human disease

This document has been produced by Public Health England on behalf of the Human Animal Infections and Risk Surveillance group. For more information or to sign up to the distribution list, please contact EpiIntel@phe.gov.uk