



Infectious disease surveillance and monitoring for animal and human health: summary of notable incidents of public health significance

January 2022

Contents

Avian influenza A(H5N1), England.....	2
Coronavirus (COVID-19): global summary.....	3
Dengue, Timor-Leste.....	4
Lassa fever, Nigeria.....	5
Wild polio and circulating vaccine derived polio virus, global update: 2021	6
Anthrax.....	7
Avian influenza A(H5N6), China.....	7
Cholera.....	7
Dengue, Bangladesh.....	8
Hantavirus.....	8
Hepatitis E.....	8
Lassa fever, Sierra Leone.....	8
Monkeypox.....	9
Plague, DRC.....	9
Rift Valley fever, Uganda.....	9
Yellow fever, Côte d'Ivoire.....	10

Incident assessment key

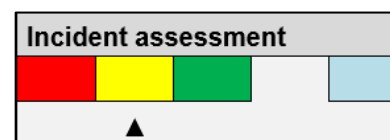
Deteriorating	No change	Improving	Undetermined
Incident is deteriorating with increased implications for public health	Update does not alter current assessment of public health implications	Incident is improving with decreasing implications for public health	Insufficient information available to determine potential public health implications

Notable incidents of public health significance

Avian influenza A(H5N1), England

Incident assessment

No change: Update does not alter current assessment of public health implication.



Event information

In January 2022 a human case of avian influenza A(H5N1) was reported in South West [England](#). The case was identified following an outbreak of high pathogenicity avian influenza (HPAI) H5N1 in birds kept in and around the case's home, with which the case had a high degree of contact. The birds had onset of illness on 18 December 2021. A swab sample from the case was taken as part of a routine investigation due to their prolonged contact with the birds without personal protective equipment. Analysis of this sample confirmed avian influenza A(H5N1) infection. The case did not report any symptoms.

The public health response identified 11 contacts, none of which reported symptoms and there was no evidence of onward transmission. All birds from the premises were culled and decontamination was undertaken.

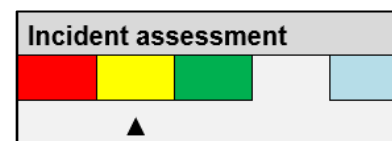
UKHSA assesses the risk to the wider public as [very low](#).

This is the first human case of avian influenza A(H5N1) to be identified in Europe. A total of [863 human cases](#) of avian influenza A(H5N1), including 455 deaths, have been reported globally since 2003.

Coronavirus (COVID-19): global summary

Incident assessment

No change: Update does not alter current assessment of public health implication.



Event information

By the end of January 2022 the World Health Organization (WHO) had reported over [375 million coronavirus \(COVID-19\) cases](#) and over 5.66 million deaths globally. Overall, the number of new cases reported globally increased in the first weeks of January, before decreasing in the final week. A total of [9.90 billion vaccine doses](#) had been administered globally as of 31 January 2022. For further insight please refer to the following reports:

- WHO's global [weekly epidemiological updates](#)
- ECDC's [weekly surveillance summary](#) for European countries
- UKHSA's [national COVID-19 surveillance reports](#)

Updates to note

Since the designation of the [Omicron \(B.1.1.529\)](#) SARS-CoV-2 variant as a variant of concern in November 2021 several Omicron sub-lineages have been identified. The Omicron variant sub-lineage BA.2 differs from BA.1 by several mutations, including in the spike protein. Multiple countries have observed an increase in the BA.2 sub-lineage. As of 30 January, 57 countries had submitted BA.2-designated sequences to [GISAID](#). [Preliminary UK data](#) indicates that transmission is higher among BA.2 case household contacts than for contacts of BA.1 cases. A preliminary assessment did not find evidence of a difference in vaccine effectiveness against symptomatic disease for BA.2 compared to BA.1.

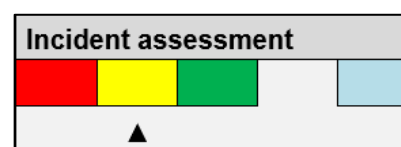
In January 2022 Hong Kong reported a case of COVID-19 in a [pet store worker](#). Subsequent investigations published in a [pre-print](#) study (not peer-reviewed) suggests that there were 2 independent hamster-to-human transmission events, originating from hamsters imported from the Netherlands. This led to at least one further human-to-human transmission event in Hong Kong.

COVAX have supplied their [billionth dose of COVID-19 vaccine](#), with deliveries to 144 countries as of 15 January 2022. The organisation note that this milestone should serve as a reminder of the work that still remains to be done, with 30 WHO member states having vaccinated less than 10% of their population as of 13 January 2022.

Dengue, Timor-Leste

Incident assessment

No change: Update does not alter current assessment of public health implication.



Event information

On 15 January 2022 the Government of [Timor-Leste](#) declared that dengue had become a serious health concern. Timor-Leste has reported an [increase in dengue cases since late 2021](#). During January 2022, 1,286 cases were recorded, including 20 deaths (case fatality rate of 1.6%). Dili municipality reported the highest number of cases (857 cases).

The number of dengue cases reported in the month of January 2022 alone exceeds the total cases recorded during the whole of 2021 (901 cases, 11 deaths, with a case fatality rate of 1.2%). In 2020 1,451 cases, including 10 deaths were reported with a case fatality rate of 0.7%.

Dengue is endemic in Timor-Leste, with peak numbers of cases usually expected between December and April each year. However, the significant increase in the number of dengue cases and the rate of hospitalisation seen during January 2022 is unusual. The monsoon season is ongoing and there is high potential for ongoing dengue transmission in the next few months.

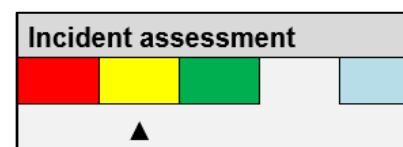
Recent information about circulating dengue serotypes is not available. Between 2005 and 2012 co-circulation of dengue virus 1 (DENV-1) and dengue virus 3 (DENV-3) was reported. The WHO note that the population may be at risk of re-infection and possible serious complications if not treated quickly and effectively.

Timor-Leste is currently experiencing a shortage of doctors and other health professionals, which may worsen the situation. The public health response so far has included strengthening clinical management of cases, drafting dengue control guidelines and conducting educational campaigns.

Lassa fever, Nigeria

Incident assessment

No change: Update does not alter current assessment of public health implication.



Event information

Lassa fever cases continue to be reported in [Nigeria](#). In January 2022 981 suspected and 211 confirmed cases were reported. There were 40 deaths reported among confirmed cases, resulting in a case fatality rate of 19%. Confirmed cases have been reported from 14 of Nigeria's 36 states. The states of Ondo, Edo and Bauchi together account for 82% of confirmed cases.

There has been an increase in the number of cases compared to the same time period of 2021 when 507 suspected cases, 54 confirmed cases and 12 deaths were reported (case fatality rate among confirmed cases of 22.2%). [WHO](#) note that this may be due to reduced response, surveillance and laboratory testing capacities, as efforts were re-directed to COVID-19.

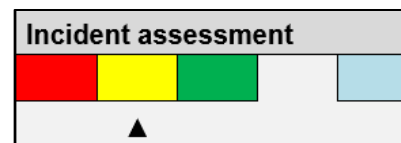
Lassa fever is endemic in Nigeria and cases are often recorded during the dry season between December and April. The number of cases is expected to continue to rise until the end of the dry season.

In response to the outbreak, the Nigeria Centre for Disease Control (NCDC) has activated the national Lassa fever [Emergency Operations Centre](#). Rapid response teams have been deployed to 8 states and the Federal Capital Territory. Since 2016 NCDC has worked to improve diagnostic capacity for Lassa fever. At present there are 7 laboratories in Nigeria that can perform confirmatory diagnostic tests.

Wild polio and circulating vaccine derived polio virus, global update: 2021

Incident assessment

No change: Update does not alter current assessment of public health implication.



Event information

Wild polio virus

During [January](#) 2022 the Global Polio Eradication Initiative (GPEI) reported no new cases of wild polio virus. Overall, in 2021, 5 cases were identified globally: 4 cases in Afghanistan and one in Pakistan. The most recent case was reported during January 2021 in Pakistan, making it over a year since the country reported a case of wild polio virus.

Circulating vaccine derived polio virus (cVDPV)

One case of circulating vaccine-derived poliovirus type 2 (cVDPV2) was reported in Zakarpattia, [Ukraine](#) with symptom onset during December 2021 and laboratory confirmation on 24 January 2022. The isolated strain of the virus was confirmed to be genetically similar to the virus isolated from a previous case in the [Rivne](#) region of Ukraine during October 2021. A [vaccination campaign](#) is underway, which is targeting children under 6 years old who have not yet received the vaccine. In 2020, 84% of 1-year olds in Ukraine received the required doses of the polio vaccine, which is below the WHO-recommended vaccine coverage level of 95%.

Other incidents of interest

Anthrax

In January 2022 media reported a suspected anthrax outbreak in humans on Java island, [Indonesia](#), with test results awaited for 23 suspected cases. This follows the deaths of farm animals in the area, which tested positive for anthrax infection.

Suspected cases of anthrax in humans were reported by authorities in Rocha department, [Uruguay](#). Exact case numbers were not given. Confirmed cases were detected in cattle and horses in the department. Anthrax outbreaks in animals occur regularly at this time of the year in the region.

In the [Democratic Republic of the Congo](#) (DRC) media reported 9 cases of anthrax in Kalehe territory, South Kivu Province, following consumption of guinea pig meat. Two cases were reported to have died.

Avian influenza A(H5N6), China

In January 2022 8 cases of avian influenza A(H5N6) were reported in mainland China. Six of these cases had a symptom onset in December 2021. Exposure to poultry was confirmed for 5 of these cases (see WHO's Avian Influenza Weekly Updates [827](#) and [828](#) for case details).

A further [2 cases reported in January 2022](#) had an onset of illness in 2022. These included a 68 year old man and a 55 year old woman with symptom onset on 3 and 6 January respectively. Both cases had exposure to poultry.

From 2014 to date, a total of [65 laboratory-confirmed cases](#) of human infection with influenza A(H5N6) virus have been reported from mainland China.

Cholera

[Benin](#) reported 1,430 cholera cases between 1 September 2021 and 16 January 2022. Stool culture performed on 41 samples confirmed *Vibrio cholerae* O1 serogroup. Benin previously experienced a cholera outbreak between March and April 2021, resulting in 103 cases and no deaths. Cholera is endemic in Benin, and cases have been reported annually since 2016. Frequent population movement across Benin's borders to Nigeria and Togo increases the risk of cross-border transmission.

In [Cameroon](#), a cholera outbreak which was declared in October 2021 is still ongoing. Between 25 October 2021 and 11 January 2022 a total of 628 suspected cholera cases including 9 confirmed cases have been reported. There have been 21 deaths, equating to a case fatality rate of 3.3% among suspected cases. Cases have been reported from 4 regions (South-West, Littoral, South, and Centre regions), with the South-West region reporting the most suspected cases (521).

A cholera case was detected in Chiredzi district, Masvingo province, [Zimbabwe](#) on 19 January 2022. This was the first case of cholera to be reported in the country since March 2019. Chiredzi district is known to be one of Zimbabwe's cholera hotspots.

Dengue, Bangladesh

Between 1 and 24 January 2022 121 patients were reportedly hospitalised in [Bangladesh](#) due to dengue. It is unusual to observe a high number of dengue cases in January, which is one of the colder winter months. This may be an indication of a larger outbreak to come, as temperatures increase and mosquito populations proliferate in warmer months later in the year. In [2021](#) 28,429 dengue patients were hospitalised and at least 105 died, which constitutes the second highest total annual number of hospitalised dengue cases and deaths since records began in Bangladesh.

Hantavirus

During January 2022 media reported one death from hantavirus in Esquel, [Argentina](#). In addition, there were 3 deaths reported by media in Chile from hantavirus infections: 2 from the Ñuble ([Chillán](#) and [San Fabián](#)) region and one from the [Los Lagos](#) region. The strain of hantavirus was not specified in any of the cases.

Hepatitis E

There is an ongoing outbreak of hepatitis E in the Bentiu internally displaced persons (IDP) camp, [South Sudan](#). As of 23 January 2022 1,812 suspected cases with 11 deaths had been reported since January 2019. Epidemic thresholds have been exceeded since epidemiological week 19 of 2021. Renewed sub-national violence in several locations has led to displacement and disruption of health service provision.

A hepatitis E outbreak was declared by authorities in Chad in November 2021. As of 11 January 2022 [385 suspected cases](#) and 2 associated deaths have been reported in the Tandjile region. The region has been impacted by heavy rainfall, which caused damage to infrastructure in a setting that has pre-existing water, sanitation and hygiene challenges. Chad previously experienced a large hepatitis E outbreak between August 2016 and February 2018, with [1,874 cases](#) and 23 deaths reported.

Lassa fever, Sierra Leone

In [Sierra Leone](#), one case of Lassa fever was reported between 1 and 9 January 2022. Lassa fever is endemic in Sierra Leone. In total, there were 16 cases reported in 2021 and 8 cases in 2020.

Measles

In [Afghanistan](#), the number of suspected measles cases has been increasing since mid-2021, with the highest weekly toll observed in January 2022. From 1 January 2021 to 29 January

2022 35,319 suspected cases have been reported, with 156 deaths recorded among confirmed cases (case fatality rate of 4.8%). During December 2021, a measles outbreak response vaccination campaign reached over 1.5 million children across 6 provinces.

In the [DRC](#) 993 suspected measles cases and 18 deaths were reported between 1 and 26 January 2022. The outbreak has been confirmed in 23 of the country's provinces, including the capital, Kinshasa. A [Doctors Without Borders](#) team has been deployed to provide outbreak support in the Maniema Province. In [2021](#) a total of 55,940 suspected cases and 825 deaths were reported in the DRC between 1 January and 15 December.

In [Liberia](#) 92 suspected measles cases were identified during January 2022. The majority of cases were from the counties of Commonwealth (30 cases) and Zota (25 cases). This is a higher number of suspected cases compared to 2021, when 10 suspected cases were reported in the first 3 weeks of the year. Despite 2 rounds of measles vaccination campaigns conducted in 2021 the WHO report that vaccination coverage is far below the target of 90%.

A measles vaccination campaign has begun in M'Berra camp, [Mauritania](#) following the identification of measles cases in the population. The number of cases affected was not reported. M'Berra camp is home to nearly 60,000 refugees from neighbouring Mali.

Monkeypox

In January 2022 [Nigeria](#) reported 4 suspected and 3 confirmed cases of monkeypox. No deaths were recorded. From September 2017 to 31 January 2022 a total of 290 suspected and 229 confirmed cases, including 8 deaths among confirmed cases (case fatality rate of 3.5%), have been reported across 21 states

In the [DRC](#) 209 cases, including 18 deaths (case fatality rate of 8.6%), were reported between 1 and 23 January 2022. During the same time period of 2021 there were 188 cases and 4 deaths. In total 3,091 cases including 83 deaths were reported in 2021.

Plague, DRC

One case of plague was reported between 1 and 23 January 2022 in the [DRC](#). During 2021 a total of 138 suspected cases, including 14 deaths were reported (case fatality rate of 10.1%). This was comparatively fewer cases than in 2020, when 461 suspected cases, including 31 deaths were reported (case fatality rate of 6.7%).

Rift Valley fever, Uganda

On 12 January 2022 the [Ugandan Ministry of Health reported](#) a case of Rift Valley fever in Kagadi district. The case had symptom onset on 2 January and died on 10 January. In [2016](#) Uganda experienced an outbreak of Rift Valley fever with a total of 4 cases, which were the first laboratory confirmed cases to be reported in Uganda for 48 years.

Yellow fever, Côte d'Ivoire

Between August 2021 and 9 January 2022 a total of 18 confirmed cases of yellow fever were reported in [Côte d'Ivoire](#). The national yellow fever [vaccination coverage](#) estimated at 69% is less than the 80% WHO target required to confer herd immunity.

Publications of interest

Avian influenza A(H5N6)

Between January and September 2021 3 cases of avian influenza A(H5N6) occurred in Chongqing Municipality, China. A recent [publication](#) reports that no evidence of human-to-human transmission was found. All 3 cases had been exposed to poultry and poultry-related premises in the 10 days prior to symptom onset. Genomic analysis of the 3 H5N6 viruses isolated found that the viruses were genetically similar to H5N6 viruses collected in different regions, indicating that these viruses might be from different sources.

Chikungunya

A [systematic review](#) was performed to characterise the global epidemiology of chikungunya virus to inform the development and introduction of vaccines. The review identified 97 outbreak reports from 45 countries and 50 seroprevalence studies from 31 countries were retrieved, including from Africa, Asia, Oceania, the Americas, and Europe. Several countries reported multiple outbreaks, but these were sporadic and unpredictable. Substantial gaps in epidemiological knowledge were identified, emphasising the challenges to conduct vaccine efficacy trials due to disease unpredictability.

Crimean-Congo Haemorrhagic Fever (CCHF)

Spain reported the first autochthonous cases of CCHF in the country in [2016](#). A [surveillance study](#) which examined more than 12,000 ticks for CCHF virus identified 5 regions in central and southwest Spain where the virus was present. The study indicates that CCHF virus is widespread in ticks in Spain, although there is a need for larger studies to ascertain the complete risk to public health.

Dengue

Dengue is primarily spread by *Aedes aegypti* mosquitoes. A recent [study](#) demonstrated that dengue infected mosquitoes showed a greater attraction to a mouse host and infection hindered their biting efficiency, the latter resulting in the infected mosquitoes biting more to reach similar blood repletion as uninfected mosquitoes. Dengue infection therefore modulated mosquito-blood feeding behaviour to increase vector capacity, and thus aggravating dengue epidemiology.

Epstein-Barr virus

Using data from millions of US military recruits monitored over a 20 year period, a [research group](#) has found that infection with Epstein-Barr virus increased the risk of developing multiple sclerosis 32-fold.

Ebola virus disease (EVD)

A [study](#) examining data from Ebola treatment units in Liberia and Sierra Leone in 2014 and 2015 found that early oral antimalarial treatment during an EVD outbreak was associated with reduced mortality (early antimalarial treated cases yielded 55.1% mortality compared to 77.1% mortality for untreated cases).

A study which piloted the use of [post-mortem rapid antigen testing](#) during the 2018 to 2020 EVD outbreak in the DRC, found that OraQuick Ebola rapid diagnostic tests yielded no false-negative results and 2% false-positive results. This rapid diagnostic testing could help reduce both community transmission and the number of safe and dignified burials required.

Middelburg virus

Middelburg virus has previously been associated with illness in animals but was not known to cause disease in humans. A recent [study](#) in South Africa detected Middelburg virus in the cerebrospinal fluid of patients with acute neurological symptoms, suggesting the virus may be associated with neurological disease.

Polio

A [seroprevalence study](#) assessing 5,526 individuals aged 15 to 59 years in the DRC found that 74%, 72%, and 57% were seropositive for neutralizing antibodies for poliovirus types 1, 2, and 3, respectively, suggesting that protection against poliovirus is generally low among adults in the DRC, particularly for type 3 poliovirus.

Rabies

In the United States of America (USA), 3 human rabies deaths were identified between September and November 2021. A [publication](#) from the USA Centers for Disease Control and Prevention reported that the 3 individuals did not seek postexposure prophylaxis following exposures to bats. In total during [2021](#), 5 human rabies cases were reported in the USA. During 2019 and 2020, there were no reported human rabies cases.

Rift Valley fever

A [systematic literature review](#) of Rift Valley fever epidemiology identified transmission events in animals or humans reported from 39 countries, between January 1999 and June 2021. Outbreaks in humans were most commonly reported from Mauritania, Madagascar, Kenya, South Africa, and Sudan.

West Nile virus (WNV)

A [systematic review](#) of WNV epidemiology in Africa has found evidence of virus circulation among humans, animals and vectors in at least 28 African countries. Human seroprevalence studies have not been conducted so far in more than 20 countries, suggesting that the true disease burden of WNV in Africa is underestimated.

Yellow fever

[In vitro studies](#) have found that antibodies produced by the yellow fever vaccine cannot effectively neutralize an emergent Brazilian strain that is currently circulating in South America.

Other publications of interest

Nothing to report.

Novel agents, rare pathogens and disorders

Nothing to report.

For more information or to sign up to the distribution list, please contact EpiIntel@phe.gov.uk

Published: March 2022

UKHSA publications Gateway number: 11717

© Crown copyright 2022

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, visit [OGL](#). Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.