Infectious Disease Surveillance and Monitoring for Animal and Human Health: summary of notable incidents of public health significance. September 2017

*Incident assessment:

<table>
<thead>
<tr>
<th>Deteriorating</th>
<th>No Change</th>
<th>Improving</th>
<th>Undetermined</th>
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<tbody>
<tr>
<td>Incident is deteriorating with increased implications for public health</td>
<td>Update does not alter current assessment of public health implications</td>
<td>Incident is improving with decreasing implications for public health</td>
<td>Insufficient information available to determine potential public health implications</td>
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Notable incidents of public health significance

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<td>Cholera, Yemen</td>
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The cholera outbreak that began in early October 2016 in Sana’a, the capital of Yemen, continues unabated. A total of 777,229 cases, including 2,134 deaths, have been reported over the period 27 April to 1 October, with 178,466 cases and 96 deaths during September. This is an increase of ~10,000 cases compared to August. During September, daily case numbers stabilised at ~5,000 cases/day and the case fatality rate fell to 0.27%. While weekly case numbers appear stable at country level, increasing trends are noted in some governorates. If the current picture continues, the International Committee of the Red Cross estimates there will be around one million cases by the end of the year.

WHO and partners are investigating the continued increase in cases. Many factors are contributory: disease surveillance, data collection and verification are difficult to achieve; access to the most affected communities remains challenging due to insecurity or bureaucracy; WASH and other supplies are limited; quality of health services is often poor. These are compounded in many areas by convergence of cholera with the highest food insecurity and nutritional needs for households.

In response to the ongoing cholera outbreaks around the world, WHO will launch a new strategy to stop cholera transmission by 2030 in October. Under the auspices of the Global Task Force on Cholera Control (a network of more than 50 international agencies, academic institutions, and NGOs), the strategy will address underlying causes and intends to use vaccine to contain outbreaks as quickly as possible.

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<th>Pneumonic plague, Madagascar</th>
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An outbreak of pneumonic plague is ongoing, having been first detected in Antananarivo in the central highlands (map). The outbreak’s source was in Ankazobe, a known endemic area in the highlands, with subsequent spread locally and also to the north and east. The most affected districts include the capital city Antananarivo, Toamasina and Faratshio. Madagascar commonly reports plague between September and April, however, this outbreak is occurring in non-endemic areas and in densely populated cities for the first time. As of 30 September, a total of 73 cases of had been reported, including 24 deaths.
A basketball player from the Seychelles attending a tournament was among the fatal cases. Further cases are considered likely. Sixty non-pneumonic cases have also been reported across the country.

### Polio, Syria and Democratic Republic of Congo

**Syria**: the outbreak due to circulating vaccine derived poliovirus 2 (cVDPV2) first reported in June is ongoing. One new case was reported during September, bringing the total to 40: 38 in Deir Al-Zour governorate and one each in Homs and Raqqā governorates [map]. The majority of the cases are from Mayadeen, Deir Al-Zour governorate. The most recent date of onset was 13 July. In addition to local responses, a nationwide polio immunisation campaign is being planned for October, aiming to reach more than 2.7 million children under the age of five.

**DRC**: one new case of cVDPV2 was reported in the last month. This brings the total number of cases in 2017 to nine; seven from Haut Lomami province and two from Maniema province [map]. Mop-up vaccination activities were completed on 16 September, with over 120,000 children under five years old successfully vaccinated. Further immunisation activities are planned for October.

### Vector-borne diseases, Europe

**Chikungunya**

**France**: the chikungunya outbreak reported in August is ongoing. As of 27 September, a total of 11 locally acquired cases (nine confirmed) had been reported: nine from Le Cannet-des Maures and two from Taradeau (newly reporting), all in the Var département [map]. An epidemiological link between the two clusters has been established. Dates of onset ranged from 28 July to 30 August, but an additional six cases are under investigation. Vector control activities are ongoing.

Sequence analysis of virus isolated from the first case indicated that it belongs to the widespread East Central South African lineage, most likely of African origin. The virus carried a mutation that has been associated with transmission by *Aedes albopictus*, possibly explaining the greater number of cases in this outbreak (compared to 2010).

**Italy**: on 8 September, Italy reported three locally acquired cases of chikungunya in Anzio, Lazio region (~58km from Rome) [map]. None of the cases reported travel abroad within the 15 days preceding symptom onset. As of 26 September, 183 cases had been reported from Anzio, Latina and Rome, of which 109 were confirmed. Mosquitoes collected near the house of the first three cases were PCR positive for chikungunya.

Sequence analysis of virus isolated from one of the cases and mosquitoes in the area indicated that the virus is also an East Central South African lineage but a current Pakistan strain and without the mutation noted in the French cases. There is a risk for further transmission in the region due to the widespread establishment of the vector, *Aedes albopictus*. Italy first reported an outbreak of chikungunya in 2007 in the north east of the country, with over 200 cases.

See ECDC update on both outbreaks.

**Malaria**

**Cyprus**: on 8 September, the UK reported three cases of *P. vivax* in travellers with recent travel to Kyrenia district, in northern Cyprus [map]. This is the first time locally acquired malaria has been reported from the northern part of Cyprus. The presence of suitable vectors and climatic conditions make local transmission possible. Further cases may be identified.
France: on 7 September, France reported two locally acquired cases of *Plasmodium falciparum* malaria in Allier, Auvergne-Rhône-Alpes Region [map]. Both cases attended the same wedding in Moulins, Auvergne-Rhône-Alpes Region before onset of symptoms. Epidemiological investigations identified a case of malaria imported from Burkina Faso in an individual who stayed in Moulins during the two weeks prior to the wedding. No further cases have been reported. Entomological investigations failed to identify mosquito-vectors capable of transmission. Investigations are ongoing into possible routes of transmission. The risk of further malaria spread in the area is very low.

Italy: on 5 September, Italy reported a fatal case of *P. falciparum* malaria in a girl with no overseas travel history in Trento [northern Italy] [map]. The child was hospitalised in Trento from 16 to 21 August for diabetes. On 02 September, she was admitted to a hospital in Brescia, Lombardy region, and subsequently diagnosed with malaria. Epidemiological investigations identified two patients with *P. falciparum* who were hospitalised in the same ward during her stay in Trento. Investigations are ongoing but have not yet identified any breach in medical procedures that could have led to nosocomial transmission. The risk of further malaria spread in the area is very low.

Greece: local transmission of both *P. vivax* (5 cases) and *P. falciparum* (1 case) occurred during July and August. Vivax malaria has been detected in Greece most years since 2009. ECDC published a risk assessment of these locally acquired malaria infections in the EU.

Other incidents of interest

- one fatal human case of avian influenza H5N1 was reported from Bali, Indonesia in September. This is the first human case of H5N1 reported from Indonesia since March 2015
- the Brazilian Ministry of Health declared the end of the 2017 yellow fever outbreak. Between December 2016 and June 2017 A total of 777 confirmed cases, including 261 deaths, were reported
- Cambodia and Lao People’s Democratic Republic have eliminated trachoma, an eye disease caused by *Chlamydia trachomatis* bacteria, as a public health problem
- Cabo [Cape] Verde continues to experience an increase in cases of malaria. As of 17 September, 225 cases, including one death, had been reported from Praia. This represents an increase of 102 cases in one month
- Nigeria reported one locally acquired case of yellow fever in Kwara state [western Nigeria]. Nigeria is a country with a known risk of yellow fever transmission although the last confirmed cases of yellow fever were in 2000. A single dose of YF vaccine is included in Nigeria’s routine immunisation schedule, however there have been problems with fake YF vaccination cards in the past
- the Infectious Diseases Data Observatory at University of Oxford, in collaboration with researchers from Africa, is developing a platform to organise and share Ebola data

Publications of interest

- in July 2017, a resident population of female *Aedes vexans* mosquitoes were discovered in west Norwich, England. This is the first notable population of Ae. vexans reported in the UK in the past 90 years. Although known for nuisance biting, the risk of disease transmission remains low in the UK. *Aedes vexans* is, however, recognised as a disease vector elsewhere in Europe and in Africa
- cattle vaccine strain of *Brucella abortus* has been linked with human infection acquired from raw milk in Texas, US. One case has been confirmed so far and investigations continue amongst 800 households known to have purchased milk from the dairy. The vaccine is not used in the UK, but zoonotic transmission via this route is known to
occur in the US

- **Chlamydia caviae as a cause of human infection**: *C. caviae* is pathogenic for guinea pigs but is rarely recognised to cause disease in humans. Three severe human infections with respiratory failure due to *C. caviae* were diagnosed by PCR in the Netherlands. Each case had guinea pigs at home, and an identical strain of *C. caviae* was detected in one which had had respiratory signs prior to the onset of symptoms in its owner.

- **Post mortem transmission of Lassa fever in Germany** – this incident took place in 2016 but a description of the exposure in the mortuary and the public health investigations has now been published.

- A **multidrug-resistant strain of malaria** is reported to have spread through southeast Asia from Cambodia and has reached Vietnam. The parent strain, resistant to artemisinin drugs, was first identified in Cambodia in 2008, but it subsequently acquired piperaquine resistance and spread east through the region. The authors conclude that the strain’s evolution and transnational spread is of international concern (as a potential threat to global malaria control).

- **Thelazia callipaeda** ("eye worm"), is a vector borne, zoonotic nematode that infects a variety of mammals. It is increasingly common, both in animals and humans, in Europe with local transmission reported in at least 12 countries. The UK government’s pet travel scheme (PETS) allows the travel of animals to/from the EU as long as owners comply with certain requirements designed to prevent the importation of zoonotic diseases. Three UK canine cases were imported from endemic countries even though all requirements specified under PETS, including single dose tapeworm treatment, were met.

- **Usutu virus (USUV)** is a recently emerged flavivirus. While very few cases of USUV encephalitis have been documented to date, a laboratory study determined that Usutu virus has significant effects on human neural cells, findings which suggest that USUV infection may lead to encephalitis and/or meningoencephalitis via neuronal destruction and inflammatory response.

### Novel agents, rare pathogens and disorders

- The **first human gastric hyperinfection by Anisakis simplex** was reported in Portugal. The patient presented 24 hours after consuming a grilled fish, and 140 viable larvae were recovered by aspiration during gastroscopy. Consumption of raw or undercooked fish is not part of the traditional diet in Portugal, thus the infection was unexpected. Due to the increased consumption of raw seafood in areas with high marine infection rates, anisakiasis may be increasingly recognised.