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Editor's Note



Dr Michelle Groome

It gives me great pleasure, as the newly-appointed Head of the Division of Public Health Surveillance and Response, to introduce the February 2021 edition of the Communiqué.

The COVID-19 pandemic remains a concern globally and we provide an update on cases enrolled in our syndromic surveillance for respiratory illness. While we are seeing a sustained decrease in the

number of cases reported in South Africa, we need to remain vigilant in order to detect and prevent another surge in cases in the coming months. Vaccines against COVID-19 finally arrived and vaccination of healthcare workers has commenced – a positive move in the fight against this virus.

We also provide an update on zoonotic and vector-borne diseases in South Africa. Two more cases of human rabies have been confirmed since the last report. A 9-year-old boy from the Vhembe District in Limpopo Province, and a 9-year-old boy from eNgonyameni in KwaZulu-Natal Province, both died following hospitalisation. Increased rainfall levels in the past few months goes hand in hand with increased breeding of mosquito vectors and the risk of arboviral diseases such as Sindbis and West Nile fever, as well as increase in malaria transmission. We highlight the clinical features, investigation and treatment of these diseases as well as ways to prevent infection.

An outbreak of Ebola virus disease in Guinea was declared on 14 February 2021. Efforts are underway to provide Ebola vaccine to the affected areas. While the risk of exportation to South Africa is low, it is important to stay abreast of developments in the current outbreak. Other outbreaks beyond our borders include Rift Valley fever in Kenya, cholera in Mozambique and listeriosis in the United States.

ZOONOTIC AND VECTOR-BORNE DISEASES

An update on rabies in South Africa

Two additional cases of human rabies have been confirmed in South Africa since the last report. The first case involved a 9-year-old boy from Matangari, Thohoyandou, Vhembe District, Limpopo Province. A dog bit the boy in December 2020. Reportedly, rabies post-exposure prophylaxis (PEP) was not sought after the exposure. The child showed general weakness, pupil dilation and hypersalivation, and died in January the day after hospital admission. A sample of saliva obtained from the child upon admission tested positive for rabies nucleic acid, confirming that the child had died of rabies. Since the infection was acquired in 2020, this case will be reported in the 2020 statistics. Therefore, the total number of laboratory confirmed human rabies cases for 2020 is eight. These cases have been reported from KwaZulu-Natal (n=6) and Limpopo (n=2) provinces, including the case reported here.

A recent case of human rabies was also laboratory confirmed on 15 February 2021 in a 2-year-old boy from eNkonyameni, near uMlazi (south of eThekweni District) in KwaZulu-Natal Province. This was the first report of human rabies in 2021. The child sustained an injury on his head while playing with a dog in the last week of January 2021. The boy was taken to hospital, but reportedly no rabies PEP was administered.

Purportedly, the dog died. The boy was admitted to a hospital on 10 February with fever, nausea, vomiting, tiredness, muscle spasm, hypersalivation, hydrophobia, confusion, agitation, hyperactivity and aggressive behaviour, and died the following day. A single saliva sample, collected before the patient died, tested positive on rabies RT-PCR.

The COVID-19 epidemic in South Africa has affected the control and prevention of rabies. As expected, dog owners and communities were less involved in the vaccination of their pets. Vaccination of dogs (and cats) remains the single most important intervention in the control and prevention of rabies. In South Africa, the majority of cases of human rabies are linked to dog bites, so controlling the disease in these animals prevents the spread of the disease to humans. Furthermore, as COVID-19 has modified care seeking behaviour and access to health services, access to rabies PEP may also have been affected. Since there is no treatment for clinical rabies disease, rabies PEP is the only approach to the prevention of rabies infection once exposure has occurred.

For more information on rabies and how to prevent infection, please visit the NICD website: <https://www.nicd.ac.za/diseases-a-z-index/rabies/>

Alert: Sindbis and West Nile fever

Increased rainfall levels recorded during the last quarter of 2020 and in January and February of 2021 might contribute to enhanced breeding of mosquito vectors and consequently result in increased number of arboviral diseases, such as Sindbis and West Nile fever, in parts of South Africa (see Communicable Diseases Communiqué January 2021, Vol. 20 (1) Alert: Rift Valley fever, p.3-5 (<https://www.nicd.ac.za/wp-content/uploads/2021/01/NICD-Monthly-Communiqu%C3%A9-January-2021.pdf>). Sindbis and West Nile virus (SINV and WNV) infections are well documented in South Africa during the summer months, especially in years with above average rainfall. These viruses co-circulate as they share common vectors, namely culicine mosquitoes, and avian hosts as reservoirs. Outbreaks of Sindbis and West Nile fevers have been reported simultaneously on the Highveld of South Africa in 1974, 1984, 2004 and 2016/2017, although it is possible that cases may go unnoticed or undiagnosed.

Clinical aspects and laboratory investigation

Typically, a patient infected with SINV or WNV will develop mild-to-moderate headache and myalgia for 1-2 days, followed by a rash initially on the trunk, and progressing over 1-2 days to the limbs, palms and soles. The rash associated in cases with Sindbis fever can include punctate papules on the trunk, limbs, palms and soles, small vesicles on the papules and characteristic halos around the papules. The rash associated with the West Nile fever is normally more diffuse with a maculopapular appearance. The rash eventually resolves after 3-5 days, but a few patients experience arthralgia of the large joints or can even develop joint effusions. Some patients might develop slightly tender generalised lymphadenopathy. The illness is normally self-limiting, but the florid nature of the rash prompts many persons to seek health care. West Nile fever can involve severe illness including neurological symptoms (headache,

ZOONOTIC AND VECTOR-BORNE DISEASES

neck stiffness, disorientation, convulsions, muscle weakness, vision loss, numbness and paralysis). People over 60 years of age are at greater risk of developing severe West Nile fever.

The differential diagnosis of Sindbis and West Nile fevers is broad in the South African context. Cases may go undiagnosed in the face of the current SARS-CoV-2 epidemic in South Africa. It is important to notice that the rash and joint pain associated with arboviral infections are not commonly seen in patients with COVID-19 disease. Tick bite (TBF) fever is also reported during the late summer months in much of South Africa. If a possible diagnosis of TBF is considered, it is important to treat the patient with doxycycline as soon as possible. Malaria is also important to be considered in all persons with acute febrile illness returning from malaria endemic areas.

The Centre for Emerging Zoonotic and Parasitic Diseases offers laboratory testing for Sindbis and West Nile fever. Endemic

arboviral disease such as Sindbis and West Nile fever are notifiable category 3 medical conditions in South Africa.

Treatment and prevention

There is no specific antiviral treatment or vaccine available for Sindbis or West Nile fever. Treatment is symptomatic and includes antihistamines for pruritic rash, and non-steroidal anti-inflammatory drugs for joint symptoms. The only preventive measure when living in or travelling in an endemic area of Sindbis or West Nile fever is to avoid being bitten by mosquitoes by using insect repellents, in particular to avoid daytime exposures. For more information, visit the NICD website (<https://www.nicd.ac.za/diseases-a-z-index/west-nile-fever/>; <https://www.nicd.ac.za/diseases-a-z-index/sindbis-fever/>).

Alert: Ebola virus disease in Guinea

An outbreak of Ebola virus disease (EVD) in Guinea was declared on the 14th February 2021 (<https://www.afro.who.int/news/new-ebola-outbreak-declared-guinea>). Three cases were reported from Gouéké, N'Zerekore prefecture. Gouéké is located in the south east of Guinea, about 800 km from the capital Conakry, but about 100 km from various border points with Liberia and Ivory Coast.

The index case involved a nurse who died at the end of January 2021. Following her funeral, six additional cases of persons with EVD-like symptoms were identified.

The WHO reports that efforts are underway to deploy Ebola vaccines (https://www.who.int/medicines/emp Ebola_section/

en/), contact tracing and treatment structures to contain the outbreak. The containment responses will strongly hinge on the experience gained during the West Africa EVD outbreak of 2013-2016 and the availability of antiviral treatment and Ebola vaccines.

At this stage of the outbreak the risk of exportation to South Africa is low. On 23 February 2021, there are no confirmed or suspected cases of EVD in South Africa.

More details on this is contained in the 'An update on Ebola virus disease outbreak, DRC and Guinea' article.

CORONAVIRUS DISEASE (COVID-19) PANDEMIC

An update on the coronavirus disease 2019 (COVID-19) outbreak, South Africa

Laboratory-confirmed cases of COVID-19 among patients enrolled in syndromic surveillance for respiratory illness in South Africa, 10 March 2020- 14 February 2021

South Africa has been conducting syndromic surveillance for influenza-like illness (ILI) and pneumonia since 2009 and 2012, respectively. Four clinics in four provinces (Mpumalanga, Western Cape, KwaZulu-Natal and North West) and nine sentinel hospitals in five provinces (Gauteng, Mpumalanga, Western Cape, KwaZulu-Natal and North West) contribute to the surveillance programme. In March 2020, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was included as one of the pathogens tested for among patients enrolled at sentinel surveillance sites.

The first case of SARS-CoV-2 in South Africa was reported on 5 March 2020. From 10 March 2020 through 14 February

2021, a total of 6 437 surveillance cases was tested for SARS-CoV-2, of which 17% (308/1769) of ILI and 18% (836/4668) of pneumonia surveillance cases were positive for SARS-CoV-2. The first COVID-19 ILI case was reported from the Western Cape Province on 8 May 2020, and the first COVID-19 among pneumonia surveillance cases was detected on 23 April 2020, also from the from Western Cape Province.

The median age of COVID-19 cases with ILI was 35.6 years (range 0.1-80.4) and 53.9 years (range 0.02- 93.7) for cases hospitalised with pneumonia at sentinel sites.

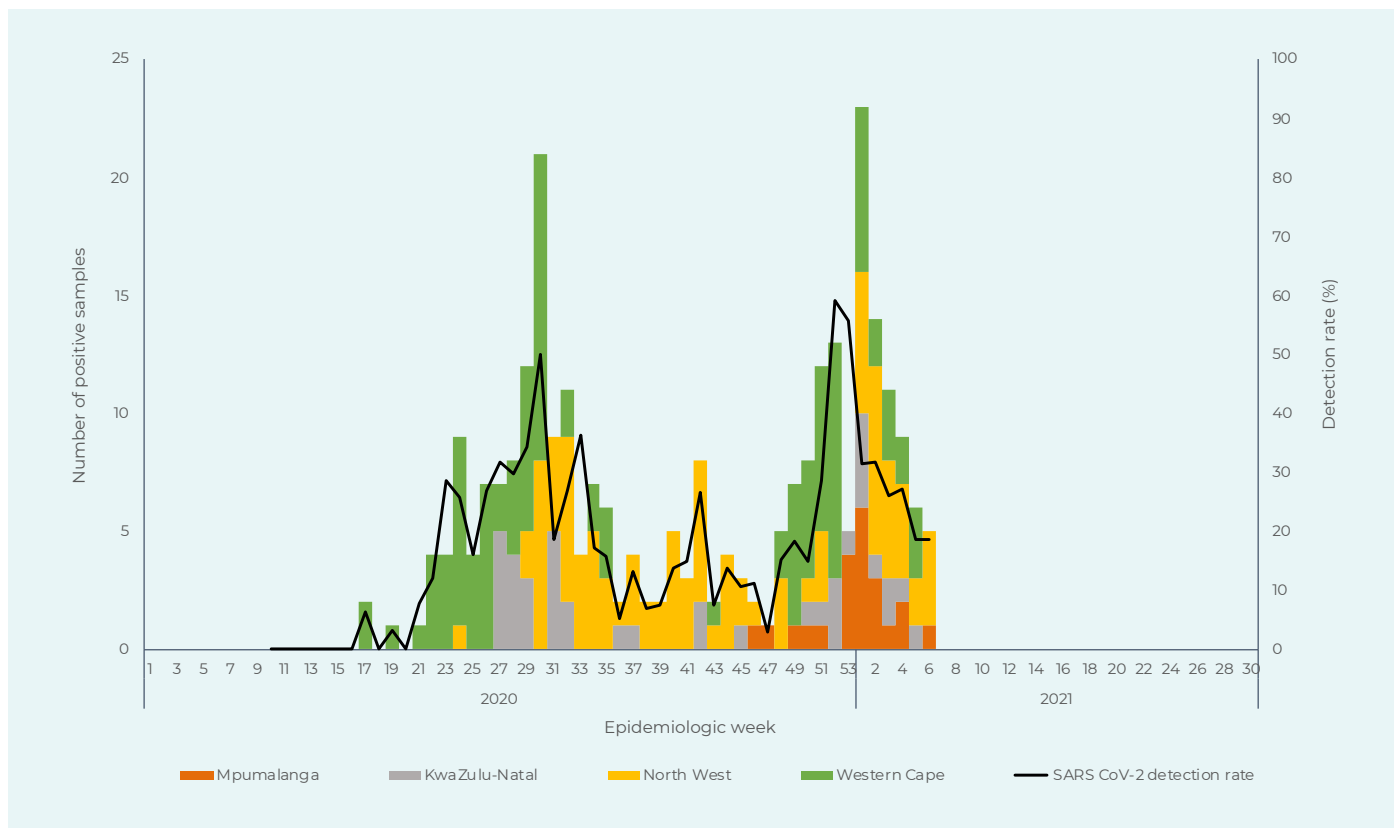


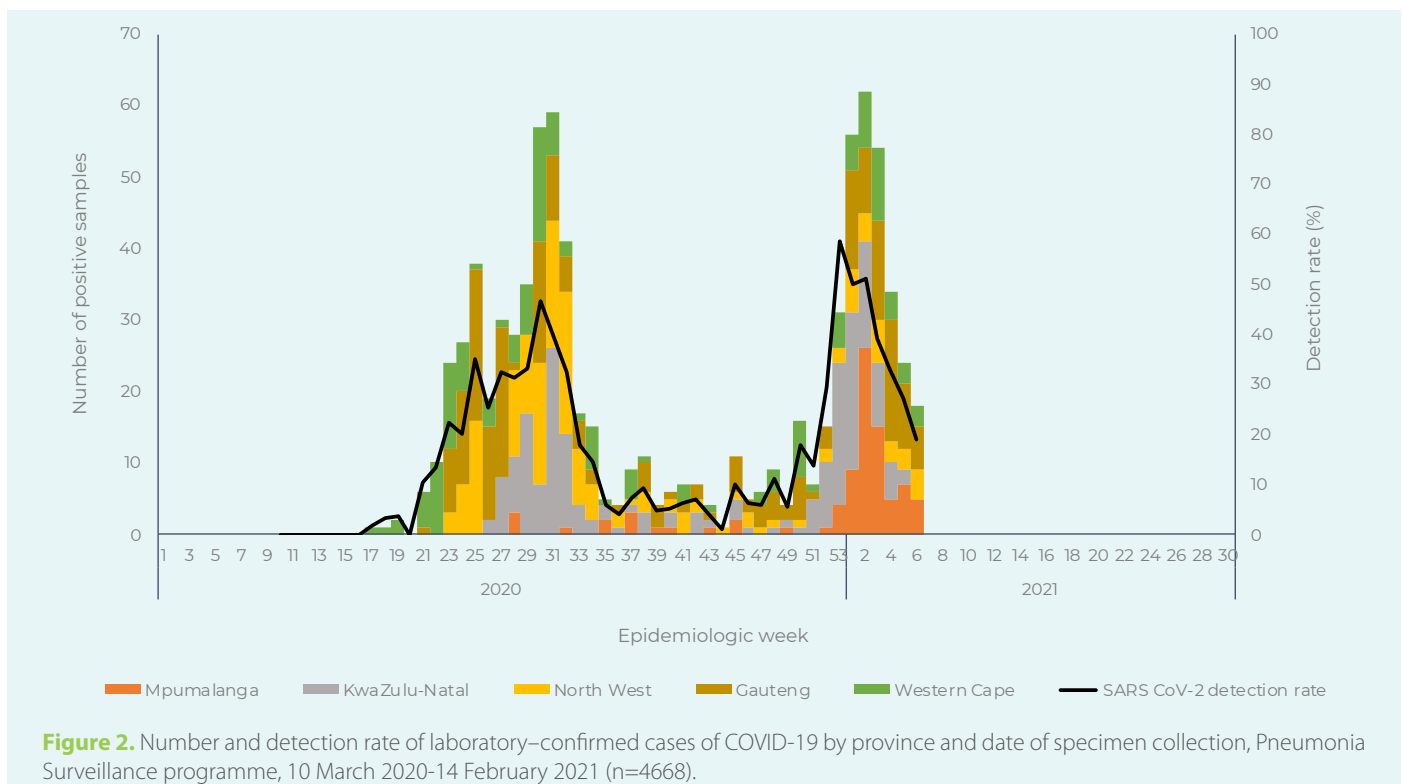
Figure 1. Number and detection rate of laboratory –confirmed cases of COVID-19 by province and date of specimen collection, influenza-like-illness surveillance, 10 March 2020-14 February 2021 (N=1769)

CORONAVIRUS DISEASE (COVID-19) PANDEMIC

Among ILI cases, the detection rate peaked at 50.0% (21/42) in week 30 of 2020 during the first wave, and at 59.0% (13/22) in week 52 of 2020 during the second wave (Figure 1). Among pneumonia surveillance cases, the detection rate peaked at 46.7% (57/122) in week 30 of 2020, and at 58.5% (31/53) in week 53 of 2020 in the first and second waves, respectively (Figure 2). In both surveillance programmes, the number of positive cases has been decreasing since week 2 of 2021 in ILI surveillance and week 3 of 2021 in pneumonia surveillance. The majority of COVID-19 patients among ILI surveillance cases were from sites in the Western Cape Province (36.7%, 113/308), and 59.1% (182/308) were female; whereas the majority of COVID-19

patients from pneumonia surveillance sites were from Gauteng Province (27.4%, 229/836) and 61.2% (512/836) were female. Underlying conditions were more common among hospitalised COVID-19 patients, 58.1% (486/836) versus 19.8% (61/308), $p < 0.001$, of ILI cases reported one or more underlying condition.

Of the 766 pneumonia surveillance cases with data on in-hospital outcome available, 108 (14.1%) died, of which the majority (25.9%, 28/108) were from the KwaZulu-Natal Province site, followed closely by the Gauteng Province site (25.0%, 27/108), and were female 62.0% (67/108). The median age of those who died was 64.0 years (range 24.0-85.4 years).



The sentinel surveillance programme has been able to identify community transmission of SARS-CoV-2, and the trends in number of cases reported followed a similar trajectory to that reported in the national laboratory-based surveillance system. In both outpatient ILI and hospitalised cases, the majority of positive cases were females, and peaks in detection rate during the second wave were higher than those reported during the first wave. The peak detection rate among ILI and pneumonia surveillance cases during the first wave (46.2%) and second wave (47.7%) was higher than that reported by the national laboratory-based surveillance during the first wave (29.7%) and second wave (34.8%). The differences were likely due to enrolment criteria used for syndromic surveillance, which only tested cases with respiratory symptoms or COVID-19-related

symptoms, therefore was more likely to pick up the positives among enrolled cases; whereas the national laboratory-based surveillance included screening of contacts of COVID-19 cases as well.

Mortality among laboratory-confirmed COVID-19 admissions from the pneumonia surveillance programme (14.1%) was less than the mortality among laboratory-confirmed COVID-19 admissions reported by DATCOV (19.4%) surveillance system from the same provinces included in pneumonia surveillance. The lower mortality among pneumonia surveillance cases was likely due to pneumonia surveillance missing very severe cases because consent was required for enrolment into pneumonia surveillance.

INTERNATIONAL OUTBREAKS OF IMPORTANCE

An update on Ebola virus disease outbreak, DRC and Guinea

In the Democratic Republic of Congo (DRC), on 7 February 2021, an Ebola virus disease (EVD) outbreak was declared in the city of Butembo, North Kivu Province. The index case was an adult female living in Biena Health Zone. Worryingly, the EVD outbreak initially reported in the Biena Health Zone has spread to other health zones and areas.

One new confirmed case has been recorded on 13 February, a healthcare worker known to be high-risk, working at Matanda Hospital in the Katwa Health Zone, living in the Musienene Health Zone. This brings the total number of confirmed cases, since the onset of the outbreak, to four, with two deaths (case fatality 50%). One high-risk contact is in isolation in Butembo Health Zone after developing symptoms suggestive of EVD. Fourteen contacts from Katwa Health Zone have been transferred to Butembo Health Zone for follow up.

A total of 43 (29%) out of 149 eligible contacts has been vaccinated in the Masoya Health Area, Biena Health Zone. In the Katwa Health Zone, contact listing and case investigation around the third and fourth confirmed cases is ongoing. The rate of contact follow-up varies from 29% in Butembo, to 83% in Biena, to 90% in Katwa Health Zones.

Psychosocial support for contacts and relatives of confirmed cases is being provided. Community action groups, youth groups and community leaders in Masoya health area are strengthening communications for vaccination, while training of vaccination teams in Butembo, Katwa and Biena health zones is underway. There is continued rehabilitation and construction of Katwa and Masoya Ebola treatment centres (ETCs).

Existing challenges include poor reporting of alerts by health zones, limited human resources for contact follow-up, and inadequate means of communication and poor logistics in the affected areas. Others include poor access to water in Masoya health facility and a lack of suitably adapted ambulances for patient and medicine transport for case management.

Both national and regional authorities, and partners, need to urgently strengthen surveillance in health zones and ensure that the ETCs in Masoya and Katwa are operational for both

suspected and confirmed cases.

Meanwhile, on 14 February 2021, health authorities in Guinea declared an outbreak in the rural community of Gouéké in N'Zerekore prefecture, after three Ebola cases were confirmed by the national laboratory. A nurse from a local facility, initially diagnosed with malaria five days prior, died on 28 January 2021, and was buried on 1 February 2021 in Gouéké. Following her burial, six people who attended the funeral reported Ebola-like symptoms; two of them have died, while the other four have been hospitalised. Currently, a total of seven cases has been reported, with three deaths (case fatality ratio 42.9%).

Epidemiologists and infection prevention and control staff have been deployed by WHO to health facilities and other key locations. WHO is also providing support in the procurement of vaccines. Active case search, contact listing and follow-up are underway, while suspected cases are being managed in the treatment centre in N'Zerekore. Two safe and dignified burials were carried out in N'Zerekore. Samples have been sent to Institut Pasteur in Senegal for full genome sequencing. Cross-border community surveillance is being strengthened with Liberia and Sierra Leone, as well as the testing capacity and surveillance in health facilities in these neighbouring countries.

During the largest EVD outbreak, the West Africa Ebola outbreak 2014-2016, Guinea was one of the three most affected countries. EVD re-emergence is of grave concern. Although health teams have acted rapidly in the country to trace the pathway of the virus and curb infection, challenges still remain around unsafe burials, poor infection prevention and control measures, and a lack of Ebola rapid detection tests at hospitals in the area. There is an urgent need for national authorities and partners to address shortfalls in response activities and ensure rapid containment of the outbreak.

As of 23 February 2021, there are no EVD cases reported in South Africa associated with the current outbreak in the DRC and Guinea. In addition, there are no suspected cases of EVD in South Africa at present.

SEASONAL DISEASES

Malaria

Heightened risk situation

Recent heavy rains and the arrival of cyclone Eloise in Mozambique pose a threat of increased malaria transmission in the southern African region. An epidemic preparedness and response (EPR) plan has been initiated by the National Department of Health and its subsidiaries, partners, and affiliates, including the NICD, Medical Research Council, provincial malaria control programmes and communicable disease control coordinators, primary health care providers, environmental and port health services, and others. The plan encompasses the broad areas of vector control (NICD's Vector Control Reference Laboratory leads this), health promotion and risk communication, parasitological surveillance and active malaria case detection, and case management.

The easing of COVID-19 lockdown restrictions, coupled with this seasonally increased malaria incidence, means that local populations and visitors in malaria risk areas need to be aware of the possibility of higher local malaria transmission frequency.

Concomitantly, travel-related imported cases in non-endemic metropolitan areas are likely to increase. The overlap in clinical presentation between malaria and COVID-19 has been emphasised on several occasions in the Communiqué (see NICD Communicable Disease Communiqué issues for September 2020 through January 2021). Missed or delayed recognition of malaria has the potential for a tragic outcome. Any person presenting with fever and progressive 'flu-like symptoms who lives in, or has recently visited, a malaria-endemic area, should be checked for malaria, irrespective of pending or completed tests for SARS-CoV-2 infection. Occasionally, malaria vector mosquitoes may be accidentally transported to non-endemic areas and transmit the disease, a scenario that typically leads to delayed diagnosis and serious disease, particularly while attention is so focused on COVID-19 (see NICD Communicable Disease Communiqué January 2021; Vol. 20 (1): 11).

BEYOND OUR BORDERS

The 'Beyond our Borders' column focuses on selected and current international diseases that may affect South Africans travelling abroad. Numbers correspond to Figure 3 on page 9.

Rift Valley fever: Kenya

A Rift Valley fever outbreak that is thought to have begun in November 2020, has resulted in 32 cases and 11 deaths by 4 February 2021 in Kenya. Human cases have been reported in two counties, Isiolo and Mandera, in the north-eastern region of the country, with animal cases also reported in the Murang'a and Garissa counties.

Kenya, where the Rift Valley fever phlebovirus was first isolated in 1931, remains endemic with four known outbreaks occurring within the last two decades. The most recent outbreak in 2018 resulted in 95 cases and 11 deaths reported in three other counties across the country.

Rift Valley Fever primarily affects livestock animals (cattle, sheep, goats, camels) and is spread through a mosquito-borne virus. The virus is, however, also transmitted from animals to humans through direct or indirect contact with infected animals and untreated animal products (uncooked meat, organs and blood, and unpasteurised milk), or through bites from certain

mosquitoes and blood-feeding flies.

Primary prevention of the health and economic losses of Rift Valley fever are aimed at enhancing routine animal vaccination, vector control and animal health surveillance, particularly in endemic areas and areas affected by heavy rainfall and flooding. Outbreak management includes restricting the movement of livestock, improving animal husbandry and food safety practices, and preparing healthcare services for active case finding and management and community sensitisation.

The non-specific and wide-ranging clinical presentations of Rift Valley fever (flu-like, haemorrhagic, encephalitic, ocular, etc.) makes the occupational and social/recreational history important in the clinical consultation to guide who should have their blood tested for the virus. No specific treatment or human vaccine exists for this disease, but supportive management usually results in recovery.

Cholera: Mozambique

By 9 February 2021, the northern Mozambican province of Nampula reported 133 cases of cholera with no deaths since the beginning of the outbreak in January 2021. Meanwhile, the cholera outbreak of the neighbouring Cabo Delgado province which began in January 2020 is ongoing, with a cumulative total of 2 952 cases and 40 deaths.

This infectious disease is caused by the *Vibrio cholerae* bacterium and may remain asymptomatic or cause severe acute watery diarrhoea which, when left untreated, leads to rapid dehydration and death. Both symptomatic and asymptomatic individuals are contagious and may transmit the bacterium. Cholera is transmitted through the faecal-oral route and easily spreads via contaminated water and food.

Transmission may be prevented by systemic and structural measures to appropriately treat and provide water, ensure safe food preparation, provide proper sanitation and ensure community sensitisation about personal protection by basic interventions such as hand hygiene. Travellers to or residents of endemic areas may increase their protection through immunisation.

Recurrent cholera outbreaks have occurred in Mozambique, often after heavy rainfall. The more recent outbreaks have occurred within the context of cyclone activity in the northern parts of the country, the security crisis of insurgent attacks and the COVID-19 pandemic resulting in mass population displacement and an interruption of healthcare services.

BEYOND OUR BORDERS

Listeriosis: United States of America

As of 11 February 2021, seven people across four states in the United States of America have been hospitalised and diagnosed with listeriosis, an outbreak that is thought to have begun in October 2020. There have been no deaths. Listeriosis is a foodborne disease caused by the *Listeria monocytogenes* bacterium. Transmission of the causative agent has been linked to consumption of fresh soft cheeses, but the brand and exact types of cheeses affected are still being investigated.

Once contracted, the disease may present as a mild gastroenteritis that could be self-limiting. In high risk populations such as pregnant women, the extremes of age and the immunocompromised, more severe disease in the form of septicaemia or meningitis may be present with a mortality rate

up to 30%. Listeriosis is treatable with antibiotics if diagnosed early.

The bacterium that causes listeriosis may be found in fresh and processed foodstuffs, and often survives traditional methods of preservation such as refrigeration, salting and smoking. However, food that is cooked and milk that is pasteurised are usually safe. Prevention of food contamination with the bacterium must be employed through all processes of the food chain. This should be implemented through good hygienic practices and good manufacturing practices and food safety management systems should be based on the principles of hazard analysis critical control points.



Source: ProMED (www.promed.org), World Health Organization (www.who.int),
Centres for Disease Control and Prevention (www.cdc.gov)

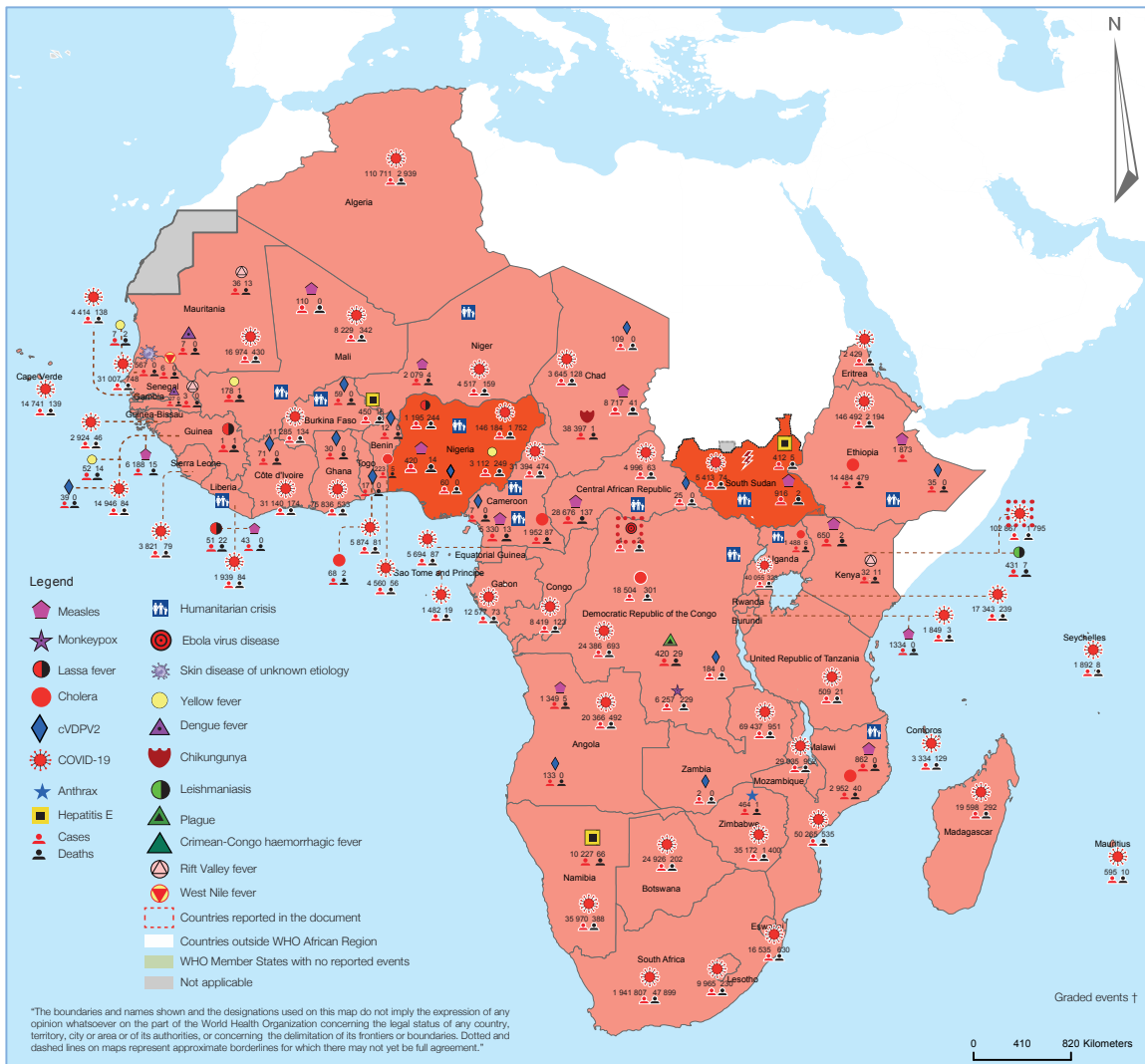
WHO AFRO UPDATE

WEEKLY BULLETIN ON OUTBREAKS AND OTHER EMERGENCIES

Week 7: 8-14 February 2021
Data as reported by: 17:00; 14 February 2021



1 Closed
117 Ongoing events
104 Outbreaks
13 Humanitarian crises



19 Grade 3 events	4 Grade 2 events	1 Grade 1 events	2 Ungraded events
3 Protracted 3 events	3 Protracted 2 events	49 Protracted 1 events	
Health Emergency Information and Risk Assessment			

Figure 4. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 117 events. For more information see link below: <https://apps.who.int/iris/bitstream/handle/10665/339701/OEW07-0814022021.pdf>

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