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

COMMUNICABLE DISEASES COMMUNIQUÉ

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CONTENTS

Editor's Note

Dr Ann Mathews

In the October 2020 edition of the Communiqué, we present an update on the ongoing Ebola virus disease outbreak in the Democratic Republic of Congo, noting that the last case was reported on 28 September 2020, marking 19 days of no new cases as at 17 October 2020.

Seven cases of human rabies have been reported this year to date in South Africa. Further details follow in the rabies article.

No influenza activity has been noted since a single detection made in early June 2020. This follows the global trend where influenza activity has also remained lower than expected. Conversely, respiratory syncytial virus (RSV) has seen a continued increase in cases since mid-July as lockdown restrictions were eased. This increase has been seen primarily in hospitalised children under the age of five, though a later season than usual.

There have been only 37 laboratory-confirmed cases of invasive meningococcal disease (IMD) reported until end of September 2020, this being lower than that reported in the previous year.

For January to October 2020, a total of 5 701 malaria cases and 14 deaths was reported by the National Department of Health, significantly fewer than that reported in the same time period last year. This is a likely consequence of the movement restrictions imposed due to COVID-19.

Other international outbreaks of significance include anthrax in Zimbabwe, syphilis in the USA, botulism in Italy, Rift Valley fever in Mauritania and diphtheria in Vietnam, all further discussed in our 'Beyond our Borders' article.

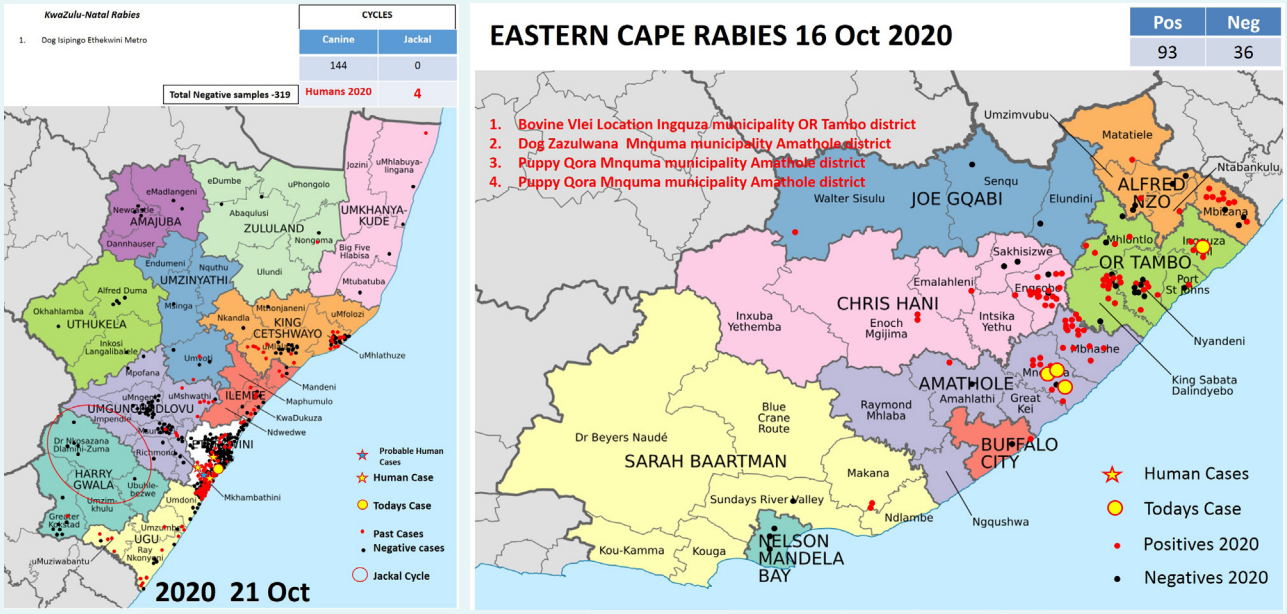
ZOONOTIC AND VECTOR-BORNE DISEASES

An update on rabies in South Africa

No laboratory-confirmed or clinically diagnosed cases of human rabies has been reported in South Africa in recent weeks. For 2020 to date, the cumulative number of human rabies related deaths is seven. This includes four laboratory confirmed cases reported from the eThekwini District of Kwazulu-Natal Province (n=3), and the Vhembe District of Limpopo Province (n=1). In addition, three probable cases were reported from Kwazulu-Natal, Limpopo and Eastern Cape provinces. Probable cases are cases with a clinical and epidemiological history consistent with a rabies diagnosis, but without laboratory confirmation.

In South Africa, rabies is endemic and cases have mostly been reported from the provinces along the east coast. In particular, Kwazulu-Natal and Eastern Cape provinces have experienced repeated outbreaks of rabies in dogs. A total of 144 rabid dogs was reported in Kwazulu-Natal Province this year as of 21 October (Figure 1). As of 16 October, 93 animals that died of rabies were identified in the Eastern Cape Province, most of which were dogs (Figure 2). The primary source of human rabies infections in Africa is dogs. Safe and effective animal and human vaccines exist to prevent human rabies deaths, while community awareness and continued education about rabies is a key factor in preventing rabies. While the global strategic plan is to end human deaths from dog-mediated rabies by 2030, one has to emphasise that achieving this goal might be difficult due to complex wildlife reservoir systems maintaining the rabies virus in nature. The Animal Diseases Act, 1984 (Act No 35 of 1984) requires owners to vaccinate their pets against rabies between the ages of 3 and 7 months, at 12 months and then every 3 years. Rabies is 100% fatal, but also 100% preventable in humans with prompt and complete post-exposure prophylaxis (PEP). Rabies PEP involves thorough wound washing with soap and water, followed by administration of the rabies vaccine, and if indicated, rabies immunoglobulin injections.

For additional information on rabies and disease prevention, please visit the NICD website: https://www.nicd.ac.za/diseases-a-z-index/rabies/



Figures 1 and 2. Canine and human rabies detection in KwaZulu-Natal (L) and Eastern Cape (R) provinces.

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

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

INTERNATIONAL OUTBREAKS OF IMPORTANCE

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

On 1 June 2020, seven cases of Ebola were reported in Mbandaka city and neighbouring Bikoro Health Zone in Équateur Province, and an 11th Ebola virus disease (EVD) outbreak in the Democratic Republic of Congo (DRC) was declared.
However, in the last 19 days, as of 17 October 2020, there have been no new confirmed cases reported in Équateur Province or in treatment centres, with the last confirmed case reported on 28 September 2020.

As of 17 October 2020, a total of 128 cases (119 confirmed and nine probable) including 53 deaths (case fatality ratio 41.4%) has been reported. The case fatality ratio among confirmed cases is 37.0% (44 deaths/119 confirmed cases). The number of health workers affected remains at three, making up 2.3% of all cases.

In the past 21 days, one health zone and one health area have remained active (27 September 2020 to 17 October 2020). Since the start of the outbreak, a total of 13 out of 18 health areas and 42 out of 284 health zones have reported at least one confirmed case of EVD. A single confirmed case, from Lusengo health area in Makanza Health Zone, has been reported in the past 21 days.

On 17 October 2020, no new contacts were listed, with only Makanza and Mbandaka reporting contacts. Out of 204 active contacts, 191 (93.6%) have been followed-up. Two contacts became symptomatic in Makanza. Six confirmed cases of EVD remain in the community, including three in Lotumbe, two in Lolanga Mampoko and one in Mbandaka, the final outcome of these patients remains undetermined.

A total of 797 new alerts (including 12 deaths) was reported on 17 October 2020. A total of 929 alerts has been recorded to date, of which 880 (94.7%) were investigated, and 304 of the 880 (34.5%) were validated. On 17 October 2020, there were 14 community death alerts, with only five safe and dignified burials performed.

A total of 38 053 people has been vaccinated since 5 June 2020. On 17 October 2020A, 320 new people were vaccinated with rVSV-ZEBOV-GP, including 127 contacts-of-contacts and 193 probable contacts; these figures include 148 first-line providers. Risk communication, mobilisation and community engagement continue.

The EVD outbreak in the DRC is currently halted, with no new confirmed cases of deaths reported in the past 19 days. Although the figures are encouraging, there are still many challenges being faced, including contacts who are lost to follow-up, confirmed cases within the community with indeterminate outcomes, and lack of community engagement in safe and dignified burials, resulting in ongoing risk of transmission. Further challenges include inadequate funding, inadequate laboratory reagents and commodities.

Continued advocacy with donors and fund agencies is required to strengthen EVD response activities. Commendably, EVD awareness activities are taking place in parallel with COVID-19 response activities, and the continuation of which will hopefully break the stigma associated with both diseases.

As of 27 October 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.

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

SEASONAL DISEASES

Influenza and respiratory syncytial virus (RSV) seasons, 2020

There has been no local influenza activity since a single detection made in early June. Globally, influenza activity has also remained lower than expected.

The increase in detections of RSV, which started in mid-July, has continued. While the proportion of detections is higher than is expected for this time of the year, it remains lower than the 10-year mean peak. RSV detections breached the low 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. MEM uses the 40th, 90th and 97.5th percentiles established from available data to calculate threshold of activity defined as below seasonal threshold, low activity, moderate activity, high activity and very high activity] among individuals of all ages at the end of September (epidemiological week 39) (Figure 3). The RSV season usually precedes the influenza season, with the usual average onset at the end of February (range early February – mid-March) over the past 10 years. The increase has mainly been in hospitalised children under the age of five, where detections crossed the seasonal threshold in early July (epidemiological week 29), and have been above threshold constantly since the last week of July, reaching moderate levels from end September (Figure 4). In children <5 years of age, detections also crossed the peak of the 10-year mean, albeit more than 20 weeks later than usual.

It is unclear whether this increase will be sustained as the timing differs from that of the usual RSV season. The highest number of positive RSV detections in a week this year has been 26, whereas up to 65 positive detections per week were made during the season in previous years. Although this is not a classical timing for RSV season, clinicians are reminded to consider RSV in differential diagnosis for severe respiratory illness, especially in young children.

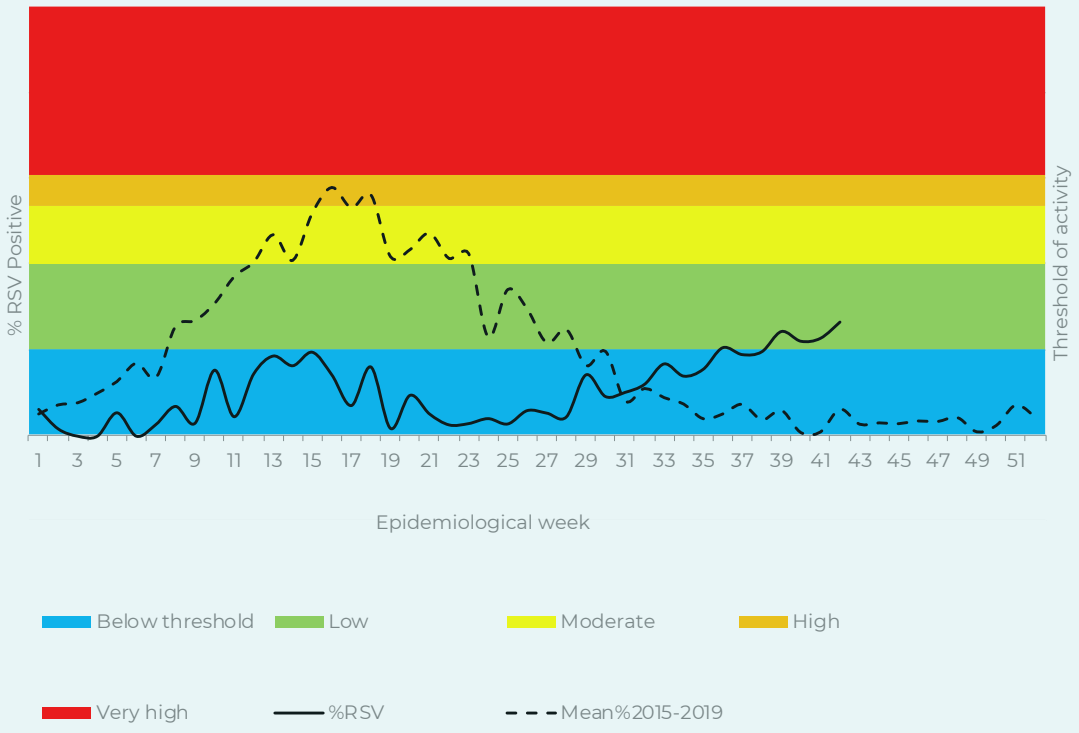


Figure 3. Respiratory syncytial virus detections (percentage positive) and threshold of activity by epidemiological week, all ages, pneumonia surveillance, South Africa, 01-January-2020-18 October 2020

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

SEASONAL DISEASES

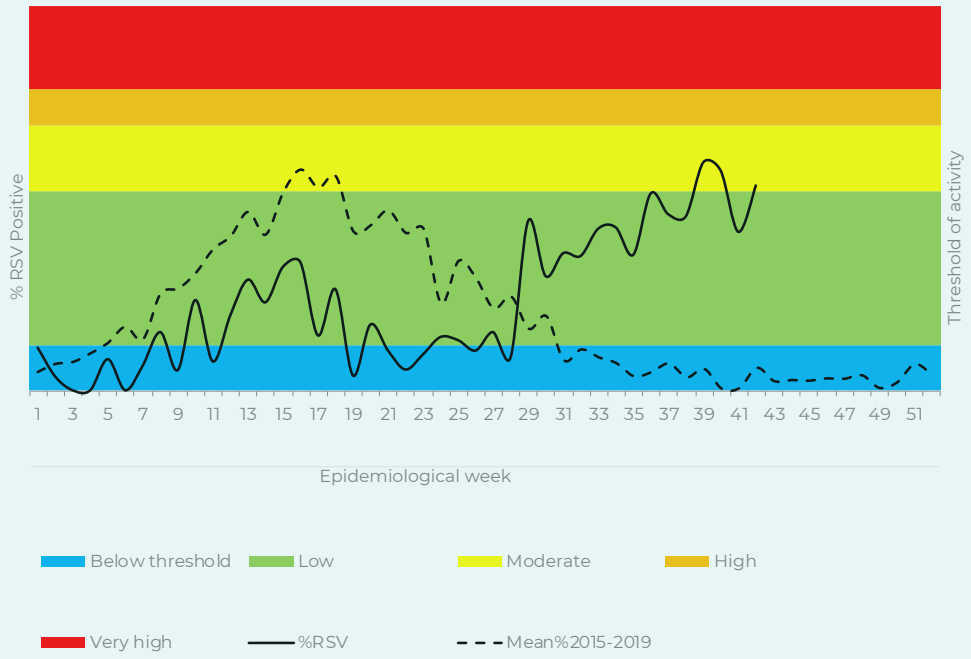


Figure 4. Respiratory syncytial virus detections (percentage positive) and threshold of activity among patients aged <5 years by epidemiological week, pneumonia surveillance, South Africa, 01-January-2020-18 October 2020

Meningococcal disease

Invasive meningococcal disease surveillance update – January to September 2020

In 2020, invasive meningococcal disease (IMD) cases have been occurring infrequently with only 37 laboratory-confirmed cases being reported until end of September 2020 (compared to 82 episodes over the same period in 2019). Marked reductions in cases were seen since March, following implementation of social distancing and other containment measures aimed at reducing SARS-CoV-2 transmission (Figure 5).

Neisseria meningitidis, the causative organism in meningococcal disease, is spread from person-to-person via respiratory droplets of asymptomatic carriers. New acquisition of a virulent strain of meningococcus, followed by invasion of the organism into the bloodstream may lead to sudden onset of severe illness – including septicaemia or meningitis. Therefore, as lockdown measures are relaxed and more contact is made with other individuals, there is potential for an increase in respiratory transmitted infections, including invasive meningococcal disease.

A small increase in sporadic cases of IMD was detected in the Western Cape Province in September 2020. Five of these six cases occurred in children <5 years, and 4 of the 5 available isolates were serogroup B, one was serogroup W. The Western Cape Province has seen the majority of IMD in 2020 (20/37 cases, 54%), followed by Gauteng (7/37, 19%), Eastern Cape (6/37, 16%), KwaZulu-Natal and Mpumalanga provinces (2 cases each, 5%). Of the isolates available for serogrouping, serogroup B was predominant (16/28, 57%) followed by serogroups W (7/28, 25%), Y (3/28, 11%) and C (2/28, 7%). IMD was most prevalent in young children, with 43% (16/37) of cases occurring in children <5 years.

Clinicians should remain vigilant in suspecting meningococcal disease in persons presenting with sudden onset of fever, neck stiffness or petechial rash, to ensure rapid access to appropriate care and treatment. Meningococcal disease has the potential to cause clusters and outbreaks and thus is a category 1 notifiable medical condition (NMC). Any clinically suspected or laboratory confirmed case of meningococcal disease should be reported immediately to the provincial communicable disease control coordinators (CDCC) to ensure appropriate contact tracing, responsible prescribing of chemoprophylaxis and case counting.

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

SEASONAL DISEASES

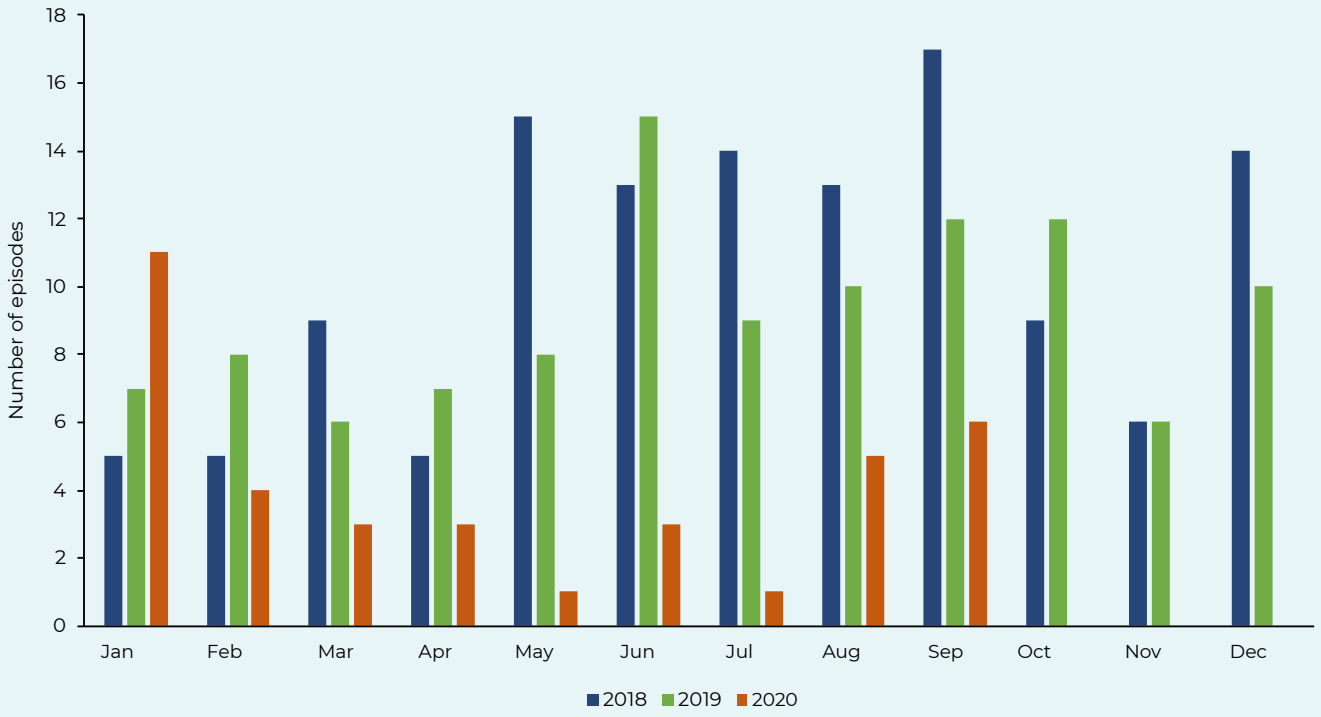


Figure 5. Number of invasive meningococcal disease cases reported to the GERMS-SA surveillance programme by month and year, January 2018 through September 2020, N=272

Malaria

Malaria cases in South Africa are expected to increase as we enter summer, due to higher temperatures and increased rainfall in the malaria transmission areas. For January to October 2020, a total of 5 701 cases and 14 deaths have been reported by the National Department of Health. This is significantly fewer than for the same period in 2019 (around 12 000 cases with 63 deaths) and may be a consequence of COVID-19 related movement restrictions.

During the upcoming holiday season, many people will be exposed because of their travel to higher transmission areas, both internally and outside the country borders, particularly in Mozambique (see updated malaria risk map). In the last few years, there has been some expansion of low or very low malaria transmission to some districts previously regarded as non-malaria areas in South Africa, such as the Waterberg District in Limpopo Province. People who are planning to travel are urged to take adequate measures to protect themselves from malaria. All people in malaria risk areas should reduce contact with mosquitoes by limiting outdoor activity after dark, covering up bare skin (not forgetting feet and ankles), using mosquito repellents containing at least 10% DEET, ensuring mosquito screens on windows are closed, and using bednets, fans or airconditioning, if available. Consider antimalarial prophylaxis in higher risk areas – doxycycline and atovaquone-proguanil are available without prescription from pharmacies. Public sector travel clinics will also supply prophylaxis to travellers. It is important to understand that while these precautions will substantially reduce the chance of acquiring malaria, the risk is never completely abolished.

All travellers returning from malaria transmission areas, including very low risk ones, should report 'flu-like illness (headache, fever, chills, fatigue, muscle and joint pain) that occurs up to three weeks after first potential exposure, in case it is malaria. Children with malaria may have very non-specific signs (fever, loss of appetite, vomiting). Healthcare workers seeing febrile patients must remember to ask about travel to malaria transmission areas. Malaria risk map, FAQs and further information on prevention are available on the NICD website: www.nicd.ac.za.

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

Anthrax: Zimbabwe

The Provincial Development coordinator of the Civil Protection Unit (CPU) confirmed that at least two people were admitted with anthrax symptoms in the week of 12 October 2020. This occurred in the city of Chipinge, in Manicaland Province, Zimbabwe, where officials from the Division of Veterinary Services in the Ministry of Agriculture moved into rapid action dispatching a response team to vaccinate local livestock. The outbreak has reportedly claimed dozens of cattle in Chipinge rural. The threat to human life is heightened by suspicion that local butcheries are stocking the infected beef for resale. This problem is further compounded by ongoing social economic difficulties in Zimbabwe which have, in some cases, caused hunger-stricken locals to consume beef from ailing cattle.

The situation is now thought to be under control following the rapid response, which included educating the population on anthrax as well as vaccinating livestock. The provincial response emphasised the importance of constant surveillance of disease as well as collaborative efforts with local structures and other departments (in this case the veterinary department, which aided in identifying hotspots). The outbreak has extended to at least four other cities in the province, where 15 cattle have perished. Chipinge District is a designated anthrax zone where the movement of cattle is prohibited and livestock receive annual vaccination to curb the spread of disease. The annual vaccination is now due and aims to target 87 000 cattle, a significant rise from the 14 000 vaccinated last year. However, due to logistical difficulties in rounding up all local cattle, gaps are anticipated in the annual vaccinations.

Syphilis: USA

In addition to battling the coronavirus 2019 (COVID-19) pandemic and pre-emptively preparing for the onset of flu season, health officials in south-central Oklahoma, USA, are battling an outbreak of syphilis. According to data from the state department of health's sexual health and harm-reduction service, between 2014 and 2018, Oklahoma has experienced a more than eight-fold increase in the number of syphilis cases amongst women. In addition, they have seen nearly 3 times more babies born with congenital syphilis.

In Carter County, near the Texas border in central Oklahoma, public health officials are still experiencing severe outbreaks despite mitigation efforts. Carter County is home to Ardmore, one of the state's worst-hit areas in the opioid epidemic. Public officials have seen a burgeoning influx of heroin, which many attribute to a crackdown on opioid distribution. It is thought that the surge in drug use has likely caused the rise in the county's syphilis diagnosis, as dealers often accept sex in lieu of cash payments. Response to the syphilis outbreak, much like the COVID-19 response, requires contact tracers and infection specialists. Due to the needs of the pandemic, these resources have been diverted to COVID-19 response, resulting in an impaired response to the syphilis outbreak. The linkage of illicit drug use and syphilis transmission is reminiscent of the increase in syphilis among heterosexuals during the crack cocaine epidemic of the 1980s and 1990s, when the practice of trading sex with multiple partners for drugs, especially crack cocaine, played a major role in the transmission of syphilis. Under these circumstances, the identities of sex partners are often unknown, which weakens the traditional syphilis-control strategy of partner notification.

Botulism: Italy

More than 30 people have required hospital treatment for suspected botulism intoxication in Cefalu, a city in northern Sicily, Italy. The patients were all workers of the same company and initial investigations point towards a shared meal of a salad containing tuna, tomato and mozzarella, resulting in a total of 35 people presenting to their local emergency department (ED) for aid.

Currently, 24 patients are admitted with seven requiring intensive care. Samples were taken from patients in the ED and sent for laboratory confirmation at the Instituto Superiore di Sanita in Rome. Patients who have been discharged (currently 10 in total) have been monitored via telephonic follow up by the Poison Control Centre. In a statement released to Italian media, the company said that it had provided assistance for hospitalised employees as well as their families. In addition to the internal investigations being conducted by the company, external investigations into the catering company are also being facilitated by health officials in Palermo as well as by local police. Interestingly, data from the National Reference Centre for Botulism (CNRB) marks Italy as the capital of botulism cases in Europe.

BEYOND OUR BORDERS

Rift Valley fever: Mauritania

The Mauritanian government has reported three deaths (from a total of five identified cases) due to a haemorrhagic fever known as Rift Valley fever. The Ministry of Health, as well as the Ministry of Rural Development, reported that there were also several cases in livestock. The two ministries also confirmed that directives had been issued to the surveillance teams and control measures had been put in place after the announcement of the first case. These measures included assisting technical teams with tools to assess the situation as well as to ensure the readiness of team members in facing emergency situations. The ministries also advised the public to follow precautionary measures including, heating milk before consumption, properly cooking meat, isolating animals from human housing, washing hands with soap after touching animals, burning and burying dead animal bodies and sleeping under mosquito nets. Reporting of any suspect cases as well as early presentation to a health facility was also encouraged.

Diphtheria: Vietnam

The United States Centers for Disease Control and Prevention (CDC) issued a travel notice recently for Vietnam due to a diphtheria outbreak. Provincial health authorities have reported 198 cases since the beginning of 2020. This compares to 41 cases during the same period in 2019. Of the 198 cases, 172 have been reported in the Central Highland region, 22 cases in central provinces and four cases in southern provinces. Four deaths have been reported, and 161 out of the 198 cases were unvaccinated.

The World Health Organization surveillance data estimates the diphtheria-tetanus-pertusis (DTP3) coverage to have been 75% in 2018. This is lower than the estimated 90% in the preceding four years. In response to the outbreak, the Vietnam Ministry of Health has launched a vaccination campaign for affected provinces and implemented further measures to control the spread of the disease.

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.

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

WHO AFRO UPDATE

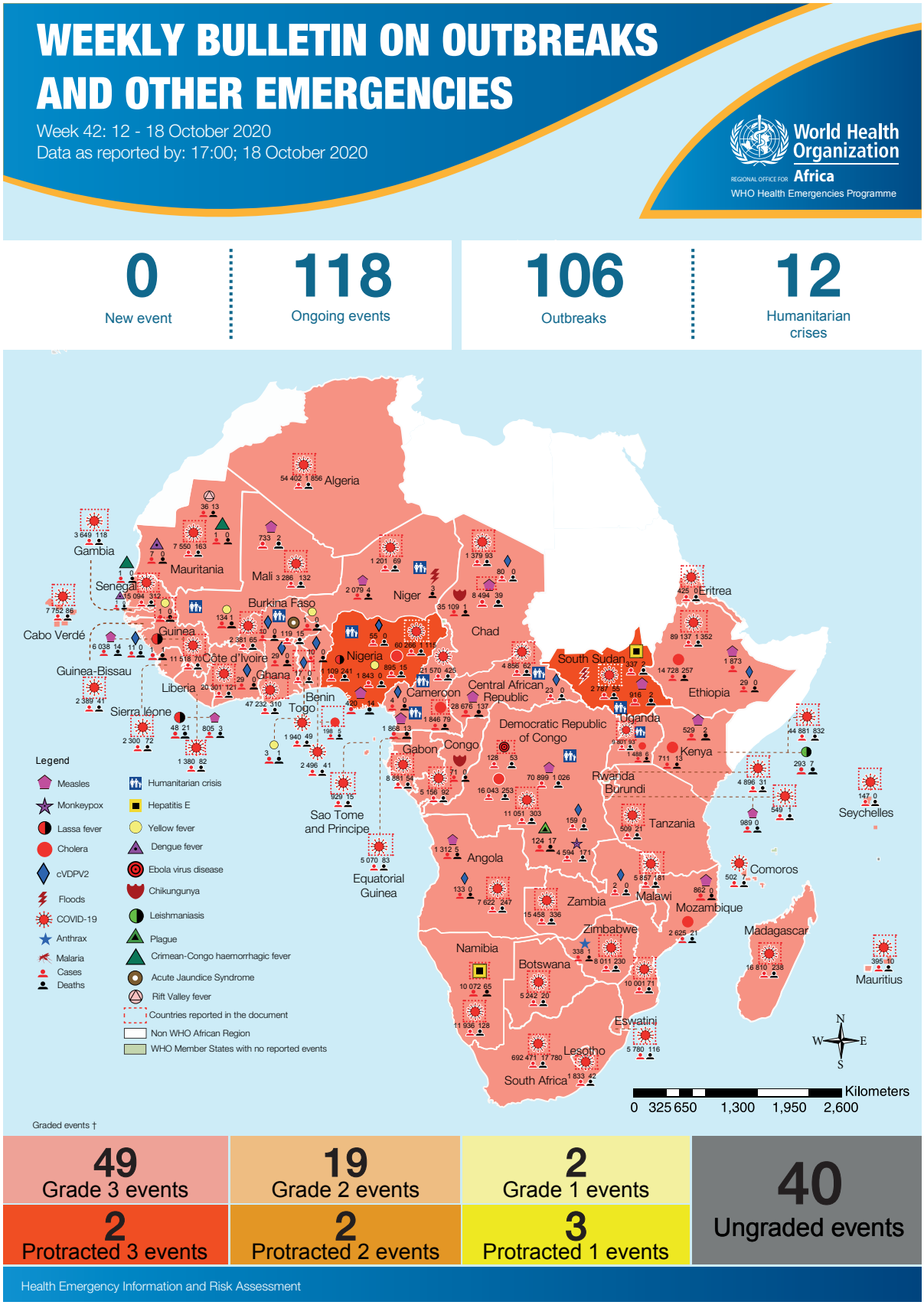


Figure 7. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 118 events. For more information see link below:
https://apps.who.int/iris/bitstream/handle/10665/336161/OEW42-1218102020.pdf

The Communicable Diseases Communiqué offers up-to-date information regarding communicable diseases in South Africa and abroad. It forms part of the NICD's key mandate of disease surveillance, outbreak response and research on communicable diseases. The publication is released on a monthly basis and can be accessed via the NICD website on http://www.nicd.ac.za/publications/internal-publications/

Responsible Authority
National Institute for Communicable Diseases

Editing and Publishing
NICD Division of Public Health Surveillance and Response
NICD Communications Unit
Tel: 011 386 6400
Email: outbreak@nicd.ac.za