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Editor's Note



Dr Ann Mathews

In this month's Communicable Diseases Communiqué, we provide a description of the coronavirus disease 2019 (COVID-19) clusters in the Eastern Cape Province, including overlapping events and geographical locations.

We also explore the respiratory syncytial virus (RSV) and influenza seasons, noting that the detection rate of RSV has remained below the seasonal threshold as compared to trends over the last ten years, and that the influenza season, which occurs mainly during the winter months of May to August, has not yet started.

The Ebola outbreak in the Democratic Republic of Congo (DRC) continues since the resurgence of cases on 10 April 2020, though there have been no new cases since early May 2020.

The routine rabies report describes the only recognised case of rabies in the country for this year, noting that the COVID-19 pandemic will have had an impact on reporting.

Internationally, the few other outbreaks of interest include cases of human plague in the DRC, cases of Japanese encephalitis in India, cholera in Kenya, Ethiopia and Somalia, and West Nile fever in Brazil.

ZOONOTIC AND VECTOR-BORNE DISEASES

An update on rabies in South Africa

In May 2020, we report a probable case of human rabies from the Eastern Cape Province. The case involved a 10-year-old child who died shortly after admission in hospital on 13 May. On 17 April 2020, the child was attacked by a dog and received rabies vaccine following the exposure. It was unclear if she also received rabies immunoglobulin as part of the rabies post-exposure prophylaxis (PEP) regimen. Although completely well prior to presentation to hospital, on admission, she was unconscious and had seizures with associated neurological fall-out. The NICD obtained saliva and cerebrospinal fluid samples for rabies testing on the day of death. These samples tested negative for rabies by PCR. No post-mortem brain samples were obtained to confirm rabies in this child. Given the history of exposure to a dog prior to illness and a clinical history that is compatible with the diagnosis of rabies, this case was classified as a probable rabies case in the absence of laboratory confirmation.

For South Africa this year, only one case of human rabies, reported here, has been identified. The COVID-19 pandemic and its response have led to a setback of several public health programmes, including rabies. South Africa may have unrecognised cases, considering that during 2019 16 cases were reported, of which seven were from the Eastern Cape Province and the other nine were from KwaZulu-Natal and Limpopo provinces. As an example, in the Eastern Cape Province, sampling of animals that were euthanised or found dead reported 33 animal rabies cases in 2020 (Figure 1). Canine rabies remains a veterinary and public health crisis in South Africa's east coast. Nearly all human deaths are caused

by dog bites. Children are at high risk, with more than half of 2019's reported rabies cases aged less than 18 years (56%, 9/16). This is a recognised phenomenon as children are more vulnerable to not disclosing dog or other animal contact or bite, and are therefore unlikely to receive appropriate and timely anti-rabies PEP.

With appropriate post-exposure prophylaxis, rabies is 100% preventable. There is a need to promote continued awareness in the community and at healthcare facilities. Details on rabies, its treatment and prevention, and collection of specimens for diagnosis can be found on the NICD website: www.nicd.ac.za.

EASTERN CAPE RABIES 21 May 2020



Figure 1. Canine and human rabies detection in Eastern Cape Province.

Source: Kevin le Roux, Department of Agriculture, Environment and Rural Development, KwaZulu-Natal Province.

Article source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS; januszp@nicd.ac.za

INTERNATIONAL OUTBREAKS OF IMPORTANCE

A description of COVID-19 clusters in Nelson Mandela Bay District, Eastern Cape Province

As of 20 May 2020, the Eastern Cape Province had 2 215 COVID-19 cases, with 45 deaths and 1 036 recoveries. Nelson Mandela Bay District (NMBD) accounted for 36% (n=803) of the cases, 37% (n=17) of the deaths and 46% (n=479) of the recoveries.

NMBD is one of the two metropolises in the province that has six other district municipalities. It is located on the shores of Algoa Bay and comprises the city of Port Elizabeth, the nearby towns of Uitenhage and Despatch, and the surrounding rural area. According to the 2007 census, NMBD had an estimated population of 1 050 930 with a median age of 26 years, and the average household size was reported to be four people per household.

The Metropolis recorded its first case of COVID-19 by date of sample collection on 16 March 2020; the patient had

a recent international travel history to COVID-19 high-risk countries. Since then, over seven clusters with 10 or more cases have been identified to date. These include clusters associated with funerals, retail stores, long-term care facilities, healthcare facilities and other workplaces (Figure 2).

The first cluster with 45 cases was confirmed between 30 March 2020 and 23 April 2020. This cluster was linked to a funeral of a healthcare worker (nurse) which occurred on 21 March 2020 at KwaDwesi, Port Elizabeth. The cases in this cluster either attended or had contact with someone who attended the funeral; over 1 000 people reportedly attended the funeral. Two more clusters (Funeral-B and Grocery store-A) could be positively linked to this cluster. As of 20 May 2020, 21% (172/803) of all cases in NMBD had been linked to specific clusters.

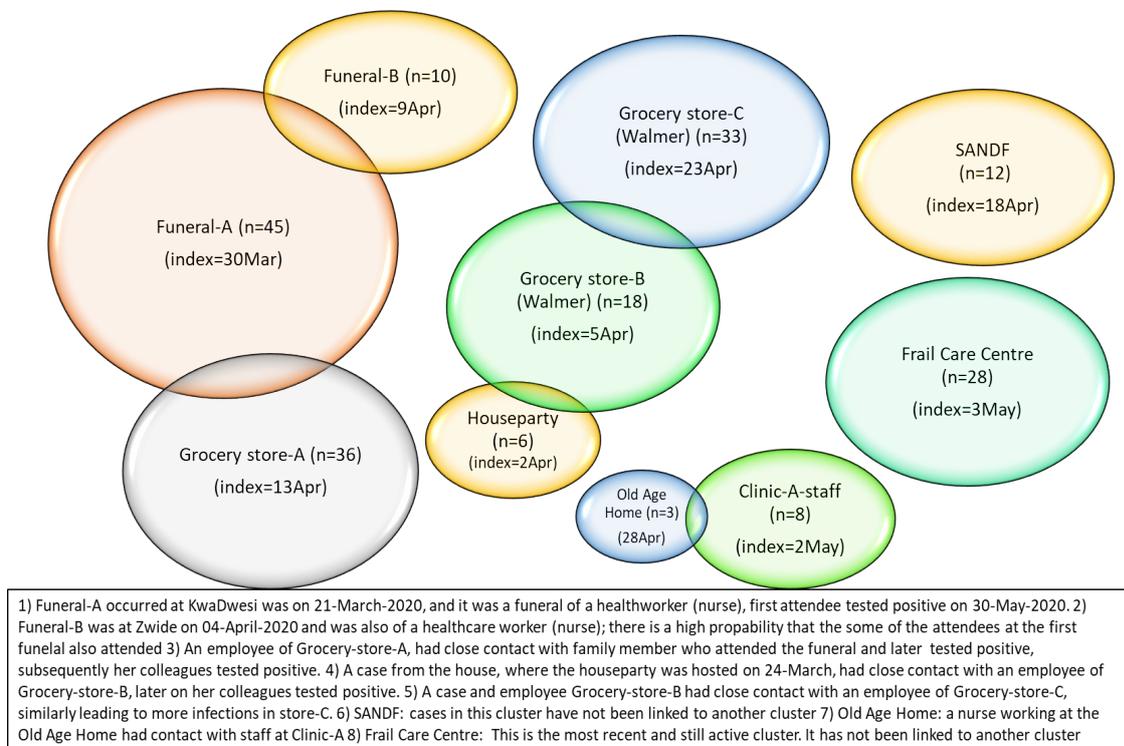


Figure 2. Some of the important COVID-19 clusters identified within Nelson Mandela Bay District as at 20 May 2020 (index=date is date of specimen collection of index case, Apr=April, Mar=March).

Article source: Nelson Mandela Bay District Health (NMBDH), NMBDH contact tracing team, Eastern Cape Provincial Health, National Institute for Communicable Diseases COVID-19 response team; NICD-NHLS; cherylc@nicd.ac.za

An update on Ebola virus disease outbreak, Democratic Republic of Congo

The Ebola virus disease (EVD) outbreak in northeast Democratic Republic of Congo (DRC) still remains a serious public health concern internationally since the outbreak was declared on 1 August 2018. The cluster of EVD cases that emerged in April 2020 highlights the importance of heightened vigilance for the response in the face of significant challenges around community engagement, access to affected areas, ongoing insecurity, and limited response capacity due to other local and global emergencies.

As of 17 May 2020, a total of 3 462 EVD cases, including 3 317 confirmed and 145 probable cases have been reported, of which 2 279 cases died (overall case fatality ratio 66%). Of the total confirmed and probable cases, 57% (1 970) were female, 29% (1 002) were children aged less than 18 years, and 5% (171) were healthcare workers. As of 17 May 2020, 1 171 cases have recovered from EVD.

From 11 to 17 May 2020, there have been no new confirmed cases of EVD reported in DRC. Since the resurgence of the outbreak on 10 April 2020, seven confirmed cases have been reported from Kasanga, Malepe and Kansulinzuli Health Areas in Beni Health Zone. Of these seven cases, two confirmed cases who were receiving care at an Ebola Treatment Centre (ETC) recovered and were discharged after two consecutive negative tests; one confirmed case remains in the community; and four cases died, including two community deaths and two deaths in the ETC in Beni. Investigations into the possible source of infection of the cluster of cases reported since 10 April 2020 are ongoing. So far, no definitive source of infection has been identified. New cases are expected among contacts of the recent cluster of cases reported in Beni Health Zone.

Over 250 000 contacts have been registered since the beginning of the outbreak. As of 10 May 2020, 86 contacts are under surveillance, of which 41 (48%) are

high risk contacts who had direct contact with body fluids of the last confirmed case. Of the 86 contacts, 71 (83%) have been vaccinated. There are 10 high risk contacts who are currently voluntarily isolating in a dedicated site where essential goods and health services are provided to them.

In the past three weeks from 10 May 2020, the alert rate has improved notably in Beni and Butembo sub-coordinations. Timely testing of suspected cases continues to be provided from eight laboratories. From 11 to 17 May 2020, 2 869 samples were tested including 2 081 blood samples from alive, suspected cases; 382 swabs from community deaths; and 406 samples from re-tested patients. Overall, laboratory activities increased by 15% compared to the previous week. Since the resurgence of the outbreak in Beni, a total of 1 930 people have been vaccinated, of which 1 930 were in Beni as of 17 May 2020. The total number of people now vaccinated with the rVSV-ZEBOC-GP vaccine is 303 751 since the start of the outbreak in August 2018. WHO anticipates potential longer-term challenges with the vaccine pipeline due to limited flight ability as a result of the COVID-19 pandemic.

The government and the Ministry of Health (MOH), and other national authorities in the DRC, World Health Organization (WHO) and partners are implementing outbreak control interventions together with teams in the surrounding provinces, who are taking measures to ensure that they are response-ready. WHO still advises against any restriction of travel to, and trade with, the DRC based on the currently available information. WHO continues to closely monitor and, if necessary, verify travel and trade measures in relation to this event. Travellers should seek medical advice before travel and should practice good hygiene.

As of 26 May 2020, there are no EVD cases reported in South Africa associated with the current outbreak in the DRC. In addition, there are no suspected cases of EVD in South Africa at present.

Article source: WHO; www.who.int; WHO-AFRO, Division of Public Health Surveillance and Response, NICD-NHLS; outbreak@nicd.ac.za

SEASONAL DISEASES

Respiratory syncytial virus and influenza seasons, 2020

Over the past 10 years, the RSV season has preceded the influenza season and started between the beginning of February and mid-March, with the mean peak of the season in mid-April. The number of specimens received this year through the pneumonia surveillance programme has been lower than the 2010-2019 mean per week, since the week starting 30 March. The number of RSV positive specimens started increasing in the week beginning 23 March, but has since declined. The detection rate of RSV has remained below the seasonal threshold using the Moving Epidemic Method (MEM) – a sequential analysis using the R Language – to calculate the duration, start and end of the annual epidemic (Figure 3). Each year the majority of RSV positive results are from children under the age of 5 years. To date, this year 91/93 (98%) positive RSV results in the pneumonia surveillance programme

were from children aged <5 years. In this age group the detection rate rose above the seasonal threshold in week 12, but remains lower than the 10 year mean (Figure 4).

The influenza season occurs mainly during the winter months of May to August with the season starting as early as April or as late as July. The 2020 influenza season has not yet started although there has been a localised outbreak of influenza A(H1N1)pdm09 and influenza B Victoria in the Western Cape Province, which started at the end of January and ended in the first week of April. In the past 36 years there has not been an outbreak during the inter-seasonal period (November to March). Over the past 10 years the mean week of onset has been the second week of May, and the peak in the first week of July (Figure 5).

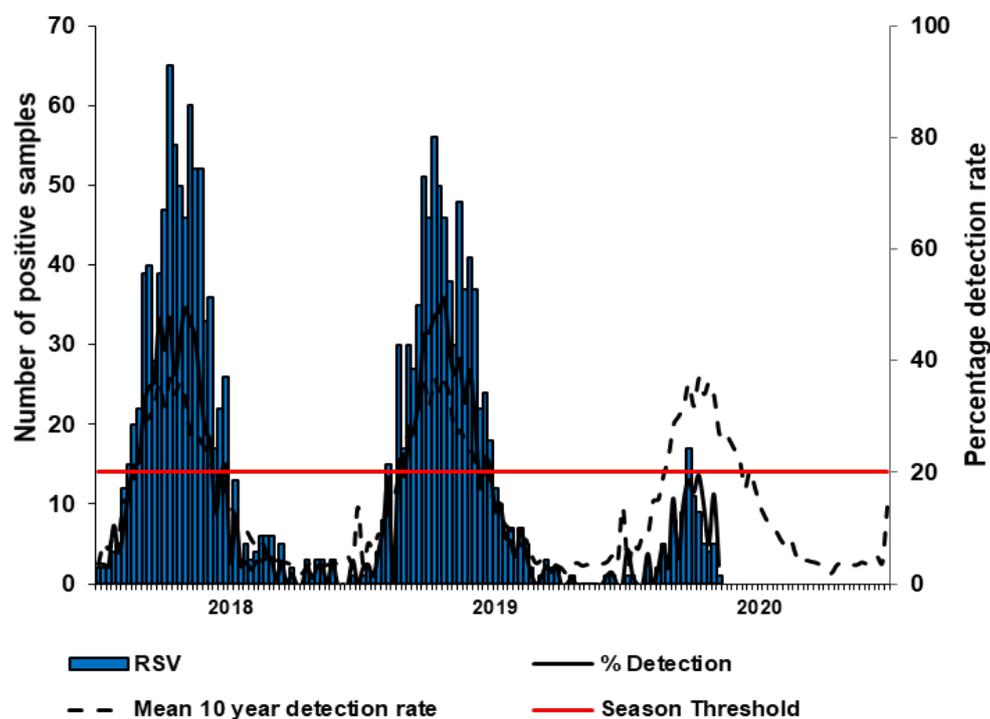


Figure 3. Pneumonia surveillance: RSV detections and detection rate 2018 – 2020.

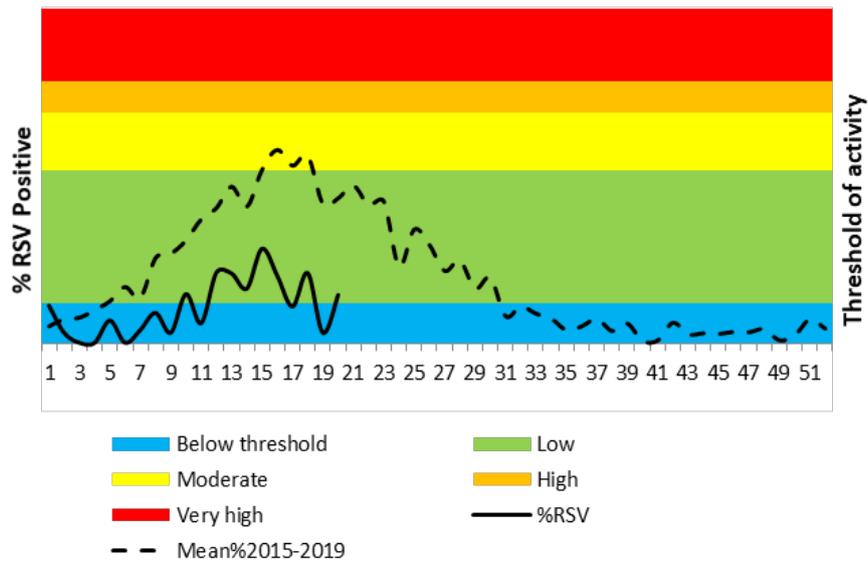


Figure 4. Pneumonia surveillance: 2020 RSV detection rate in children under five years of age and RSV transmission threshold.

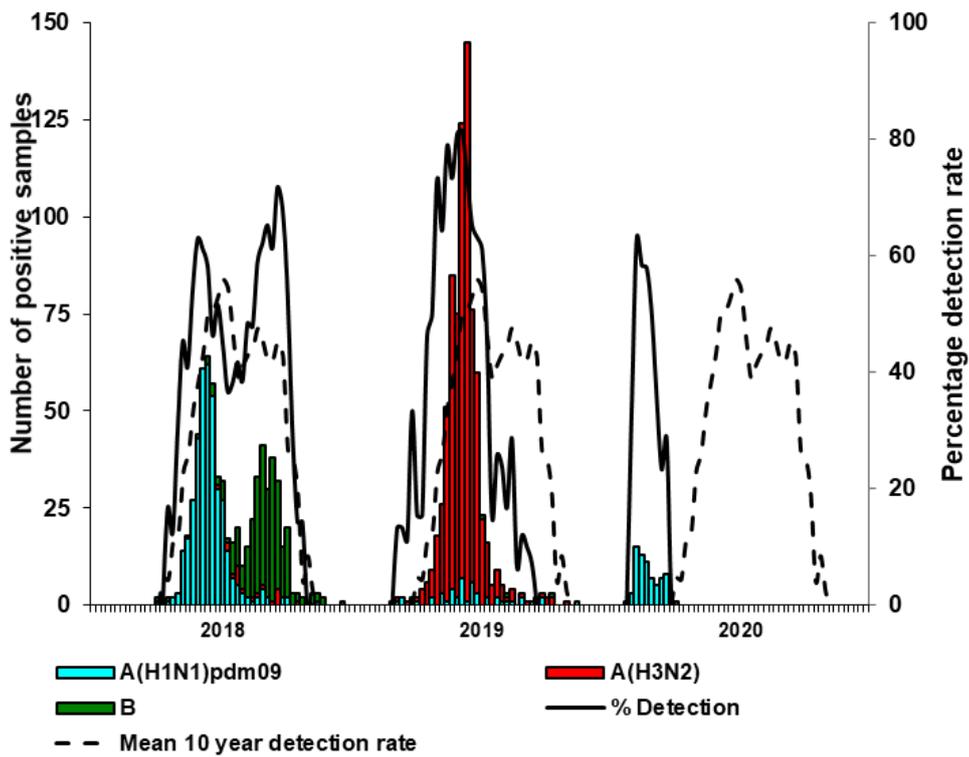


Figure 5. Viral Watch: Number positive for influenza and influenza types and subtypes and detection rate by year, 2018-2020.

Article source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; cheryl@nicd.ac.za

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 6 on page 8.

1. Plague: Democratic Republic of Congo (DRC)

New cases of human plague were reported in the Democratic Republic of the Congo (DRC) between mid-February and mid-March 2020, after going several weeks without a reported case. Since the beginning of 2020, a total of 20 suspected bubonic plague cases, with seven deaths (case fatality ratio 35%) was notified in five health zones: Aungba (4 cases and 2 deaths), Linga (7 cases and 5 deaths), Rethy (6 cases and no deaths), Aru (2 cases and no deaths), and Kambala (1 case and no deaths). In 2019, from week 1 to 52, a total of 48 cases of bubonic plague, including eight deaths, was reported in the country.

Pneumonic plague has not been reported in this DRC outbreak, but untreated bubonic plague may progress to the pneumonic form in some patients. The US Centers for Disease Control and Prevention (CDC) guidelines identify contacts within 2 meters of a pneumonic plague case as being at greatest risk. Persons who have been in contact with pneumonic plague patients or handling potentially infectious body fluids or tissues without appropriate protection should receive preventive antimicrobial therapy. The preferred antimicrobial agents for prophylaxis include tetracyclines and fluoroquinolones.

2. Japanese encephalitis: India

As if the COVID-19 pandemic is not bad enough, some districts of Assam State, India, are now in the grip of Japanese encephalitis (JE) and floods. Official sources said 82 cases of JE and acute encephalitis syndrome (AES) were reported from districts such as Cachar, Dibrugarh, Sonitpur, Kamrup, and Morigaon. So far, there have been no deaths. Assam has always been vulnerable to JE. The combined number of deaths due to JE and AES last year was 600. Japanese encephalitis alone accounted for 94 deaths in 2018, 87 in 2017, 92 in 2016, 135 in 2015, and 165 in 2014.

It is difficult to know what effect the reported flooding may have on the breeding sites of JE virus vectors. Larvae and pupae may be washed away and new breeding sites created. Vaccination is the most effective measure to prevent JE virus infection.

3. Cholera: Kenya, Ethiopia and Somalia

As of 21 May 2020, 13 Kenyans have died from cholera, with 550 confirmed cases. Of the 550 cases, 268 were recorded in Marsabit County, bordering Somalia, while the remaining 222 were currently undergoing treatment in Turkana County. The deaths were reported from Marsabit County (n=12) and in Turkana (n=1); 70% of the deaths are in children aged 10 years and below. Medical supplies have been sent to the area, and efforts are being made to stop the spread of the disease.

The outbreak is being attributed to interaction of locals with residents of Bubua in neighbouring Ethiopia, where hundreds have died due to recurrent waves of cholera since April 2020.

In addition, there was a cholera outbreak in neighbouring Somalia in early 2020. A total of 732 cases was recorded across the country between 23 January 2020 and 25 February 2020 according to the UN Office for the Coordination of Humanitarian Affairs. Seven deaths and 617 cases were reported in the central Hiran region, and at least 115 cases were recorded in a week in the southeastern Banadir region, in which the capital Mogadishu is located.

Cholera is typically spread through infected water supplies and induces acute diarrhoea leading to severe dehydration and often resulting in death. The risk of death is greatest among people with compromised immune systems, such as malnourished children or

those living with HIV. However, even among healthy adults, cholera can be fatal within a matter of hours.

4. West Nile: Brazil

As of 28 April 2020, seven cases of West Nile fever had been diagnosed on Piauí, Brazil, since 2013. The seventh case was announced on 28 April 2020. The patient is a young adult who presented with a clinical picture of meningoencephalitis and was hospitalised in the Natan Portela Institute of Tropical Diseases.

The other six cases correspond to patients residing in the municipalities of Aroeiras do Itaim (2014), Picos (2017),

Piripiri (2017), Lagoa Alegre (2019), Teresina (2019), and Amarante (2019). Cases in animals were registered in Brazil in the states of Espírito Santo (2018), Ceará (2019), and São Paulo (2019).

Piauí state Secretariat of Health (SESAPI) stated that since 2013, all confirmed and suspected cases of the disease are actively monitored. The Natan Portela Institute of Tropical Diseases is the reference centre for diagnosis and treatment of cases. The preventive measures recommended are similar to those recommended against dengue, Zika, and chikungunya: avoid the proliferation of breeding sites of mosquito vectors.

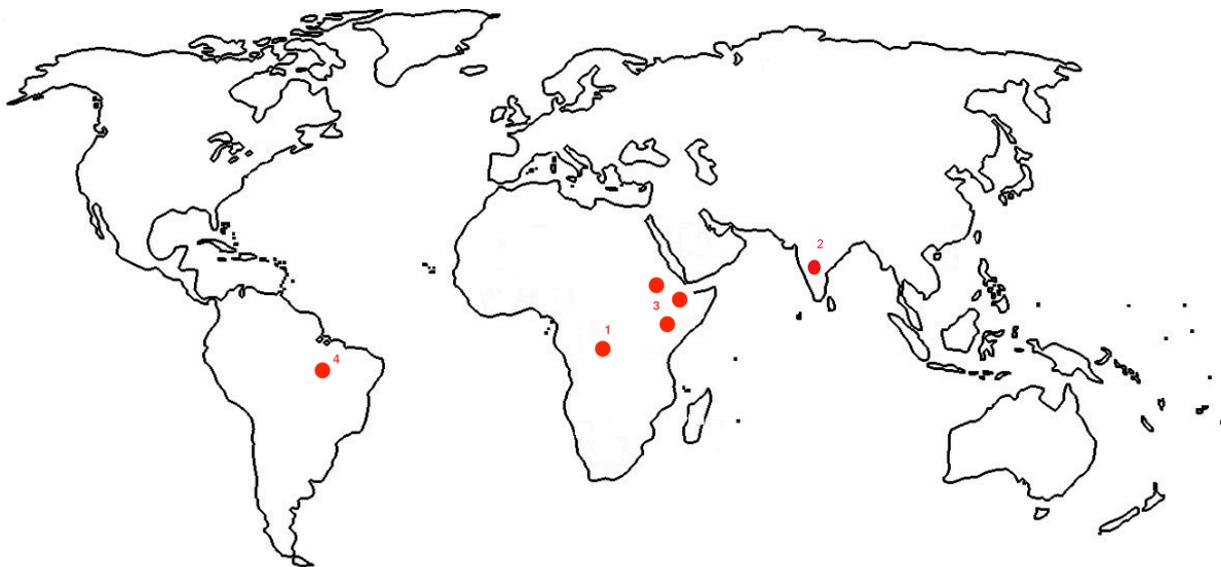


Figure 6. Current outbreaks/events that may have implications for travellers. Numbers correspond to text above. The red dot is the approximate location of the outbreak or event.

Article source: Promed (www.promed.org), World Health Organization (www.who.int)

WHO-AFRO: OUTBREAKS AND EMERGENCIES

WEEKLY BULLETIN ON OUTBREAKS AND OTHER EMERGENCIES

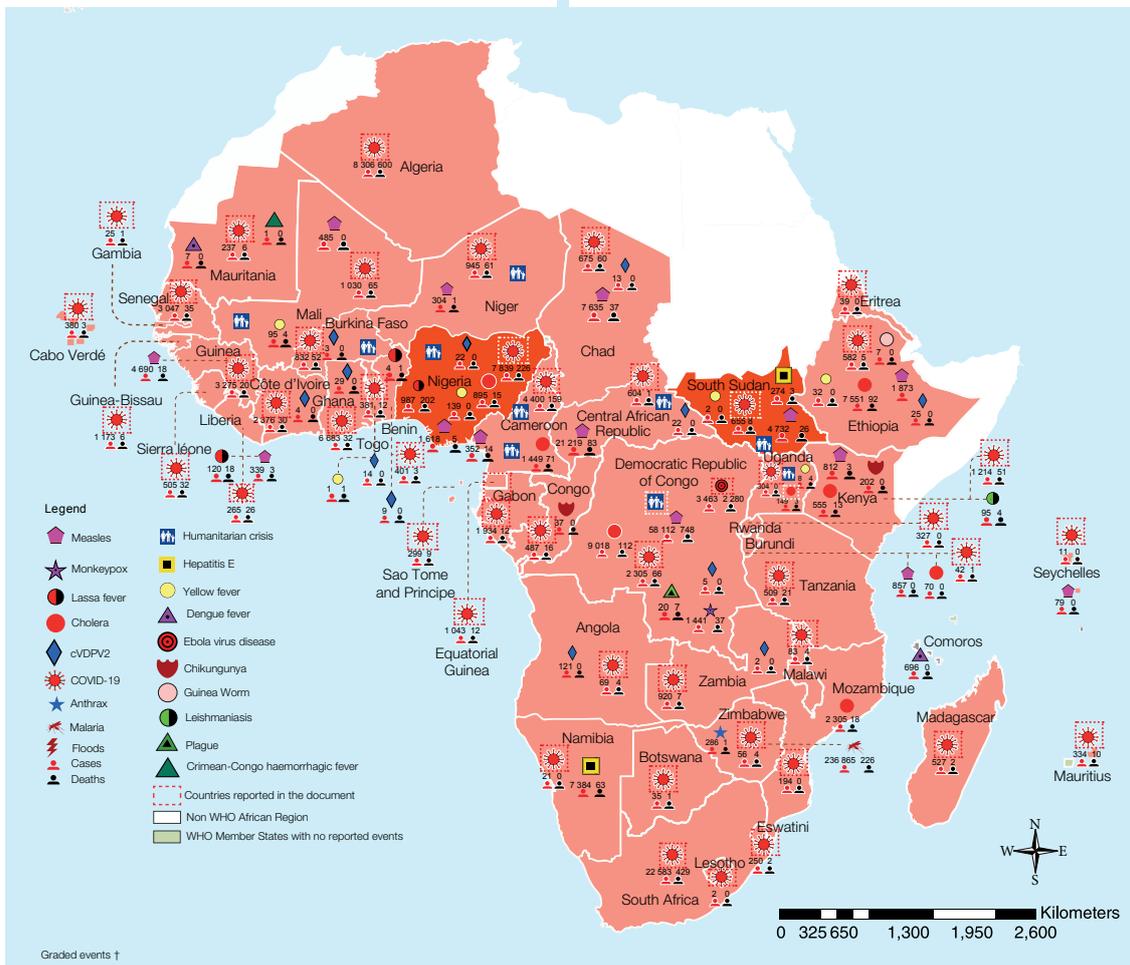
Week 21: 18 - 24 May 2020
Data as reported by: 17:00; 24 May 2020



World Health Organization
REGIONAL OFFICE FOR **Africa**
WHO Health Emergencies Programme

1
111
102
10

New events
Ongoing events
Outbreaks
Humanitarian crises



<p style="font-size: 2em; font-weight: bold;">49</p> <p>Grade 3 events</p>	<p style="font-size: 2em; font-weight: bold;">14</p> <p>Grade 2 events</p>	<p style="font-size: 2em; font-weight: bold;">1</p> <p>Grade 1 events</p>	<p style="font-size: 3em; font-weight: bold;">41</p> <p>Ungraded events</p>
<p style="font-size: 2em; font-weight: bold;">2</p> <p>Protracted 3 events</p>	<p style="font-size: 2em; font-weight: bold;">2</p> <p>Protracted 2 events</p>	<p style="font-size: 2em; font-weight: bold;">3</p> <p>Protracted 1 events</p>	

Health Emergency Information and Risk Assessment

Figure 7. 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 111 events. For more information click the link <https://apps.who.int/iris/bitstream/handle/10665/332178/OEW21-1824052020.pdf>

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