NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

Communicable Diseases Communiqué

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CONTENTS

EDITORIAL

Our Communique this month features a number of events that illustrate how global problems are emerging in our own locale. We describe the global resurgence in measles cases, and our own cluster of measles cases from Cape Town, Western Cape Province, which almost certainly were acquired in Europe. An outbreak of carbapenem-resistant *Klebsiella pneumoniae* is reported from a hospital in Cape Town, highlighting the global spectre of antibiotic resistance.

The Ebola virus disease outbreak in the Democratic Republic of the Congo continues on account of security concerns that have severely hampered control efforts in certain health zones. The NICD is presently supporting the National Department of Health in the revising and updating of the Ebola response plan. Outbreaks beyond our borders are included in the WHO-AFRO infographic.

Regarding seasonal diseases, NICD surveillance has indicated that the influenza season has started. The predominant strain this year is influenza A(H3N2). It is still appropriate to be vaccinated against influenza. Persons at risk of severe disease, including persons with pre-existing illness (diabetes, chronic lung conditions, immunosuppression) and pregnant women, are particularly advised to seek vaccination.

We describe two outbreaks of gastro-intestinal disease, one associated with poor quality drinking water. Canine rabies continues to be problematic in Limpopo and the Eastern Cape provinces, and two new cases of human rabies are described. This edition also describes two cases of odyssean malaria reported from the City of Tshawne Metropolitan Municipality, Gauteng Province. The events described in this edition highlight the critical role of epidemiologists in outbreak preparedness and response activities. The NICD is grateful to the Field Epidemiology Training programme, whose graduates have contributed to outbreak planning and response at provincial and national levels.

1 ZOONOTIC AND VECTOR-BORNE DISEASES

a An update on rabies in South Africa

Two cases of human rabies have been confirmed since the previous report. Rabies was confirmed in a 10-year-old child from the Butterworth area of the Eastern Cape Province following testing of post-mortem brain samples. The child died at the end of March 2019, reportedly following a two-week illness with hyper-salivation, depressed mental state and fever. No clear animal exposure history was provided, but the child was known to play with dogs in the neighbourhood. The brain samples were only available for rabies testing in May 2019.

The second case was reported in a 19-year-old from Ga-Mabitsela (located approximately 70 km northwest of Polokwane), Limpopo Province. The patient sustained dog bites on the finger and lacerations on the face, at the end of January 2019. The case received post-exposure prophylaxis following the dog bite; however, investigations revealed that rabies immunoglobulin was administered intramuscularly, instead of around the bite sites. The patient was admitted to hospital in early March with depressed consciousness, and demised in the last week of April 2019. The diagnosis of rabies was confirmed on post-mortem brain samples.

These cases bring to five the number of human rabies reported in South Africa for 2019 to date, three from the Eastern Cape Province and two from Limpopo Province. Correct clinical management of dog bites is critical to ensure effectiveness of post-exposure prophylaxis. Rabies must be considered in any person with a progressive encephalitis even if no history of animal exposure is given. Children, in particular, may not report an animal exposure. Important clinical signs suggestive of rabies include a localised area of hyperaesthesia at the bite site, fever, hallucinations, aggressive behaviour, hypersalivation, hydrophobia and spasms.

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

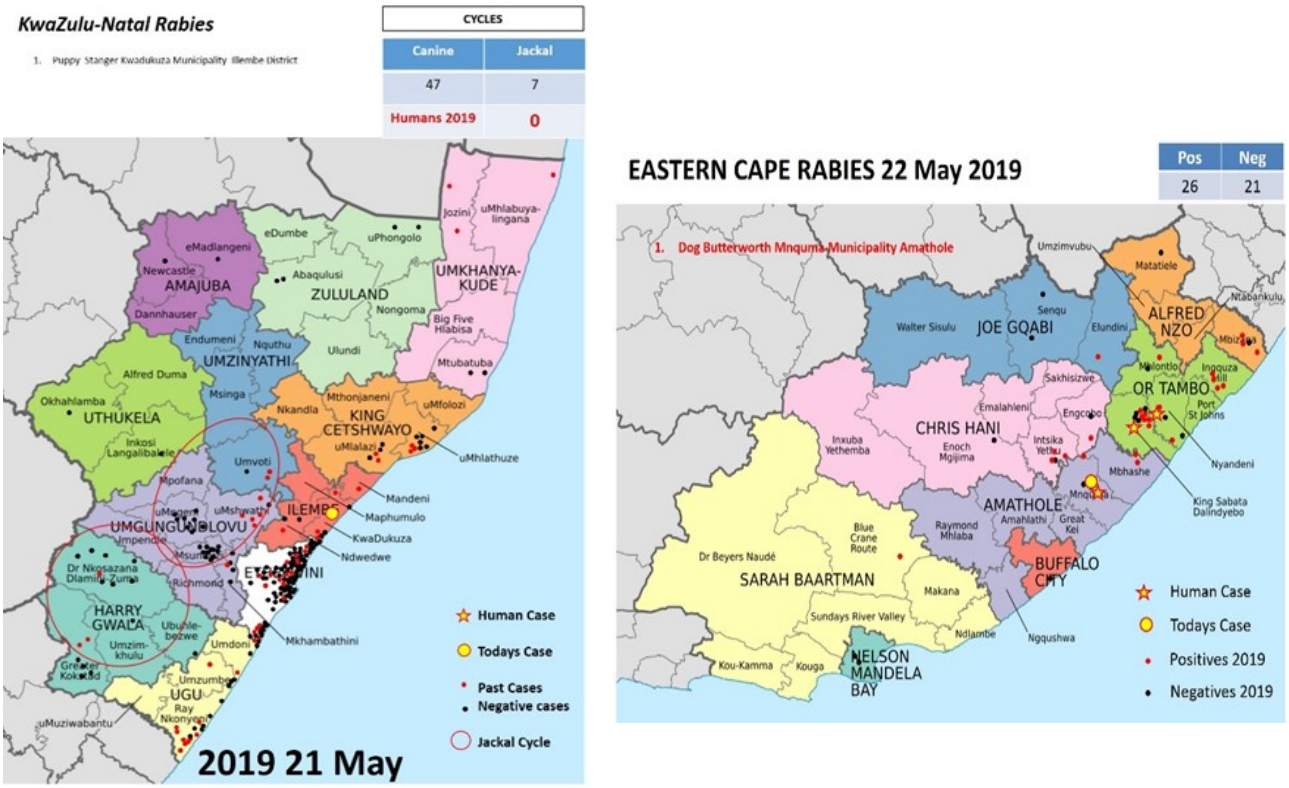


Figure 1. Surveillance maps indicating confirmed and suspected cases of animal rabies, and confirmed cases of human rabies in KwaZulu-Natal and Eastern Cape provinces as of 22 May 2019.

b Crimean-Congo haemorrhagic fever

Crimean-Congo haemorrhagic fever (CCHF) was confirmed in a 54-year-old man from the Ventersdorp surrounds, North West Province, in the first week of May 2019. The man lives on a farm and removed a tick from his face a few days before falling ill. The diagnosis of CCHF was not initially suspected and was only considered several days after the onset of illness when the illness progressed. The diagnosis of CCHF was confirmed by laboratory testing (PCR and IgG/IgM serology) at the National Institute for Communicable Diseases. The patient recovered and was discharged from hospital. No secondary cases of CCHF were linked to this case.

This was the third case of CCHF reported in South Africa for 2019 to date. The previous cases were from Free State and Northern Cape provinces.

CCHF has been known in South Africa since 1981, but is rare in humans and typically only a handful of cases are reported per year. CCHF is caused by a virus that is mostly transmitted to humans through bites of a *Hyalomma* species tick ('bontpoot' tick), although exposures related to contact with infected animal tissues and blood have also been reported. It is recommended that insect repellents containing DEET be used to reduce tick bites. The tick vector species for CCHF virus are different to those that transmit the rickettsiae that cause tick bite fever, a common infection in southern Africa, readily responsive to antibiotics. CCHF must be considered in any person with an acute febrile illness with any degree of thrombocytopenia, leukopenia and raised liver transaminases, and in whom exposure to ticks and/or animal products is possible. CCHF cases are often confirmed in persons residing in rural areas, farmers, abattoir workers or hunters. Hematemesis or rectal bleeding presenting in this risk group is often misdiagnosed as a peptic ulcer or gastrointestinal pathology, without consideration for CCHF or complicated tick bite fever. Secondary transmission of CCHF has been reported in few cases.

For more information on CCHF in South Africa, visit the NICD website (www.nicd.ac.za).

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

2 ENTERIC DISEASES

a Foodborne disease outbreak at a school in Capricorn District, Limpopo Province

On 12 April 2019, a medical doctor from a local tertiary hospital notified Limpopo Provincial Department of Health of a suspected foodborne disease (FBD) outbreak among learners from a boarding school in Capricorn District. One hundred and twelve learners were seen at three health facilities on 11 April, with a history of diarrhoea, vomiting and abdominal cramps following ingestion of lunch on 10 April. Most cases were stable with self-limiting mild illness, and only one learner was hospitalised.

An investigation was conducted on 17 April to assess the extent of the outbreak, determine the source, implement control measures and make recommendations to prevent future outbreaks. Activities conducted included clinical record reviews, interviewing the infection prevention and control (IPC) practitioners at the three health facilities, as well as the school principal, food handlers and all cases. Data were collected on demographics, clinical symptoms and history of foods consumed on 10 and 11 April. Five rectal swab samples were collected and submitted for testing at the National Health Laboratory Service (NHLS) laboratory in Pietersburg Hospital. Environmental investigations were conducted; however, food samples were not available for testing at the time.

A total of 112 learners reported being ill. The index cases presented with signs and symptoms 30 minutes following ingestion of lunch on 10 April (Figure 2). The median age of cases was 14 years (range 13-17 years). Majority of cases were female (83%, 93/112). Most cases reported having abdominal pains (95%, n=106) and diarrhoea (94%, n=105). Interviewing the school principal revealed that left-over soup from 9 April was refrigerated overnight, re-warmed and provided for lunch and supper on 10 April. Of the five rectal swab samples submitted, all were negative for pathogens tested.

A FBD outbreak is defined as two or more cases of a similar gastro-intestinal illness following consumption of common food/beverage item(s). FBDs can be due to a range of bacteria, viruses, parasites, toxins and chemical agents. The reported 30 minutes incubation period following consumption of lunch is compatible with a toxin-producing bacterial infection. However, without laboratory evidence of contaminated food or positive clinical samples, we cannot conclusively implicate an organism or food source in this outbreak. The outbreak may have been caused by the soup that was served to learners on multiple occasions on 9 and 10 April, or it may have been a result of another food consumed a day or two prior to the index cases being ill. This investigation highlights the need for rapid investigation of FBD outbreaks,

and the importance of obtaining clinical and food/ environmental specimens for appropriate microbiological analysis. It also highlights the importance of proper food handling practices. On-going training among food handlers at schools should be encouraged.

Source: South African Field Epidemiology Training Programme, Provincial Epidemiology Team, Division of Public Health Surveillance and Response, NICD-NHLS; Limpopo Department of Health; NHLS Pietersburg Hospital; outbreak@nicd.ac.za

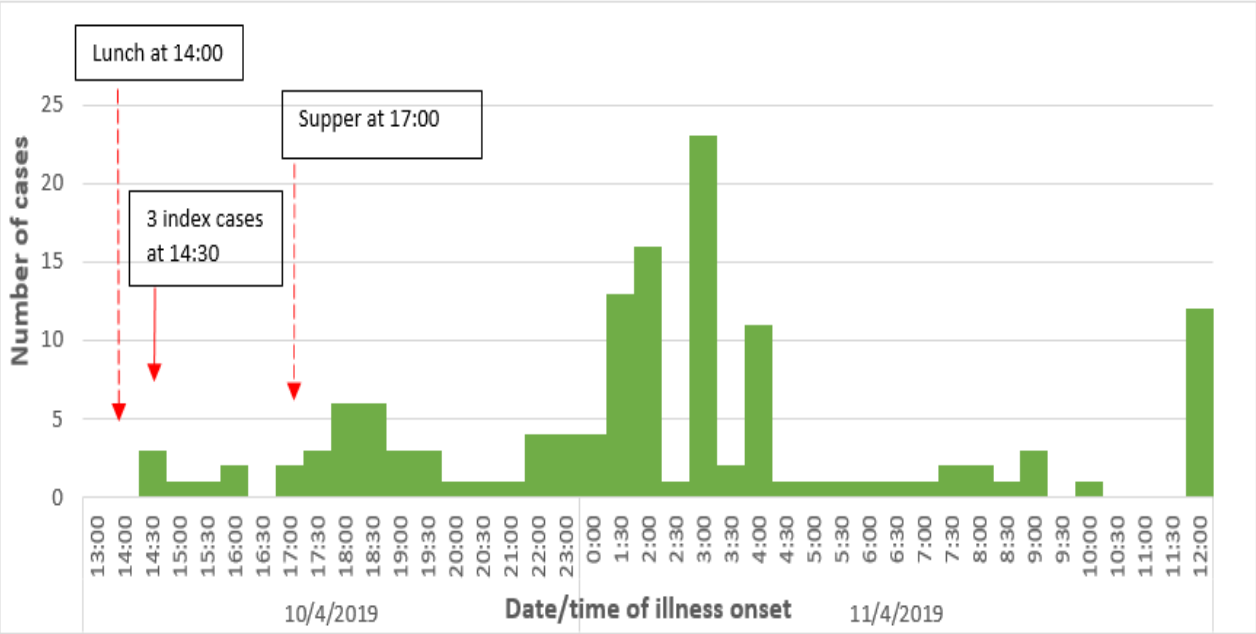


Figure 2. Epidemic curve of foodborne disease cases by date and time of symptoms onset in a school in Capricorn District, Limpopo Province, 10 -11 April 2019.

b Suspected waterborne diarrhoeal disease outbreak in Winburg, Free State Province, April 2019

On 9 April 2019, the operational manager of Kamohelo Clinic, Winburg, Free State Province, telephonically notified the Lejweleputswa district communicable disease control (CDC) coordinator of an increasing number of diarrhoeal cases at the facility. An investigation was carried out to ascertain the existence of an outbreak, establish the extent of disease spread, identify the source of infection, and implement control measures. Over 200 patients consulted healthcare facilities in the area (public healthcare facilities and two private sector general practitioners' practices) between 7 and 15 April 2019. They presented with gastrointestinal symptoms including diarrhoea, vomiting, and abdominal cramps. Illness was self-limiting and of mild to moderate severity in most cases; only three persons were hospitalised – two pregnant women and a young child. Additional case finding was conducted through retrospective review of healthcare facility records and interviews with healthcare practitioners, traditional healers, and household contacts of case-patients. Ten stool samples and several water samples were collected and submitted for testing at the Centre for Enteric Diseases at the National Institute for Communicable Diseases, and the Infection Control Public Health Laboratory at Charlotte Maxeke Hospital in Gauteng Province, respectively.

The epidemiologic curve (Figure 3), is suggestive of a continuous common source outbreak, in which persons were exposed to a single source of infection over a prolonged period. A total of 219 cases (adults and children) presented at healthcare facilities in the area (Kamohelo Clinic, Winburg Clinic, and Winburg Hospital) between 8 and 18 April 2019. Where sex is known (n=197), majority (58%, 115/197) were females. The median age of cases was 16 years (interquartile range: 8-24 years). Children ≤10 years of age were most affected (34%, 65/192) followed by those aged 11 to 20 years (26%, 49/192). Of the pathogens detected in the ten stool specimens tested, norovirus was the predominant pathogen (70%, 7/10), followed by *Giardia lamblia*, 30% (3/10). Water samples tested were not compliant with SANS 241:2015 standards for drinking water as unacceptably high levels of *E. coli* were detected.

Based on epidemiological and laboratory evidence, the outbreak was likely caused by contaminated potable water. It is evident that the water

purification operators servicing the Winburg area are not ensuring that water quality meets the safety standards as per the South African Water Quality guidelines. According to these guidelines, the pH, turbidity and chlorine level of treated water should be checked every two hours and documented on a log sheet, which was not done at the Winburg water purification plants. The Free State provincial EHP assistant manager has since advised the Winburg water purification operators to comply with these guidelines.

Source: South African Field Epidemiology Training Programme, Provincial Epidemiology Team, Division of Public Health Surveillance and Response, and Centre for Enteric Diseases, NICD -NHLS; Free State Department of Health Provincial CDC and Environmental Health; Lejweleputswa Environmental Health-Municipal Services. junot@nicd.ac.za

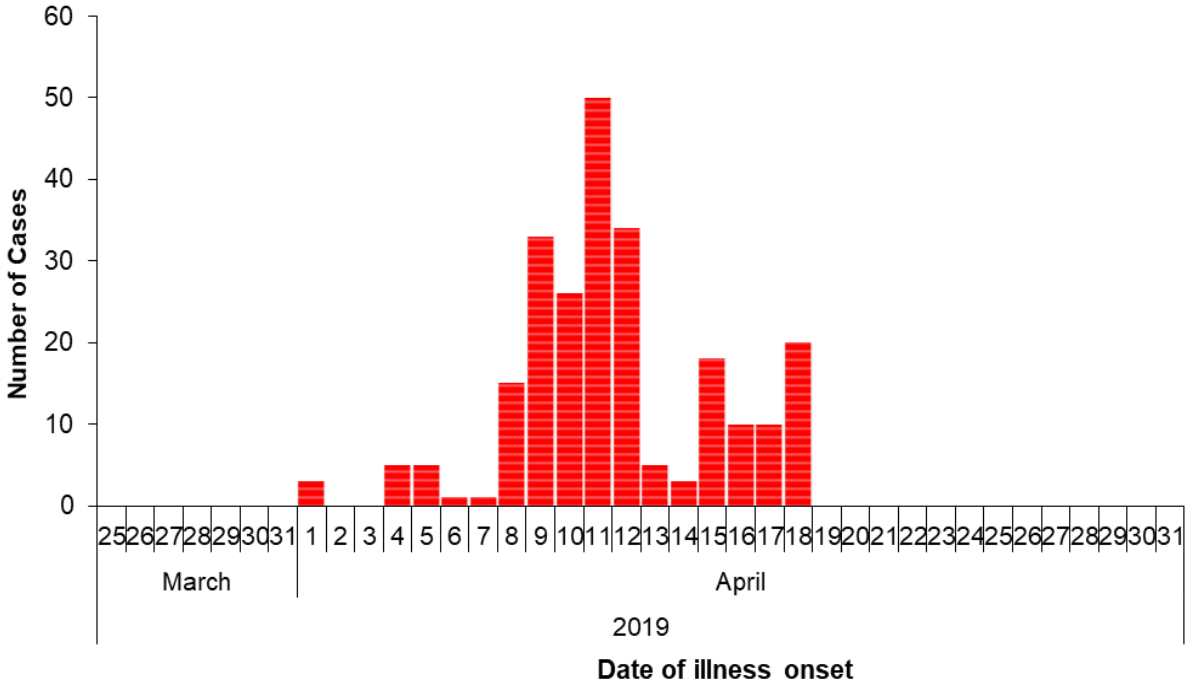


Figure 3. Epidemic curve illustrating number of diarrhoeal disease cases reported by date of illness onset, Winburg, Free State Province, April 2019.

3 VACCINE-PREVENTABLE DISEASES

a A household cluster of measles cases, Western Cape Province

Four suspected measles cases were reported from a private medical centre in the Southern Sub-district, City of Cape Town Metropolitan Municipality, on 11 April 2019. The four cases were unvaccinated siblings aged 12, 14, 17 and 19 years, and had recently visited a country in Eastern Europe.

Blood samples were collected, tested in the private sector and confirmed at NICD. Three tested positive for measles IgM (one also tested measles PCR positive) and one was IgM negative, likely in the incubation period. Outbreak response measures were implemented and contacts were vaccinated. The definition of a measles outbreak is usually considered as three cases in one district within 1 month. In this cluster, the cases were related and no additional cases were found in the district. It is likely that these cases were imported. Therefore, no outbreak of measles was declared, but healthcare workers should be on alert for additional cases.

Between 1 January and 15 May 2019, there have been 13 measles cases in South Africa (four in Gauteng, two in KwaZulu-Natal, two in Limpopo, one in Mpumalanga and four in the Western Cape provinces), Figure 4. In 2018, South Africa had 64 measles cases.

Measles is targeted for global elimination, with South Africa aiming at an elimination target of 2020. The pre-elimination goal is less than one case per million population per annum. All suspected measles cases must be reported through the notifiable medical conditions system, and blood samples must be collected for testing at NICD. Without laboratory testing, measles cannot be differentiated from other febrile rash illnesses.

Measles complications are unpredictable, and can include diarrhoea, dehydration, blindness, brain infection or death. Vaccination is safe and effective at preventing measles infection. Measles vaccinations are amongst the later vaccinations in the immunisation schedule, given at 6 and 12 months of age. For anyone who has missed immunisation doses, it is never too late to catch up measles vaccination.

Source: Centre for Vaccines and Immunology, NICD-NHLS; Western Cape Department of Health. melindas@nicd.ac.za; Charlene.Lawrence@westerncape.gov.za

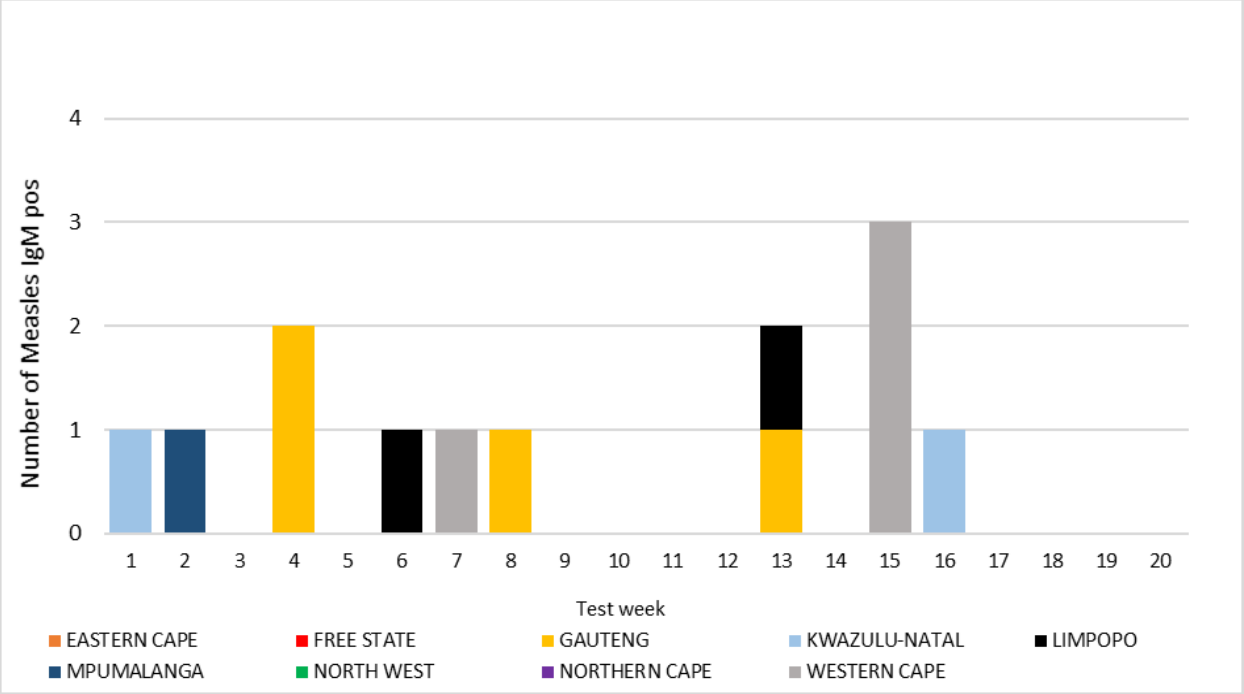


Figure 4. Number of measles cases by test week, South Africa, 1 January to 15 May 2019.

4 HOSPITAL ASSOCIATED INFECTIONS

a Carbapenem-resistant *Klebsiella pneumoniae* outbreak at a hospital in the City of Cape Town Metropolitan Municipality, May 2018-February 2019

A total of 17 neonates and children with invasive carbapenem-resistant *Klebsiella pneumoniae* (CR-KP) infections was reported by a tertiary hospital in the City of Cape Town Metropolitan Municipality, between May 2018 and January 2019 (Figure 5). Prior to December 2018, there had been one case of carbapenem-resistant *Enterobacteriaceae* (CRE) reported by the neonatal unit of the same hospital in 2017. Of the affected patients, nine had bloodstream infections, five had urinary tract infections, two had pneumonia, and one had meningitis. Four children and one neonate died (case fatality ratio = 29%). A colonisation survey was conducted in the last week of January 2019 in the neonatal wards. Of 112 rectal swabs tested, 52 (46%) cultured CRE. Strains from infected and colonised neonates and children harboured different carbapenemase-encoding genes (OXA-48 and variants or NDM).

Infection prevention and control (IPC) measures were promptly implemented. All neonates and children infected or colonised with CR-KP were cohorted in separate isolation wards and managed with contact precautions. Universal contact precautions had been implemented across all five neonatal areas since the neonatal outbreak was declared on 3 January 2019. Other measures implemented included increased provision of hand sanitisers/ automatic alcohol dispensers, provision of gloves, aprons and red plastic bags for each incubator/cot bed, restriction of visits to parents only, assignation of medical students to post-natal wards and neonatal areas not affected by CRE, and retraining of all

healthcare workers on CRE and IPC principles.

A selective screening strategy was implemented for high-risk neonates and children (e.g. patients with cancer or congenital cardiac diseases) on admission to and discharge from the neonatal and paediatric intensive care unit (ICU) to detect in-hospital transmission.

Neighbouring facilities were notified of the outbreak and a standard operating procedure was developed for management of CRE-colonised infants returning to healthcare facilities for follow-up visits. To inform healthcare workers of the CR-KP colonisation status of an infant, a sticker was attached to the Road to Health Card (RTHC) after provision of counselling and CRE information to parents.

Other measures included opening of additional wards, structural renovations, replacement of equipment, removal of the hand wash basins to offer 'water-free' care, introduction of surface disinfectant wipes in the ICU for environmental decontamination, weekly outbreak meetings, and ongoing surveillance.

Although the rate of new colonisation has declined, sporadic cases of CRE invasive infection are still occurring in the neonatal unit and paediatric wards. Enhanced surveillance, strengthening of antibiotic stewardship, targeted CRE screening and intensified IPC efforts are continuing.

Source: Centre for Healthcare-Associated Infections, Antimicrobial Resistance and Mycoses, NICD-NHLS; neleshg@nicd.ac.za

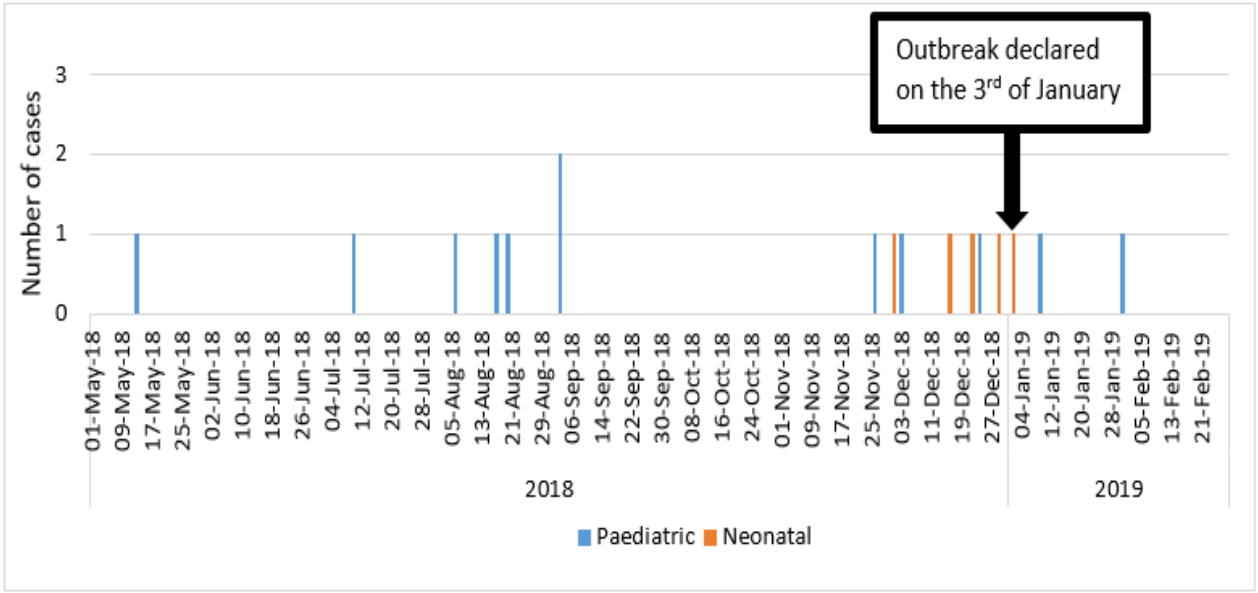


Figure 5. Number of cases of invasive carbapenem-resistant *Klebsiella pneumoniae* in the neonatal and paediatric units of a tertiary hospital in the City of Cape Town, 13 May 2018 - 31 January 2019.

5 INTERNATIONAL OUTBREAKS OF IMPORTANCE

a Ebola virus disease outbreak, Democratic Republic of Congo (DRC)

There was a steady increase in the number of Ebola virus disease (EVD) cases reported in the Democratic Republic of the Congo (DRC) during the week ending 19 May 2019. This week was marked by a relative decrease in the number and severity of security incidents, and most response activities were conducted as planned. However, the situation remains highly unpredictable, as threats against EVD response teams and facilities continue to be received, especially in the Butembo/Katwa hotspot. As such, further attacks or attempted attacks remain likely in the short term. Of particular concern is that some healthcare workers (HCWs) are refusing to wear personal protective equipment and clothing in healthcare facilities, and instead, performing only normal infection prevention and control measures due to threats of violence by members of the community.

As of 19 May 2019, 1 826 EVD cases (1 738 confirmed and 88 probable) were reported. A total of 1 218 deaths was reported (overall case fatality ratio 67%), which included 1 130 deaths among confirmed cases. Of the 1 826 confirmed and probable cases with known age and sex, 56% (993) were female, and 30% (540) were children aged less than 18 years. The number of HCWs affected has risen to 105 (6% of total cases).

In the week ending 19 May 2019, a total of 121 new confirmed cases was reported. The cases were reported from the hotspot areas within Mabalako, Beni, Butembo, Kalunguta, Katwa, Mandima and Musienene health zones. During the last 21 days (29 April to 19 May 2019), a total of 338 confirmed cases was reported, the majority of which were from Katwa (75), Mabalako (62), Butembo (44), Beni (36), Kalunguta (33), Mandima (32) and Musienene (31).

As of 21 May 2019, over 103 800 contacts have been registered to date, and 16 510 are currently under surveillance. Follow-up rates remained very high (86% overall) in health zones with continued operations.

A total of 121 147 people at risk has received the Ebola vaccine as of 21 May 2019. Of these, 33 046 are contacts and 87 886 contacts of contacts. The vaccinated people at risk included 31 016 HCWs and frontline workers (FLWs), and 34 522 children aged 1-17 years of age. The progress of the ring vaccination has been due to the use of innovative delivery strategies and strong community negotiations and engagement.

Public health response
The Ministry of Health of the DRC continues to strengthen response measures, with support from WHO and partners. Surveillance activities continue, including case investigations, active case finding in health facilities and communities, and identification and listing of contacts around the latest confirmed cases. Laboratory capacity, infection prevention and control, clinical management of patients, vaccination, risk communication and community engagement, psychosocial support, safe and dignified burials, cross-border surveillance, and preparedness activities in neighbouring provinces and countries remain priorities.
Community concerns continue to be centred on suspicion of the Ebola response and the prolonged outbreak. Efforts at community engagement continue to be strengthened, with all authorities and partners focusing on community engagement sessions in light of the threats of violence in some areas.

WHO risk assessment
WHO continues to closely monitor and, if necessary, verify travel and trade measures in relation to this event. The last assessment concluded that the national and regional risk levels remain very high, while global risk levels remain low. WHO advises against any restriction of travel and trade to the DRC based on the currently available information.

Situation in South Africa
As at 29 May 2019, there have been no EVD cases 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.

Source: WHO: www.who.int; Division of Public Health Surveillance and Response, NICD-NHLS (outbreak@nicd.ac.za)

b Measles: From eradication, to elimination, to global outbreak threat

In 1982, it was stated that the global eradication of measles was necessary as the disease occurs everywhere, affecting a large number of children, and potentially causes serious complications, including death. In 2017, there were 110 000 measles-related deaths globally, primarily in developing countries. To date, amongst human diseases, smallpox remains the only disease eradicated. The practicality of measles eradication was supported by the availability of a heat-stable, cost-effective and efficacious vaccine, and that by the early-eighties, interruption of measles transmission had been achieved in some places. It was surmised that by eradicating measles globally, large sums of money being spent on measles treatment, vaccination and surveillance would be saved or redirected to another public health threat.

Fast-forward to 2019, and the World Health Organization has reported an alarming, continued increase in the number of measles cases being reported globally. This has been the trend for the last two years. A number of countries are in the midst of large outbreaks, these include Albania, Democratic Republic of the Congo, Ethiopia, Georgia, Israel, Kazakhstan, Kyrgyzstan, Madagascar, Myanmar, Nigeria, Philippines, Sudan, Romania, Thailand, Tunisia, Ukraine and the United States of America. These outbreaks have collectively caused many deaths, mostly amongst young children, as there is no specific treatment for measles, only supportive care.

In the Americas and other Western countries, measles had been considered eliminated, but they have not been spared the recent trend of more frequent outbreaks. The revival of measles as a public health threat has been blamed on increasing vaccine hesitancy amongst parents due to misinformation, mistrust and complacency. UNICEF reports that over the last eight years, over 20 million children globally had missed out on measles vaccine, creating a large susceptible population for the current outbreaks. However, vaccinating children may not be enough to stem the tide. Outbreaks in Western and European countries that traditionally had good vaccine coverage have reported a greater number of cases amongst teenagers and adults.

A new study from Brigham Young University has shown that by engaging communities with appropriate vaccine education materials, it is possible to persuade members of our community who oppose vaccines to change their opinion by confronting them with the costs of their hesitation. Many people around the world have never seen iron lungs (mechanical breathing machines used for polio patients), smallpox scars, or the blindness caused by

measles. For some, not seeing these physical reminders makes it harder to weigh up the risks and benefits of vaccination.

Some containment strategies being employed by countries experiencing outbreaks are to keep children home from school, close schools and stop those with suspected infection from travelling. However, measles is easily transmitted as the virus can be contracted by someone up to two hours after an infected person has left the room. It spreads through air and infects the respiratory tract, potentially killing malnourished children or babies too young to be vaccinated.

Ensuring increased vaccination coverage rates, is the best solution to curb the global public health threat. Strengthening immunisation programmes to deliver the vaccines, and training healthcare workers to provide quality services will also go a long way in gaining the public's support for routine vaccine uptake. All public healthcare professionals should work to inform every parent that vaccines are safe and effective and can save a child's life. The current global measles situation is a reminder that lack of action today, will have disastrous consequences tomorrow.

Source: UNICEF; WHO; The Economist, Lancet, ProMED Mail. outbreak@nicd.ac.za

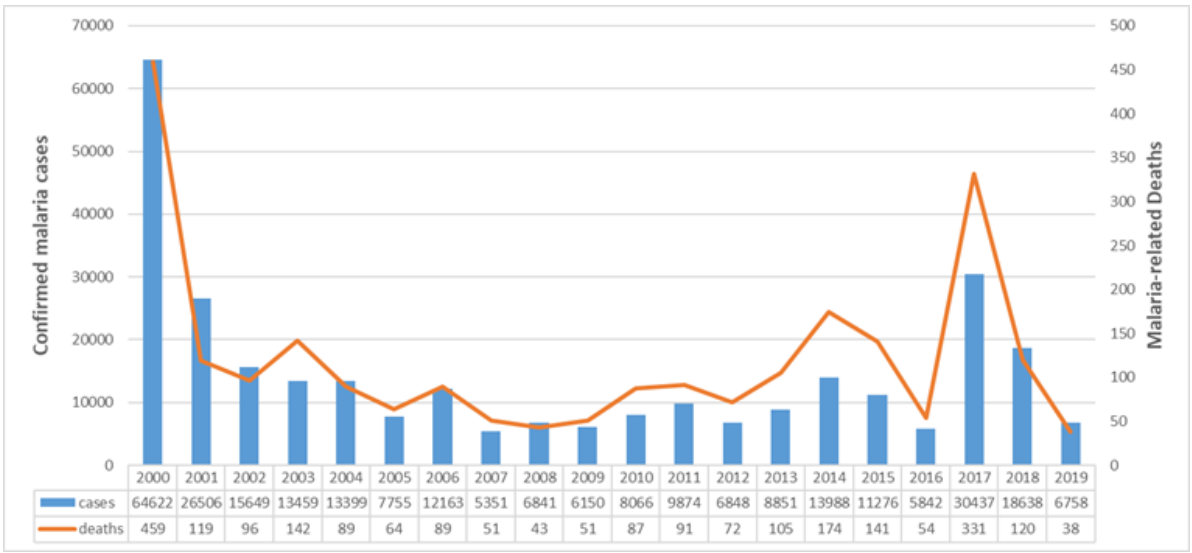
6 SEASONAL DISEASES

b Update on malaria: Odyssean cases in Gauteng Province

The NICD and Tshwane District outbreak response team investigated two cases of odyssean malaria on 30 April. They were a four-month-old infant living in a settlement adjacent to Laudium and a 35-year-old man living in Olievenhoutbosch. Both cases were seen at Kalafong Hospital but they were not epidemiologically linked. Unfortunately, the man died soon after admission but the baby was making a good recovery at the time of our visit. Through interviews, we excluded other mechanisms of transmission (e.g. injections, blood transfusions) and confirmed that neither the patients, their families nor immediate neighbours had travelled to malaria-endemic areas in the preceding month.

No *Anopheles* species mosquito larvae or adults were detected in or around either residence. The first was an informal dwelling, located far inside the settlement with no taxi ranks or bus stops nearby. The second was formal housing situated near a relatively busy road. Based on locations and timeline, the importation of two different infective mosquitoes (typically by car or taxi) was probably responsible. Usually, the South African malaria season tapers off rapidly in May, but healthcare workers should remain vigilant for odyssean malaria cases that may occur at any time if infective mosquitoes are inadvertently transported from warmer endemic areas.

Source: Centre for Emerging Zoonotic and Parasitic Diseases; Tshwane District Health. johnf@nicd.ac.za



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
cases	64622	26506	15649	13459	13399	7755	12163	5351	6841	6150	8066	9874	6848	8851	13988	11276	5842	30437	18638	6758
deaths	459	119	96	142	89	64	89	51	43	51	87	91	72	105	174	141	54	331	120	38

Figure 6. Annual reported malaria cases and deaths, South Africa, 2000-2019. Data included until end of April 2019, subject to updating. Source: National Department of Health, South Africa.

b Update on influenza

Influenza activity has returned to inter-seasonal levels in the temperate zone of the northern hemisphere. In the temperate zone of the southern hemisphere, influenza detections have increased in southern Australia and South Africa.

In South Africa, the 2019 influenza season started in week 16 (week ending 21 April) when influenza detections in the Viral Watch programme rose above the seasonal threshold, as determined by the Moving Epidemic Method. The average onset of the influenza season over the past 14 years has been week 20 (mid-May) ranging from end April to mid-June. This is only the second time in 36 years that the season has started this early. The previous early season onset was in 2015.

The number of specimens received from Viral Watch sites has been increasing since the beginning of April. Eleven influenza detections were made from 61 specimens (18%) in the first three months of the year, mainly from travellers. Since April, influenza A has been detected in 104/182 (57%) specimens received from Viral Watch sites, the majority (78; 75%) of which were from the Western Cape Province. Seven of 104 have been further identified as influenza A(H1N1)pdm09, 93 (89%) as influenza A(H3N2), and four inconclusive for influenza A subtyping, due to low viral load.

Influenza is a preventable infectious disease. Influenza vaccine is available at public health facilities and private pharmacies. Public health facilities prioritise individuals at risk for developing severe influenza illness or complications. Individuals at risk of severe influenza disease include, among others, pregnant women, and those vulnerable due to pre-existing illnesses or risk factors (diabetes, chronic lung conditions, immunosuppression). Detailed recommendations on target groups, dosages and contraindications for influenza vaccine can be accessed at http://www.nicd.ac.za/wp-content/uploads/2017/03/Influenza-guidelines-rev_-23-April-2018.pdf

Source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; cherylc@nicd.ac.za

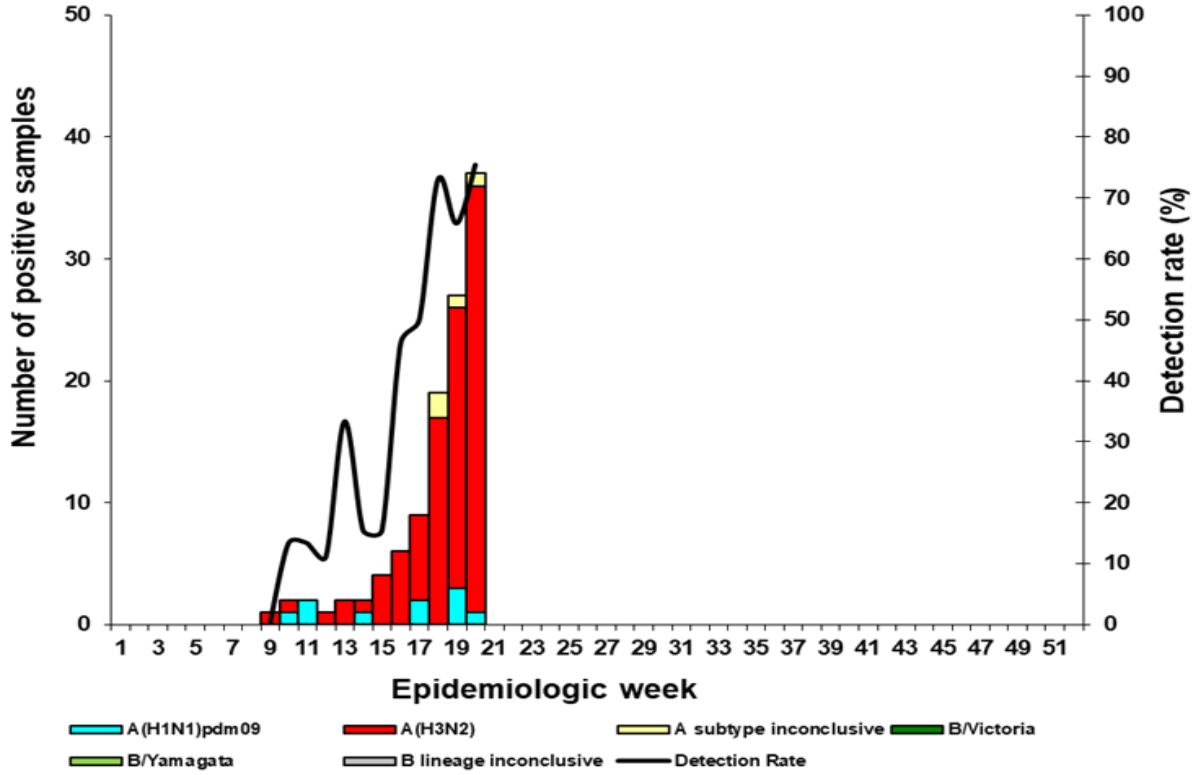


Figure 7. Viral Watch 2019: Number of positive samples by influenza types and subtypes and detection rate*

***** Only reported for weeks with >10 specimens submitted.

Patients known to have acquired influenza abroad or from contact with travellers are not included in the epidemiological curve.
Inconclusive: insufficient viral load in sample and unable to characterise further

7 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 8 on page 12.

1. Dengue & measles: Réunion
Dengue: There have been 12 187 confirmed and 31 500 suspected cases of dengue in Reunion since the beginning of 2019, of which 357 have been hospitalised and four have died. Cases are widespread on the island with the southern most parts being worst affected.

Persons with dengue may present with fever, nausea and vomiting, headache, joint pain, rash or abdominal pain. Notification of dengue infection to public authorities in Réunion is compulsory. The public health response by Réunion has been to reinforce vector control, enhance surveillance, encourage social mobilisation and raise awareness amongst the public and healthcare workers. Awareness activities include the use of posters at points of entry (PoE), weekly press releases and announcements onboard flights to and from Réunion. La Réunion is a popular touristic destination and the current outbreak increases the likelihood of exporting dengue virus to other countries.

Measles: For 2019 to date, 48 cases of measles have been reported from Réunion, compared to only four cases in 2018. The most recent cases involved two unvaccinated doctors who infected six patients at a university hospital in Saint-Denis. Measles is an acute, highly contagious viral disease that has potential to lead to major epidemics. It usually presents in people with fever and maculopapular rash, cough, runny nose and/or red eyes. Measles can be prevented through vaccination. Public health response at Réunion has been aimed at improving vaccination coverage on the island from 86% (current) to 95% (target). Active contact tracing for all case-patients has also taken place.

2. Lassa fever: Nigeria
As of 12 May 2019, a total of 2 426 suspected cases of Lassa fever has been reported from 21 states. Of these, 569 were confirmed positive, 15 probable and 1 842 were negative. One case included a medical doctor who was attending to patients infected with Lassa fever.

Lassa fever is a viral haemorrhagic fever that is transmitted to humans via contact with food or household items contaminated with rodent urine or faeces. Person-to-person infections and laboratory transmission can also occur. There is currently no approved vaccine. Lassa fever is endemic in Nigeria, with the peak season anticipated from December to June. Prevention of Lassa fever relies on community engagement and promoting hygienic conditions to discourage rodents from entering homes. In healthcare settings, staff should consistently implement standard infection prevention and control measures when caring for patients to prevent nosocomial infections. WHO does not recommend any travel or trade restriction to Nigeria, based on the currently available information.

3. Monkeypox: Singapore
On 9 May 2019, the Ministry of Health (MOH) in Singapore notified the World Health Organization (WHO) of one laboratory-confirmed case of monkeypox. The case-patient is a 38-year-old Nigerian man who arrived in Singapore on 28 April 2019 and attended a workshop from 29-30 April. The patient is alive and in a stable condition.

Monkeypox (MPXV) is a sylvatic zoonosis with incidental human infections that occur sporadically in parts of Central and West Africa. Signs and symptoms include fever, headache, rash, muscle aches and enlarged lymph nodes. The disease is self-limiting, with symptoms usually resolving spontaneously within 14-21 days.

Singapore's public health response included contact tracing of the case, vaccination of all at risk individuals, quarantine of all close contacts and engagement with the Nigerian International Health focal point for all travellers who went back to Nigeria. WHO recommends avoiding contact with sick, dead or live animals that could harbour MPXV (rodents, marsupials, and primates) and should refrain from eating or handling bush meat. Hand hygiene using soap and water, or alcohol-based sanitiser should be emphasised. There are currently no travel restrictions to Nigeria or Singapore.

4. Hepatitis A: United States of America
Pennsylvania, in the USA, is the latest state to announce an outbreak of hepatitis A with 171 cases in 36 of the state's 67 counties since January 2018. Possible causes of the outbreak are suspected to be due to cut backs in public healthcare infrastructure and inability of the state to deal with marginalised populations.

Hepatitis A is a virus which is spread via the faecal-oral route from contaminated food or water. Symptoms include fever, vomiting, abdominal pain and jaundice. The public health response in Pennsylvania has been to increase awareness via public health resources and education, directly addressing the needs of marginalised populations and vaccinating people at risk in an effort to prevent spread of disease.

Source: Promed (www.promed.org) and the World Health Organization (www.who.int)

Figure 7. 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.

8 WHO-AFRO: OUTBREAKS AND EMERGENCIES

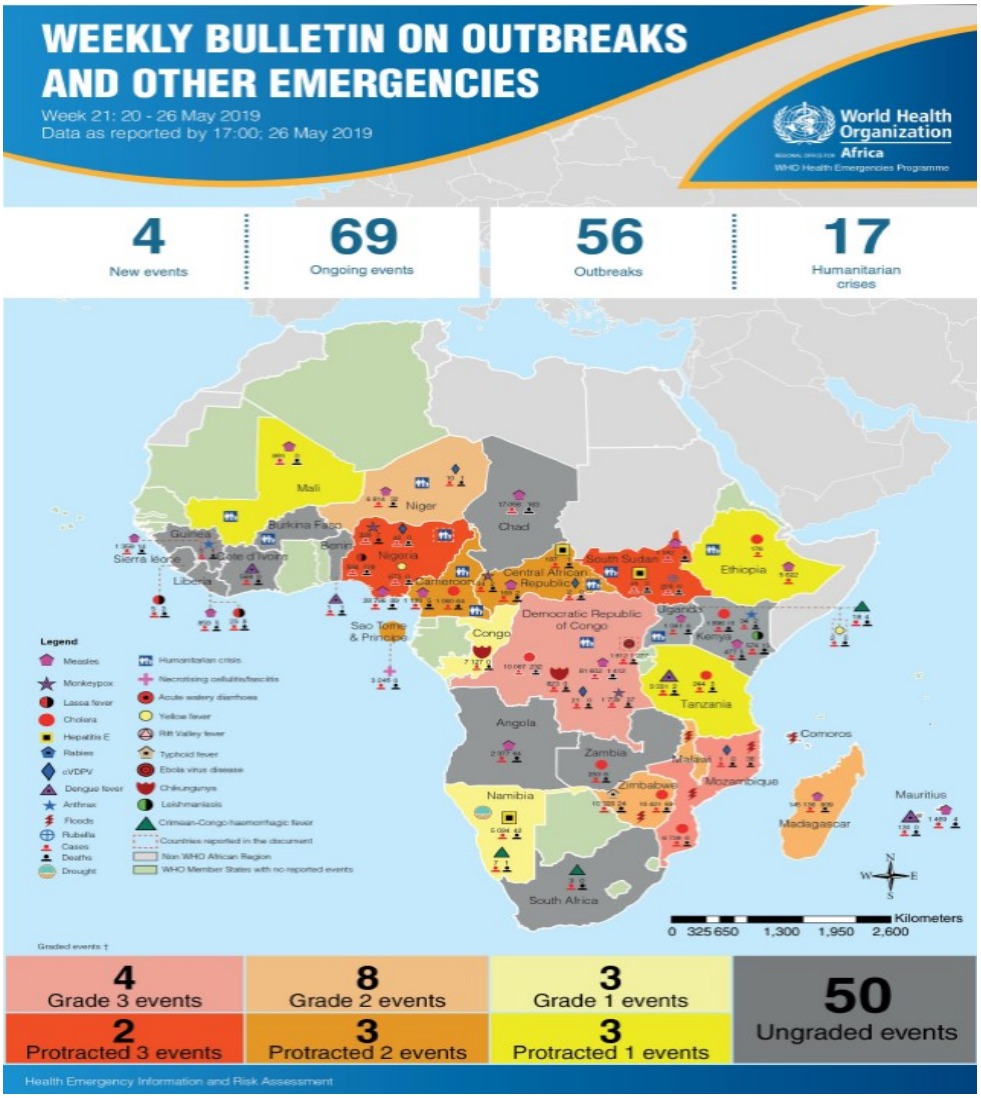


Figure 8. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 73 events. For more information see link below: https://apps.who.int/iris/bitstream/handle/10665/324950/OEW21-2026052019.pdf