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

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CONTENTS

EDITORIAL

The December issue of the NICD Communiqué is always small, not because outbreaks are fewer, but because only two weeks elapse after the release of the November Communiqué.

This month, we report on an outbreak of enterovirus meningitis that is currently centred around the Khayelitsha Sub-district of the City of Cape Town Metropolitan Municipality, Western Cape Province, although ongoing surveillance across the country may identify a wider distribution. Meningitis due to enterovirus presents with fever, headache and other symptoms of meningeal irritation, an 'aseptic' picture on microscopy of CSF, and usually resolves without sequelae. We also report on an outbreak of foodborne disease across a chain of crèches in Gauteng Province, most likely viral in origin.

In light of the upcoming holiday season, we encourage our readers to advise their clients/ patients on risks and preventive measures for certain diseases, namely malaria, cholera, Ebola virus, yellow fever and anthrax. Our frequently-asked question to the NICD 24-hour hotline pertains to risks associated with rodent bites. We also provide an update on the cholera outbreak in Zimbabwe and the Ebola virus disease outbreak in the Democratic Republic of the Congo. We include as usual the WHO-AFRO infographic on current humanitarian and outbreak events in the region.

May we take this opportunity to thank our readership for the support over the year, and wish you well and safe travels over the festive season.

1 ZOONOTIC AND VECTOR-BORNE DISEASES

a An update on rabies in South Africa, 2018

No additional cases of human rabies have been confirmed since the last report. In total, 15 cases of human rabies have been confirmed in South Africa for 2018 to date. These cases were reported from KwaZulu-Natal (n=8), Eastern Cape (n=6) and Mpumalanga (n=1) provinces. In addition, two probable cases (not laboratory confirmed) were reported from the Eastern Cape Province.

Rabies in animals are continuously reported from various animal species in different locations in South Africa. In 2018, rabies has been reported in dogs from KwaZulu-Natal, Eastern Cape, Mpumalanga, Free State, North West and Limpopo provinces. Two cases of rabies in dogs were also confirmed in Ga-Rankuwa (located about 40 kilometres north of Pretoria), Gauteng Province, in November 2018. Rabies has also been reported in jackals, mongoose and genets. Livestock such as cattle, sheep, goats and horses have also tested positive for rabies in 2018.

Although not treatable, rabies can be **controlled** and infection **prevented**. Dogs and cats can be vaccinated against rabies, which does not only protect the animal from the disease, but also all those who may come into contact with that animal. In South Africa, vaccination of dogs and cats is required by law (from three months of age) and can be routinely accessed through private veterinarians and many animal welfare and non-profit organisations serving communities in the country. State veterinary services routinely respond to reports of rabies in animals, and provide strategic vaccination of dog (and cat) populations in affected areas. The public is urged to ensure that their pets have been vaccinated against rabies and that their immunisation schedule remains up to date. This is particularly important ahead of the holiday season, and when families take their pets to holiday destinations around the country.
Since the rabies virus is spread through direct contact with rabid animals, it is advised to generally avoid interaction with unfamiliar animals. Rabies disease changes the behaviour of animals, for example, an animal that you would expect to be wild can appear tame. As such, it is important to report all direct contact with wildlife that is out of the ordinary. Do not feed or approach wild animals even though they seem friendly. On the other hand, an approachable pet may become aggressive. Report stray dogs to the responsible state veterinarian, and avoid interaction with such dogs if possible.

When potential exposure to rabid animals occurs, the infection can be effectively prevented through rabies post-exposure prophylaxis. This treatment includes thorough washing and treating of all wounds, and the application of rabies vaccine and rabies antibody-therapy. It is important to understand that the rabies virus is transmitted through direct contact with the infected saliva of a rabid animal. Infection may occur when this infected saliva enters the body of a person, through a bite, scratch or other injuries that have penetrated the skin. Exposures that could have brought animal saliva into contact with a person's mouth, nose or eyes, or broken skin, should also be reported. This may occur when, for example, a dog licks your face. When such exposures occur, it is important that the advice of a healthcare practitioner is urgently sought. When rabies is considered a risk, based on the circumstances of the possible exposure, rabies post-exposure prophylaxis must be provided. More information on rabies post-exposure prophylaxis can be accessed from the NICD website.

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

2 ENTERIC DISEASES

a An update on cholera

Cholera cases in South Africa, 1 January to 12 December 2018
South Africa has reported five laboratory-confirmed cases of cholera in three provinces for the year to date (Table 1). The first four cases were detailed in previous NICD communiqués - see Table 1.

The most recent case is a 45-year-old male game scout, who lives and works at a game farm near Ga-Kibi, in Blouberg Sub-district, Limpopo Province. He developed acute watery diarrhoea on 19 November 2018 and was admitted to Helena Franz Hospital for investigation. He reported no travel history (within and outside South Africa) in the 10 days before illness onset. A household contact recently travelled to Zimbabwe, having returned to South Africa on 11 November 2018. The patient recovered and was discharged from hospital. *Vibrio cholerae* was isolated from a stool sample, and identified as *V. cholerae* O1 serotype Inaba.

Isolates from cases two and three were confirmed as *V. cholerae* O1 serotype Ogawa (Table 1), and on whole genome sequencing (WGS), are identical to the current *V. cholerae* O1 serotype Ogawa outbreak strain circulating in Zimbabwe. However, iso-

lates from cases four and five are both *V. cholerae* O1 serotype Inaba. At present, there is no explanation for this unexpected finding. Investigations have not shown any epidemiological link between the cases, and there is no indication that *V. cholerae* O1 serotype Inaba strains have also been identified during the current outbreak in Zimbabwe. WGS for these isolates is pending.

Update on the current outbreak in Zimbabwe

The outbreak in Zimbabwe continues, with 10 550 suspected cases (including 59 deaths) reported between 4 September and 7 December 2018. Although case numbers in Harare city are declining, new foci of cases have emerged in other districts, and nine of ten provinces have reported cases. However, there is a downward trend in case numbers overall and it is hoped the mass oral cholera vaccination campaign conducted in October and intensive WASH (water, sanitation and hygiene) interventions will curb transmission.

Alert to healthcare workers: don't forget cholera this holiday season!

Heightened awareness for possible cholera cases must be maintained whilst the outbreak continues in Zimbabwe, and especially so in the coming holiday season when travel volumes peak. Any patient who develops acute watery diarrhoea with or without vomiting should be investigated for suspected cholera.

Mild-to-moderate cholera cases may be treated with oral rehydration fluid. Severe cases require admission and intravenous fluid administration. Antibiotic treatment is recommended for patients with moderate to severe dehydration, as it reduces disease severity and the risk of further transmission. Azithromycin is recommended for cases linked to the current Zimbabwean outbreak.

All suspected cases should be investigated and notified immediately to the relevant stakeholders. Healthcare workers should ensure that stools or rectal swab specimens are collected, and specimens should be sent to the testing laboratory with a specific request for cholera testing. If a delay in testing or transport of specimens is anticipated, specimens should be submitted in Cary-Blair transport media. Additional information on cholera, including guidance on specimen collection and case management, can be accessed on the NICD website: http://www.nicd.ac.za

Source: Centre for Enteric Diseases, NICD-NHLS; (junot@nicd.ac.za)

Table 1. Laboratory-confirmed cholera cases reported in South Africa, 1 January to 12 December 2018

Case	Province	Date of illness onset	Outcome	Serotype	Travel History[#]	Comments
1	KZN	7 February	Discharged	*Ogawa*	No	See the NICD Communiqué, February 2018, vol.17(2) for case details
2	GP	29 September	Discharged	*Ogawa*	Yes	See the NICD Communiqué, October 2018, vol.17(10) for case details
3	GP	4 October	Discharged	*Ogawa*	No. Spouse of case 2; close household contact	
4	LP	8 November	Discharged	*Inaba*	Yes	See the NICD Communiqué, November 2018, vol.17(11) for case details
5	LP	19 November	Discharged	*Inaba*	No	Case detailed in this report

[#]Travel to area/s experiencing cholera outbreak(s); KZN: Kwazulu-Natal Province; GP: Gauteng Province; LP: Limpopo Province.

b A suspected foodborne disease outbreak in children attending a multi-branch preschool in Gauteng Province, 2018

On 6 November 2018, a multi-branch preschool notified the NICD of a suspected foodborne disease outbreak at all 10 of its branches in Gauteng Province. A cross-sectional study was carried out across five of the 10 branches. Twenty-one questionnaires were administered to staff and nine clinical specimens were collected. One caterer supplies all the preschools with meals which are served to children and employees. Food retention samples for the 29th and 30th of October, and three rectal swabs from the caterer's food handlers were tested. A total of 243 children and 36 staff members across the ten branches presented with diarrhoea from 17 October to 7 November 2018 (Figure 1). Food retention samples were negative for *Salmonella* spp., *Staphylococcus aureus* and *Listeria monocytogenes.* Of the nine clinical specimens collected, seven were positive for astrovirus; these seven cases were from three different preschools. Astrovirus is transmitted by the faeco-oral route. Whilst less common than other enteric viruses (e.g. norovirus, rotavirus), astrovirus does cause sporadic disease and outbreaks. By finding the virus in clinical specimens from three branches, it is likely to have been the causal pathogen. The outbreak most likely stemmed from common food supplied by the caterer to all the preschools. No pathogens were identified from specimens taken from the caterer's food handlers. However, food-handler specimens were received for testing a month after the outbreak started and astrovirus is typically shed for approximately three weeks. Only two food items from the composite meals served on 29 and 30 October 2018 were available for testing. It would have been appropriate to test all the food items prepared and served on those days. To prevent future outbreaks, staff involved in food preparation should pay special attention to hand hygiene in addition to routine food safety practices.

Source: Division of Public Health Surveillance and Response - Provincial Epidemiology Team, Outbreak Response Unit; Centre for Enteric Diseases, NICD-NHLS; Gauteng Provincial and District health departments (outbreak@nicd.ac.za)

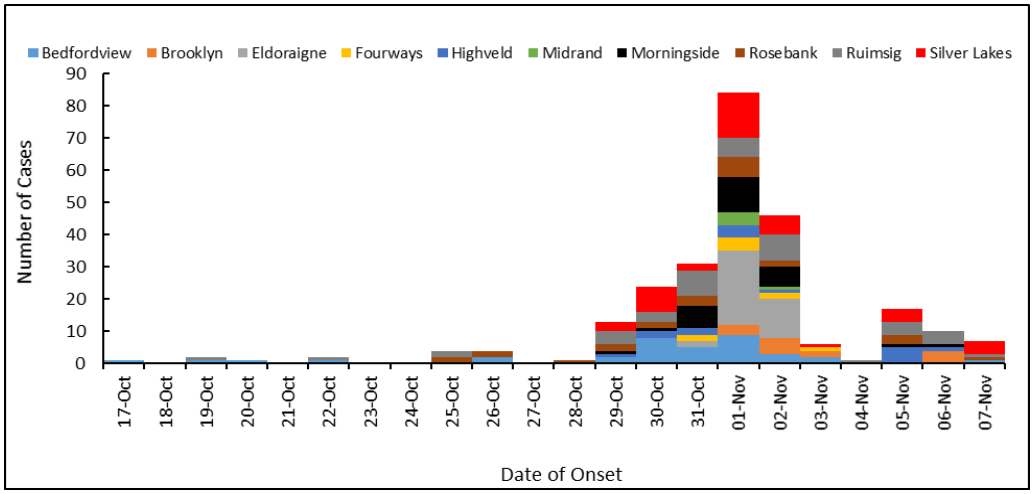

Figure 1. Epidemic curve showing number of diarrhoeal cases at the preschools, stratified by branch, Gauteng Province, October and November 2018

4 INTERNATIONAL OUTBREAKS OF IMPORTANCE

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

The Ministry of Health (MoH) of the Democratic Republic of the Congo (DRC), declared a new outbreak of Ebola virus disease (EVD) on 1 August 2018. As of 10 December 2018, a total of 494 confirmed and probable EVD cases, including 283 deaths (case fatality rate 57.29%) has been reported. Of the 494 cases, 446 are confirmed and 48 are probable cases. Of the 283 deaths, 235 occurred in confirmed cases. These cases have been reported in 11 health zones in North Kivu Province and three health zones in Ituri Province. As of 3 December 2018, 144 confirmed cases have recovered and been discharged from Ebola Treatment Centres (ETCs). As of 4 December, a total of 44 healthcare workers has been infected, of which 41 are nurses and three are doctors. This highlights the public and private health centres as a major source of amplification of the outbreak due to inadequate infection prevention and control (IPC) practices. Concerns have been raised regarding the disproportionate number of women and children infected during this outbreak.

Public health response

The MoH of the DRC is receiving support from WHO and partners in rapidly initiating response mechanisms in the affected areas. Priorities include the strengthening of surveillance, contact tracing, laboratory capacity, IPC, clinical management, vaccination, risk communication and community engagement, safe and dignified burials, response coordination, cross-border surveillance, and preparedness activities in neighbouring provinces and countries. Infection prevention and control

practices in health care facilities, especially antenatal clinics need to be further strengthened. Stringent hand hygiene is essential. Contact tracing activities continue in 10 affected health zones with over 24 000 contacts registered to date. The daily follow-up rates among listed contacts ranged from 90-95% over the past week. As of 2 December 2018, over 18 million travellers have been screened, 127 alerts notified, and 40 alerts validated of which two have been confirmed. As of 3 December 2018, the cumulative number of people vaccinated is 39 845.

WHO risk assessment
This outbreak of EVD is affecting north-eastern provinces of the Democratic Republic of the Congo, which border Uganda, Rwanda and South Sudan. Potential risk factors for transmission of EVD at the national and regional levels include the transportation links between the affected areas, the rest of the country, and neighbouring countries including the displacement of Congolese refugees to neighbouring countries. Additionally, the security situation in North Kivu and Ituri may hinder the implementation of response activities. Based on this context, on 28 September 2018, the public health risk assessment was revised from high to be very high at the national and regional levels, and low globally. WHO continues to advise against any restriction of travel to, and trade with, the Democratic Republic of the Congo based on currently available information.

Situation in South Africa
As at 18 December 2018, 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: Division of Public Health Surveillance and Response, NICD-NHLS (outbreak@nicd.ac.za); WHO: www.who.int

4 SEASONAL DISEASES

a Malaria prevention guidelines updated—2018

Last month's NICD Communicable Diseases Communiqué (November 2018, Vol. 17 (11): 10-11) carried an alert about the expected seasonal increase in malaria and the new malaria risk map for South Africa (Risk map). The 2017 South African Guidelines for the Prevention of Malaria have been updated and are also available on the NICD website, www.nicd.ac.za.

Addendum to the South African Guidelines for the Prevention of Malaria, updated 2018
Although mefloquine is given as an option for chemoprophylaxis, there are currently no mefloquine-containing products available in South Africa – Lariam® has been discontinued in this country and Cipla have manufacturing issues regarding Mefliam® that will take a while to be resolved. This means that there is currently no product that can be used for pregnant travellers or children weighing less than 11 kg. As these are also the travellers at highest risk of complicated malaria, they should be strongly advised not to go to malaria risk areas. If they have no option but to go, they should use all methods available to prevent getting bitten by mosquitoes, and should seek immediate medical attention should they have any signs of illness.
There have been some important changes to the guidelines, namely:

- Both doxycycline and atovaquone-proguanil are now Schedule 2 and are available from pharmacies without a prescription.
- The South African Malaria Risk Map has been updated, and some areas that were previously low risk areas are now classified as moderate risk. The changes have been made based on notifications of confirmed cases of locally-acquired malaria infections over the past five malaria seasons (2014-2018). See page 40 of the guidelines.

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

b Enterovirus meningitis outbreak in Khayelitsha Sub-district, Western

On 27 November 2018, clinicians at a hospital in Cape Town, Khayelitsha Sub-district, Western Cape Province, alerted the Western Cape Department of Health (WCDoH) to an increase in cases of confirmed enteroviral meningitis. From 1 September to 5 December 2018, a total of 38 (13 females) children <12 years was diagnosed with PCR-confirmed enteroviral meningitis (Figure 2).

The median age at presentation was 5.5 years (IQR (2.59 – 8.03 years). Twelve (32%) children were <5 years, and of these, six were <1 year of age. The majority of children presented with fever and vomiting, while older children complained of headache. Clinical features of meningitis were present in the majority of children, including irritability, neck stiffness or photophobia. One child had a seizure and one had a rash.

Examination of the cerebrospinal fluid (CSF) revealed a median total white cell count of 51 cells/ml (IQR 27—104 cells/ml). The median percentage of polymorphonuclear neutrophils (PMN) were 71% and the majority of children had fewer lymphocytes than PMN.

Only three children had a CSF protein more than 0.5g/l and no children had CSF glucose <2.2g/l. The C-reactive protein was <20 g/dl in 53% (20/38) of the cases and >50 g/dl in only two children. To date, all children have recovered without sequelae.

CSF samples from suspected cases of enterovirus aseptic meningitis were tested using an in-house real time PCR targeting the 5'UTR gene. During the period 1 September to 5 December 2018, there were approximately 88 CSF samples tested; 38 (43%) of these cases were enterovirus positive. The increase in enterovirus cases may reflect the seasonal peak that occurs in autumn and summer.

Ongoing epidemiological investigation by the WCDoH has revealed no epidemiological linkages amongst cases. Sequencing of the viral genome is awaited to investigate whether this increase in cases is attributable to a single strain.

Treatment of enteroviral meningitis is supportive with complete recovery in 7-10 days. There are no registered antiviral drugs for the treatment of enterovirus infections. Hand hygiene after using the toilet or changing nappies, before food preparation and after sneezing or coughing is encouraged.

Heightened clinical awareness and laboratory confirmation is useful to characterise the epidemiology and clinical burden of enterovirus infections in South Africa. Viral PCR is not standard of care in local public health institutions. Facilities were requested to record cases of viral meningitis and to complete case report forms. Currently the investigation is ongoing.

Source: Clinicians at a hospital in Cape Town, Western Cape Department of Health (Charlene.Jacobs@westerncape.gov.za)

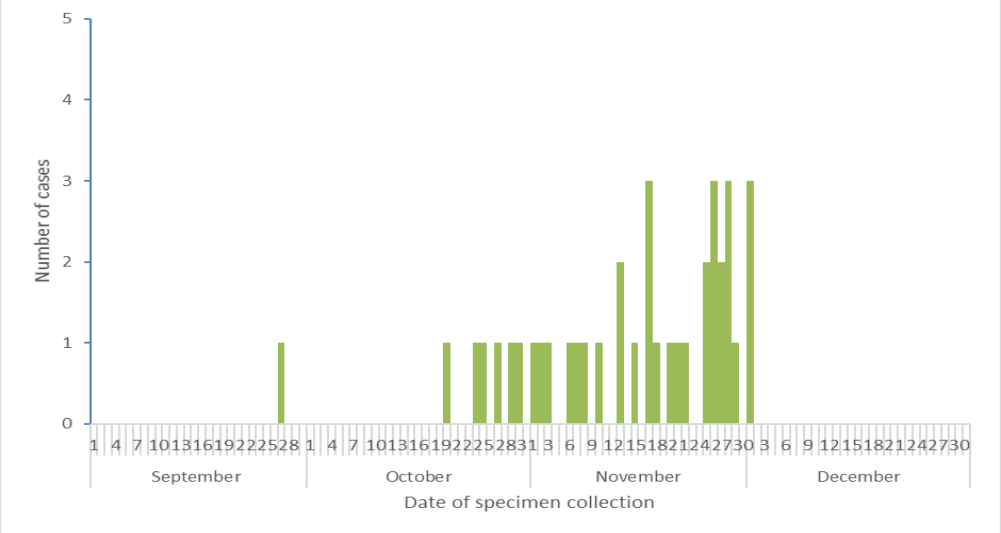

Figure 2. Epidemic curve showing number of laboratory-confirmed entero-viral meningitis cases at Khaye-litsha Sub-district, Cape Town, Western Cape Province, 1 Sep-tember to 5 De-cember 2018

5 INFORMATION FOR TRAVELLERS TO SUB-SAHARAN AFRICA

There have been cholera outbreaks reported in the following countries: Somalia (Banadir region), Zimbabwe (Mashonaland Central Province) and Nigeria (Yobe State, Borno State, Adamawa State and Zamfara State). All people visiting areas where there are known cholera cases, should be aware of the basic cholera facts that can be found on the NICD website at this link, http://www.nicd.ac.za/index.php/cholera/. Importantly travelers should follow these basic prevention steps to protect themselves and their families: drink and use safe water, wash hands often with soap and safe water, eat well-cooked food (especially seafood), keep food covered, eat it whilst hot, and wash or peel fruits and vegetables.

There is an ongoing Ebola virus disease outbreak in the Democratic Republic of the Congo, with Rwanda, Uganda, Sudan and South Sudan being at-risk countries for possible spread of the disease. Travellers to high-risk areas in these countries bordering the DRC are urged to take necessary precautions to protect themselves. Visit the NICD website, www.nicd.ac.za, for more information.

Those travelling to yellow fever-endemic countries are urged to make sure that their yellow fever vaccination is up-to-date, and to refrain from buying fake certificates. Yellow fever outbreaks have been recently reported in South Sudan and Nigeria. In addition to yellow fever, there is an ongoing outbreak of Lassa fever in Nigeria.

For those planning to go on a safari, there have been multiple reports of anthrax in Zimbabwe, Namibia and Malawi in national parks. So far, most cases seen are in animals. However, where there has been contact with livestock, human cases have been identified.

Source: Division of Public Health Surveillance and Response, NICD-NHLS; outbreak@nicd.ac.za

6 FREQUENTLY-ASKED QUESTIONS TO THE NICD 24-HOUR HOTLINE

a Is it necessary to give rabies post-exposure prophylaxis after a rat/ mouse/rabbit bite?

All animal exposures should be considered for potential rabies risk, and assessed for rabies post-exposure prophylaxis (PEP). Important factors that assist decisions on rabies PEP management include details on the animal species, the animal's behavior and health, rabies vaccination status of the animal and the geographical location where the animal is from/exposure occurred. If the incident suggests potential rabies virus exposure, it is imperative that rabies PEP be instituted as soon as possible, even before there is laboratory confirmation of rabies in the animal.

• Animal's behaviour and health: Healthy animals do not transmit the rabies virus. Animals that may transmit the virus will themselves be affected with the disease. Any abnormal behaviour or signs of ill health in the animal could indicate rabies.

• The rabies vaccination status of the animal: Consider the validity of the vaccination certificate and the timing of vaccination (i.e. if vaccinated in the two weeks preceding the exposure event, may not be immune yet and may have been incubating rabies already at the time of vaccination).

• The geographical location of the exposure: Rabies is endemic in South Africa, but the risk of rabies transmission is not equal in all locations.

• Animal species involved in the contact: Domestic dogs and cats are important vectors of rabies virus to humans. **All mammalian species may potentially be infected with the virus; however, small rodents such as mice and rats, commonly found in and around dwellings, are not typically associated with rabies transmission. Mice and rats, and also rabbits, have not been known to transmit rabies to humans.** These animals are not primary hosts and do not play a role in the transmission or maintenance of rabies. Rabies PEP is therefore not indicated in the event of a rat, mouse or rabbit bite.

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

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 3 on page 8.

1. Cholera: Zimbabwe
On 6 September 2018, a cholera outbreak in Harare was declared by the Ministry of Health and Child Care (MoHCC) of Zimbabwe and notified to WHO on the same day. A clinical sample tested positive for *Vibrio cholerae* serotype O1 Ogawa. The outbreak has intensified since it was first declared in September, with 54 reported deaths, more 10 000 suspected cases and over 200 confirmed cases to date. In October, the government said it would vaccinate 1.4 million people. The outbreak has exposed lack of maintenance of infrastructure with burst pipes and contaminated boreholes.

2. Salmonellosis: North America
The Israeli Ministry of Health has reported almost 40 cases of *Salmonella* infection linked to tahini products, that has also caused illness in five people in the USA. Tahini is a paste made from raw sesame seeds and is exported from Israel to several countries. Other products made from sesame seeds include hummus and halvah. Tahini products packed under five brands were recalled in the USA last month (November 2018) because a sample tested positive for *Salmonella* Concord. The Ministry of Health found a possible connection between the *Salmonella* accumulation and tahini products made by Achdut Ltd. in Ari'el, Israel, with expiry dates 7 April 2019 to 21 May 2019. People have been told not to consume tahini of all weights and package variants, with those expiry dates that had been marketed to retail, institutional markets and restaurants.

3. Lassa Fever: Nigeria
From 1 January to 2 December 2018, a total of 3 229 suspected cases has been reported. Of these, 581 were confirmed positive, 17 probable and 2 631 negative. Since the onset of the 2018 outbreak, there have been 147 deaths in confirmed cases and 17 in probable cases. Case fatality rate (CFR) in confirmed cases is 25.3%. This outbreak has been widespread, occurring in 23 states and 92 local government areas. It is not known whether the prevalence of Lassa fever virus has been increasing in populations of rodent hosts in these areasa. A total of 9 193 contacts has been identified from 23 states. Of these, 303 (3.3%) are currently being followed up, 8 760 (95.3%) have completed 21-day-follow-up period, while 15 (0.2%) were lost to follow-up. Of the remaining 115 (1.3%) symptomatic contacts identified, 36 have tested positive from five states. Lassa fever national multi-partner, multi-agency Technical Working Group (TWG) continues to coordinate response activities at all levels.

4. West Nile fever: Tunisia

West Nile fever is a mosquito-borne viral disease caused by the West Nile virus (WNV). It can affect birds, humans and horses, and can cause inapparent infection, mild febrile illness, meningitis, encephalitis, or death. WNV is endemic in Tunisia. Since 1997 till 2012, three major upsurge of WNV cases were reported in the country. From the beginning of 2018 till the last week of November 2018, 377 suspected cases of West Nile fever were reported, of which 49 were confirmed by RT-PCR, with two related deaths. In comparison with the previous years, the number of suspected and confirmed cases reported in 2018 already exceeded previous year's number. This increased number of reported, suspected and confirmed cases compared to previous years, confirms the intensified circulation of WNV in the country.

5. Yellow Fever: South Sudan

The Ministry of Health in South Sudan declared a yellow fever (YF) outbreak on 29 November 2018 in Sakure, Nzara County, Gbudue state (formerly Western Equatoria state). Following the reported suspect case, the Ministry of Health, with support from WHO and partners, deployed a rapid response team for in-depth investigations as well as sample collection. The confirmation of the case automatically triggered the activation of the YF incident management system (IMS) with an incident manager designated to coordinate response to this event, including risk communication, surveillance, and disease control to prevent further spread of the disease. It is not clear if the yellow fever virus infection was acquired in South Sudan or in the Democratic Republic of the Congo (DRC). There is no indication if the DRC health authorities have been alerted, given that the case comes from Sakure, a border town between the two countries. A swift response to this single case is important to determine the risk of ongoing transmission. The general public was urged to be vaccinated against yellow fever to protect themselves from the risk of yellow fever virus, nevertheless, an organised vaccination campaign would be the most effective response. What is concerning is that, within the four months preceding the case, there were reports of fake YF vaccination certificates being sold in South Sudan.

6. Measles: Southeast Asia, Europe, Americas

There have been multiple outbreaks of measles reported across the globe in the past months. These outbreaks have been driven by low levels of vaccination amongst those infected. In the Philippines, the incidence of measles in Western Visayas was 170 cases, and three suspected deaths recorded as of 6 December 2018. There has been an even bigger outbreak of measles among the Haredi, an ultra-Orthodox Jewish community in Israel, the UK and in the USA. This community is known to have lower immunisation coverage than the general public in all these countries. In Israel, more than 1 400 cases have been reported to date since October, with roughly 60% of those infected coming from the Haredi sector. In the UK, close to 70 members of London's Orthodox Jewish community have been infected since October 2018. In the USA, 70 cases have been reported in New York since October to date, and 18 cases have been reported in New Jersey, mostly affecting the Haredi communities in these areas. In the Americas as of 30 November 2018, a total of 16 766 confirmed measles cases, including 86 deaths, has been reported in 12 countries of the region. Incidence of measles has increased in the Americas, largely also due to low levels of vaccination and importation from countries where measles is more prevalent.

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

Figure 3. Current outbreaks 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

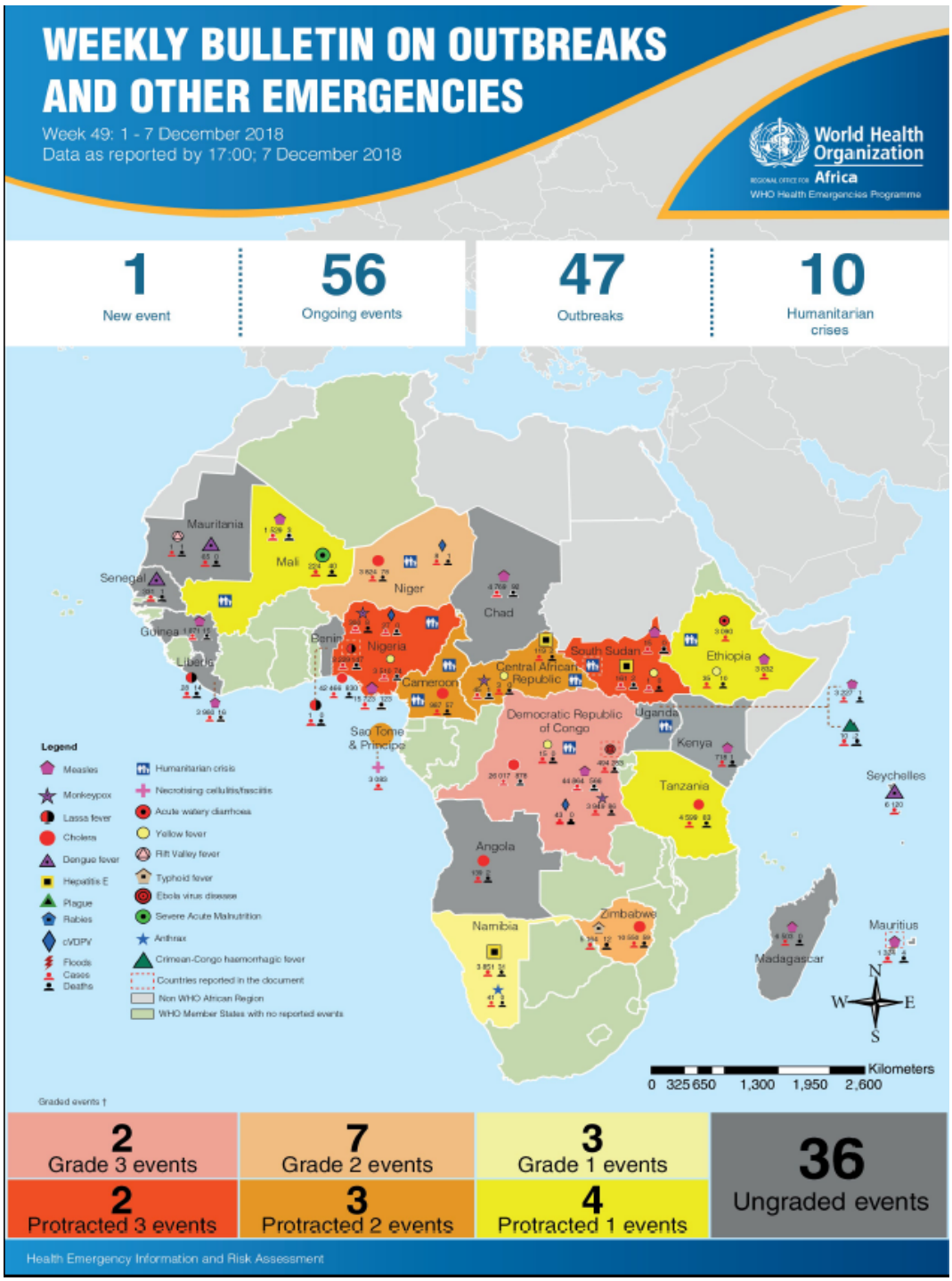

Figure 4. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 57 events. For more information see link below: http://apps.who.int/iris/bitstream/handle/10665/276677/OEW49-0107122018.pdf