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EDITORIAL

The salient event on the communicable disease front this month is the declaration by the World Health Organization (WHO) International Health Regulations Emergency Committee that the Ebola virus disease (EVD) outbreak in the Democratic Republic of the Congo (DRC) constitutes a public health emergency of international concern (PHEIC). This decision will facilitate improved access to funding, and galvanise stakeholders including neighbouring countries to support a strengthened response to the outbreak. The South African Department of Health has an Ebola preparedness plan in place, which details roles and responsibilities of multisectoral preparedness activities. In addition, a number of simulations and training events have

been held to better equip frontline clinicians and communicable disease officials.

In addition to a report on EVD, this Communiqué includes a detailed article on the influenza season, progress on implementation of the notifiable medical conditions surveillance system, a summary of the NICD GERMS-SA surveillance review meeting, and the regular updates on rabies and seasonal meningococcal disease.

As usual, we include the WHO-AFRO infographic on public health and humanitarian events in the AFRO region.

1 NOTIFIABLE MEDICAL CONDITIONS SURVEILLANCE SYSTEM (NMCSS)

a Progress on the implementation of the new NMCSS

The Notifiable Medical Condition Surveillance System (NMCSS) is a passive surveillance system, which requires regular collection and reporting of disease data by all institutions. It relies on the co-operation of healthcare providers: clinicians, laboratories (public and private), and medical schemes to report Notifiable Medical Conditions (NMCs) that are diseases of public health importance. The new enhanced NMCSS has two reporting platforms: a real-time NMCSS electronic application (App) and a paper-based system. In 2018, the NMCSS electronic App was officially launched and rolled-out in the following provinces: Gauteng, Limpopo, Free State, KwaZulu-Natal (KZN) and North West. However, the other four provinces have been training and using the NMCSS electronic App without an official launch (Figure 1).

KwaZulu-Natal Province launched the NMCSS electronic App in August 2018, and there has been a gradual increase in the number of clinical cases reported using the electronic platform. Of the 759

clinical cases notified using the NMCSS electronic App in May 2019, 46% (n=349) were from KwaZulu-Natal, 22% (n=166) from Gauteng and 16% (n=120) from North West provinces. The success of the implementation of the App in KZN is because the NMCSS electronic App is linked to the KZN departmental intranet for easy access in public health facilities. Although Mpumalanga Province has not officially launched the App, there are clinical cases being reported using the NMCSS electronic App. This is because Mediclinic private hospital group has made the NMCSS App link nationally accessible through their intranet. The use of the NMCSS electronic App allows for timely reporting of NMCs. The data collected timeously and completely is crucial to the success of any surveillance system. Healthcare providers should be encouraged to use the NMCSS electronic App, and other provinces should be encouraged to follow KZN's strategy.

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

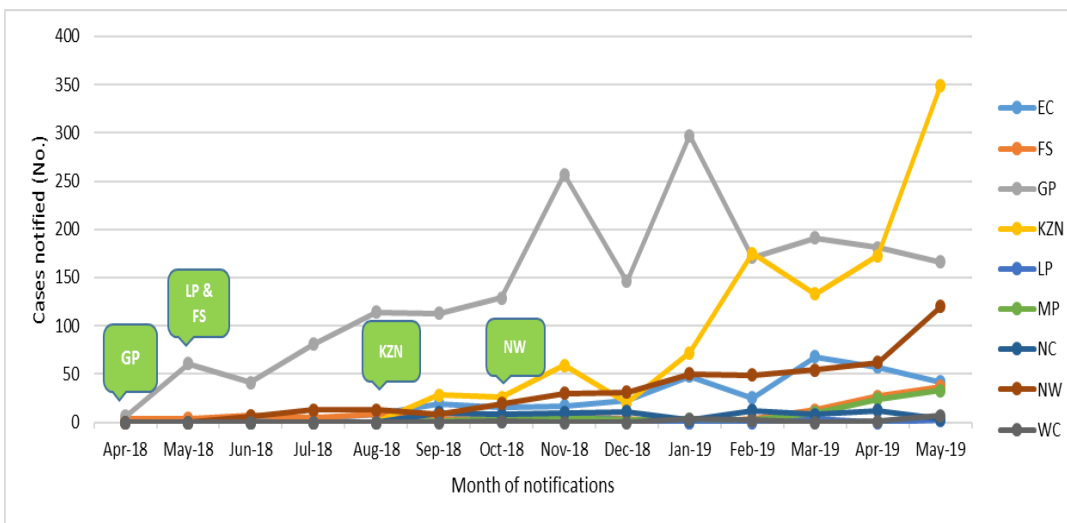


Figure 1. Distribution of NMCSS electronic App utilisation by provinces, April 2018 to May 2019

The callout figures are when the provinces launched the NMCSS electronic App

2 ZOO NOTIC AND VECTOR-BORNE DISEASES

a An update on rabies in South Africa

A total of eight cases of human rabies has been laboratory confirmed in South Africa for 2019 to date. Among these cases, three cases have been confirmed since our previous report, all originating from KwaZulu-Natal Province. Previous cases confirmed in 2019 were reported from Limpopo (n=2) and Eastern Cape (n=3) provinces. In addition, two probable cases were also reported during the course of 2019 to date. Probable cases include cases with clinical and exposure histories compatible with a diagnosis of rabies, but with the absence of laboratory confirmation (for example when samples are not available for testing). These cases were reported from KwaZulu-Natal (n=1) and Eastern Cape

(n=1) provinces.

In June 2019, a 38-year-old man died in a Durban hospital following a short illness. He presented with neurological dysfunction and behavioural changes (including anxiety, agitation, confusion and aggressive behaviour). The patient was reportedly bitten by a dog in the Tongaat surrounds three months prior to his illness. Rabies was confirmed following testing of post-mortem collected brain samples. A second confirmed case involved a 4-year-old boy who was scratched on his cheek by a stray dog in the Ekunqobeni area in Stanger while playing with other children in March 2019. He presented with

fever and vomiting, followed by anxiety, aggression, agitation, confusion, delirium with periods of lucidity, clenching jaws, dysphasia, possible hydrophobia, and autonomic instability. He eventually died in hospital in the second week of July. This case was confirmed by testing of ante-mortem collected cerebrospinal fluid and saliva samples by reverse transcription PCR. The third case involved a 17-year-old teenager from Ezingolweni, which is near the border with Eastern Cape Province. The patient was bitten on the leg by a neighbour's dog prior to illness. The patient died in hospital after presenting with bloody vomiting, headache, hydrophobia, hysteria and confusion. Rabies was confirmed on post-mortem collected brain samples.

The increase in the number of human rabies cases in areas of the Eastern Cape and KwaZulu-Natal provinces relates to an increase in the number of

dog rabies cases reported in these provinces. The public is urged to ensure that the rabies vaccination schedules for their pets are up-to-date, and that medical intervention is sought post-exposure to a potentially rabid dog or other animal (please note that domestic cats and other domestic and wildlife species in South Africa may also transmit the virus). Rabies virus infection can be effectively prevented if post-exposure prophylaxis is provided promptly and in accordance with national recommendations. For more information on rabies post-exposure prophylaxis and rabies in South Africa, please visit www.nicd.ac.za.

Source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS; KwaZulu-Natal Department of Health, Communicable Disease Control; januszp@nicd.ac.za

3 INTERNATIONAL OUTBREAKS OF IMPORTANCE

a Ebola virus disease outbreak, Democratic Republic of Congo and Uganda

On 1 August 2018, the Ministry of Health of the Democratic Republic of the Congo (DRC) declared the 10th outbreak of Ebola virus disease (EVD) in the country, affecting North Kivu and Ituri provinces in the northeast. This is the largest-ever outbreak reported in the country, and the world's second largest in history. As of 23 July 2019, 2 612 cases, and 1 756 deaths have been recorded in the two provinces. Sustained local transmission continues to be observed in the Beni health zone, along with exportation of cases from Beni to other health zones via the movement of cases and their contacts. Since the start of the outbreak, 171 052 people have received the only approved vaccine for this outbreak, which is the Merck rVSV-ZEBOV. Screening continues at 80 official points of entry with 77 196 601 people having been screened to date.

Since the last update, a confirmed case of EVD was reported from the eastern city of Goma, close to the Rwandan border in the DRC. Goma is a major transport hub in the DRC, linking the DRC internally and with the rest of Africa. The case, who has since demised, was a pastor who had travelled 200 km to Goma by bus from Butembo, where he had offered prayers and counselling to EVD patients and their families. The pastor and his mother had been transported to the healthcare facility in Goma by bikers, who have since been identified, vaccinated and are undergoing the 21-day contact follow-up. Intensive follow-up of contacts of the confirmed case continues and as the case was identified and contained rapidly, there have not as yet been any secondary cases.

In addition, Ugandan Ministry of Health (UMoH) are conducting intensive contact tracing efforts to find contacts of a patient who died at the Beni Ebola Treatment Centre (ETC). The case, who was a trader, spent a day in Kasese district in Uganda buying goods for sale back in the DRC. To enter Uganda, the case did not use a formal entry point where

there is a health check point, so health teams were not able to detect her. However, after her admission to the Beni ETC, she informed the medical teams of her trip to Kasese and the teams then alerted Ugandan authorities. During her visit to the market, she vomited four times, increasing the risk of contamination of people who had been in direct contact with her. The UMoH and World Health Organization (WHO) have launched an investigation in Kasese to identify all contacts and vaccinate them.

Almost a year after the ongoing outbreak was declared, the WHO's International Health Regulations (IHR) (2005) Emergency Committee (EC), on its fourth sitting since the beginning of the outbreak, declared the outbreak a Public Health emergency of International Concern (PHEIC) on 17 July 2019. Under IHR (2005), the decision to declare an outbreak or any health event a PHEIC considers the four following questions: (1) Is the public health impact of the event serious? (2) Is the event unusual or unexpected? (3) Is there a significant risk for international spread? (4) Is there a significant risk for international travel and trade restrictions? In its announcement of the PHEIC, the EC stated that the outbreak is a regional emergency, and by no means a global threat. The PHEIC was declared without restrictions on trade or travel but with the need for intensified and coordinated action to manage the outbreak.

The implications for South Africa are that the risk of spread of Ebola to South Africa remains low according to risk assessments conducted by the Department of Health, National Institute for Communicable Diseases (NICD) and WHO. Currently, there are no EVD cases in South Africa, nor are there any suspected cases under investigation.

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

4 SEASONAL DISEASES

a Influenza

The 2019 South African influenza season, which started towards the end of April, has started to decline (Figure 2). Transmission of influenza measured using the Viral Watch programme has declined to a low level, and impact measured using the pneumonia surveillance programme has reduced, and is currently below the seasonal threshold. Levels of transmission and impact are determined by the Moving Epidemic Method (a sequential analysis using the R Language, available from: <http://CRAN.R-project.org/web/package=mem>) by comparing observed levels of influenza to those seen in previous years. For the period ending 14 July 2019, 946/1 028 (92%) of influenza-positive samples for this season, detected by three surveillance programmes, have been identified as influenza A (H3N2), and 60/1 028 (6%) have been identified as influenza A(H1N1)pdm09. Influenza A(H3N2) and influenza A(H1N1)pdm09 are seasonal influenza virus strains that are common in human populations. Influenza A(H1N1)pdm09, which is sometimes incorrectly referred to as 'swine flu', has become one of the normal seasonal influenza strains following its emergence in 2009. The term 'swine flu' should not be used because this term refers to an infection of pigs, and influenza A(H1N1)pdm09 is a normal seasonal influenza strain. The clinical course of infection with this strain of influenza is similar to that of infection with other seasonal influenza strains. Clinical management of patients infected with this strain is the same as for the other seasonal strains. The latest NICD influenza surveillance reports, published weekly during the season and monthly outside the season can be found at: <http://www.nicd.ac.za/publications/internal-publications/>

As is expected during the influenza season, there has been a marked increase in cases of influenza in the community as well as people seeking care for influenza-like illness at healthcare facilities. Earlier in the influenza season, there were a number of clusters of influenza cases in schools, which is not uncommon as children are important transmitters of influenza. Government schools recently closed for the June school holidays, and the decrease in cases and reduced numbers of reported school clusters in the past few weeks may be related to many schools having been closed. Most government schools have just returned from June school holidays. In South Africa, we commonly observe a second increase in influenza circulation following the main peak, but this usually reaches lower levels than the initial peak.

In the vast majority of persons, influenza is an uncomplicated illness that is characterised by sudden onset of constitutional and respiratory symptoms such as fever, myalgia, cough, sore throat, rhinitis and headache. Occasionally, there may be atypical presentations such as gastrointestinal symptoms (nausea, vomiting and/or diarrhoea); these are more common in children than adults.

Although the majority of people with influenza will present with mild illness, influenza may cause severe illness or complications, which may require hospitalisation, intensive care unit admission or may lead to death, especially in individuals who are at risk of getting severe influenza complications. These complications include viral pneumonia, secondary bacterial or viral infections (including pneumonia, sinusitis and otitis media), and exacerbations of underlying illnesses (e.g. pulmonary and cardiac illness). Groups at increased risk of severe complications of influenza include pregnant women, HIV-infected people, people with chronic illnesses (or conditions like diabetes, lung disease, tuberculosis, heart disease, renal disease, obesity), the elderly (65 years and older), and children less than two years old. These groups should be encouraged to seek medical help early.

Influenza vaccination

Influenza vaccine remains the primary means for preventing seasonal influenza infection. Vaccine should ideally be administered before the influenza season, from March to April. Although we are in the midst of the influenza season, it is not too late to vaccinate, especially if you have an underlying condition which increases your risk of severe illness. This is because most years, more than one strain of influenza circulates during the season. The annual seasonal influenza vaccine contains strains corresponding antigenically as closely as possible to the three seasonal influenza strains prevalent in human populations: influenza B, influenza A(H1N1)pdm09 and influenza A(H3N2). A protective antibody response takes about two weeks to develop, therefore the vaccine cannot prevent infection that may already be incubating or acquired during that period. Groups at risk of severe influenza complications should be prioritised to receive the vaccine.

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

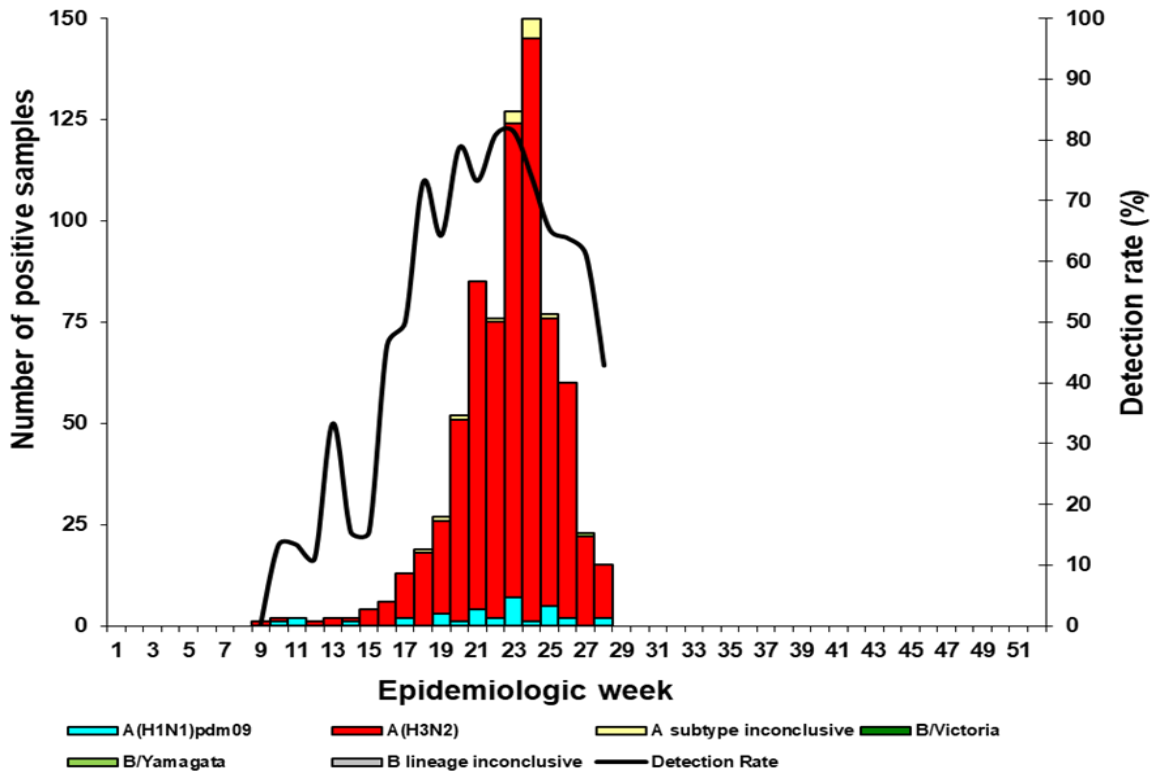


Figure 2. Number of positive samples by influenza types and subtypes and detection rate* from the Viral Watch programme, South Africa, 2019

*Only reported for weeks with >10 specimens submitted.

Inconclusive: insufficient viral load in sample and unable to characterise further

Patients known to have acquired influenza abroad or from contact with travellers are not included in the epidemiological curve.

b Invasive meningococcal disease surveillance update: January to June 2019

Although invasive meningococcal disease occurs throughout the year, disease typically peaks in the winter through spring months. Clinicians should be mindful of the possibility of meningococcaemia or meningococcal meningitis in patients presenting with fever, body aches and/or neck stiffness; particularly in the presence of rapidly deteriorating clinical signs. Suspected meningococcal disease is a Category 1 notifiable medical condition. Clinicians should communicate telephonically with their provincial communicable disease control coordinators to report suspected cases, ensure rapid mobilisation of contact tracing and provision of chemoprophylaxis to close contacts.

Up until week 24 (ending 15 June 2019), 50 cases of laboratory-confirmed, invasive meningococcal disease were reported through the GERMS-SA national surveillance programme. This is similar to the 49 cases reported for the same period in 2018 (Figure 3). Most cases were from the Western Cape (n=15) and Gauteng (n=14) provinces, followed by the Eastern Cape and KwaZulu-Natal (8 each), Free State (n=3), Limpopo (n=1) and Mpumalanga

(n=1) provinces. Serogroup was confirmed in 39/50 (78%) cases, with serogroup B the most predominant (n=15), followed by serogroups Y (n=11), W (n=9) and C (n=4).

Most cases were in children <1 year of age (9/50), with a small increase noted amongst all age categories >10 years (Figure 1). The shift in age distribution may be as a result of an increased relative prevalence of serogroup Y which is known to affect older individuals.

As part of ongoing surveillance, the Centre for Respiratory Diseases and Meningitis (CRDM) at the NICD offers meningococcal isolate confirmation/serogrouping and *Neisseria meningitidis* detection by PCR of culture-negative/autopsy cases, free of charge. For more information, please contact the CRDM laboratory at the NICD, 011 555 0327.

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

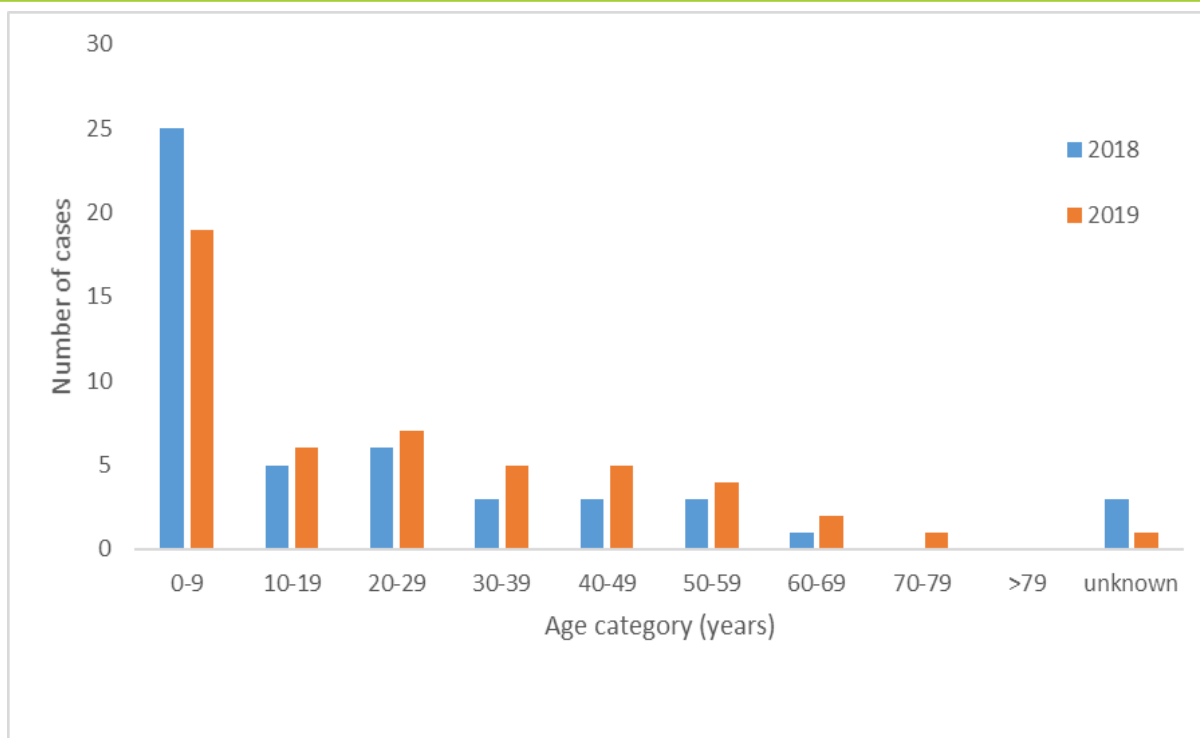


Figure 3. Number of cases of invasive meningococcal disease reported to the GERMS-SA surveillance programme by age category, up to week 24, 2018 (n=49) and 2019 (n=50).

5 GERMS-SA

a Summary of the GERMS-SA surveillance review meeting

On 16 to 17 July 2019, GERMS-SA hosted their 15th surveillance review meeting (also known as the GERMS-SA Principal Investigators' (PIs) Meeting) at the NICD, Sandringham. Various PIs and other stakeholders from all nine provinces of South Africa represented sites that participate in the surveillance programme. The theme was to integrate laboratory and clinical surveillance for public health action by focusing on the following objectives:

- To feed back surveillance programme results and prioritise publications in peer-reviewed literature;
- To update stakeholders on new planned projects linked to or nested within the surveillance programme;
- To reassess surveillance impact by ensuring that surveillance data are feeding into public health policy updates, and that the surveillance programme is representative of South Africa (all provinces, rural/urban, tertiary/secondary sites).

Dr McCarthy (Head of the Division of Public Health Surveillance and Response (DPHSR)), opened the meeting by highlighting the power of surveillance

since the inception of GERMS-SA, and the strategic vision for DPHSR to strengthen NICD's contribution to the National Development Plan 2030. Featured speakers and attendees openly shared opinions/thoughts, challenges and recommendations on current/future projects. Some of the topics discussed included 'Key highlights from rifampicin-susceptible TB', 'A global perspective of neonatal sepsis in low and middle-income countries (LMICs)', 'Neonatal sepsis outbreaks', 'Baby GERMS', 'Pertussis update and case definitions', and 'CAST-NET surveillance update and link with GERMS'.

The targeted objectives of the meeting were achieved. GERMS-SA would like to thank the organisers, attendees and guest speakers for being part of the surveillance review meeting (Figure 4). Your support and care matters a lot!

Source: GERMS-SA, Division of Public Health Surveillance and Response, NICD-NHLS; (vanessaq@nicd.ac.za)



Figure 4. GERMS-SA surveillance review meeting, 16-17 July 2019

6 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 5 on page 8.

1. Measles: USA, DRC, Nigeria, New Zealand, Australia

Measles is targeted for elimination by 2020 in five WHO regions. Strategies currently being used to reduce measles include vaccination of children, and mass immunisation campaigns in areas with low vaccination coverage. Vaccine hesitancy, war, unstable governments, poverty, and weak healthcare systems have been cited as causes of low vaccine coverage. For a community to be protected from measles, 95% of the population needs to be vaccinated (herd immunity); however, in 2019, data have shown that this is not being achieved. Since January 2019, measles outbreaks have been reported in several countries including the Democratic Republic of the Congo (DRC), Ethiopia, Georgia, Kazakhstan, Kyrgyzstan, Madagascar, Myanmar, Philippines, Sudan, Thailand and Ukraine, causing many deaths, mostly among young children.

Since the start of 2019 to date, 170 countries have reported 112 163 measles cases to WHO. As of this time last year, there were 28 124 measles cases from 163 countries. Globally this is almost a 300% increase. DRC has reported that 95 335 suspected cases of measles were notified since the beginning of 2019, with 1 562 reported deaths. Cases have also been reported in 23 out of the 26 provinces in

the DRC. In the United States of America (USA), 30 states have reported confirmed measles cases. In Nigeria, there is a reported measles outbreak which is said to have begun in May 2019, with the Wusar community reporting that there have been 100 deaths in children aged between two and three years in the past two months. The extent of the outbreak is yet to be verified, and as of 23 July, a team has been sent by the Nigerian ministry of health to assess the situation. In New Zealand, a confirmed measles case was reported on 1 July and as at 2 July, 28 susceptible, exposed and/ or suspected individuals had been isolated in their homes. A total of 29 cases of measles has also been reported in Victoria, Australia, and Victoria's chief health officer has informed travellers of the measles risk.

2. Poliomyelitis: Afghanistan, Pakistan, DRC, Nigeria

In 2019 to date, 56 wild poliovirus type 1 cases have been reported in two of the three countries in which polio is endemic, namely, Afghanistan (11 cases) and Pakistan (45 cases). In this same time period, 38 circulating vaccine-derived poliovirus (cVDPV) cases have been reported, 12 of which are in Nigeria where polio is endemic. The other cVDPV cases have been reported in eight non-endemic countries, with DRC reporting the largest number

of cases (11 cases). Presently, polio preventive measures that are in place include routine early childhood vaccination, supplementary vaccination and population education. Polio is targeted for elimination.

3. Mers Co-V: Saudi Arabia

Middle East respiratory syndrome (MERS) is a respiratory disease caused by a novel zoonotic coronavirus (MERS-CoV) that was first identified in Saudi Arabia in 2012. Though 80% of MERS-CoV cases have been reported in Saudi Arabia, cases have also been reported in 27 other countries. Since 2012 to date, 2 449 cases of MERS-CoV have been reported globally, with 845 deaths (CFR of 34.5%). With the Hajj (annual Islamic pilgrimage to Mecca) taking place in Saudi Arabia, there is a risk of Hajj attendees contracting and transmitting the virus. Though there is no active surveillance of the virus in South Africa, there is a need for awareness in both the travellers and in health facilities, as 4 000 South Africans are expected to be travelling to Saudi Arabia for the Hajj from July to August 2019. There is no vaccination available for MERS-CoV, however, maintaining good hygiene practices such as handwashing, avoiding contact with animals, especially animals that are sick, eating properly cooked meat and avoiding drinking raw camel milk, may prevent people from contracting the disease.

4. Hepatitis A: USA

There have been widespread hepatitis A outbreaks in multiple states in the United States of America since March 2019. To date, 22 295 cases have been reported, with 3 184 (59%) hospitalisations and 216 deaths (1% case fatality). The states that are most affected by the outbreak include Florida (2 526 cases), Indiana (1 792 cases), Kentucky (4 777 cases), Ohio (1 983 cases) and West Virginia (2 528 cases). California and Utah have declared an end to their outbreak. Cutbacks in public healthcare infrastructure and inability of the state to deal with marginalised populations are suspected to be underlying causes of these outbreaks, which, up until now, have been mostly reported in developing countries. Hepatitis A is a virus which is spread via the faecal-oral route from contaminated food or water. Symptoms of hepatitis A include fever, vomiting, abdominal pain and jaundice. The public health response to these outbreaks include increasing public awareness via public health resources and education, and vaccinating people that have a high risk of contracting the disease.

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

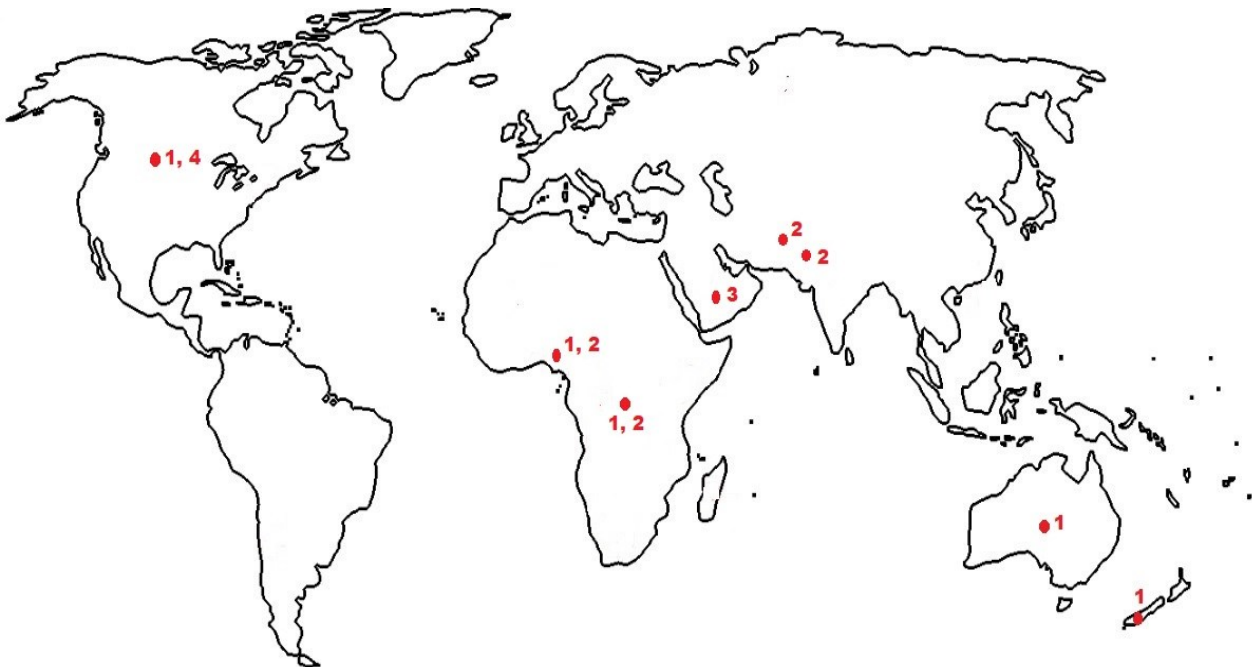


Figure 5. Current outbreaks/ events that may have implications for travellers. Numbers correspond to text above. The red dot is the approximate location of the outbreak or event.

7 WHO-AFRO: OUTBREAKS AND EMERGENCIES

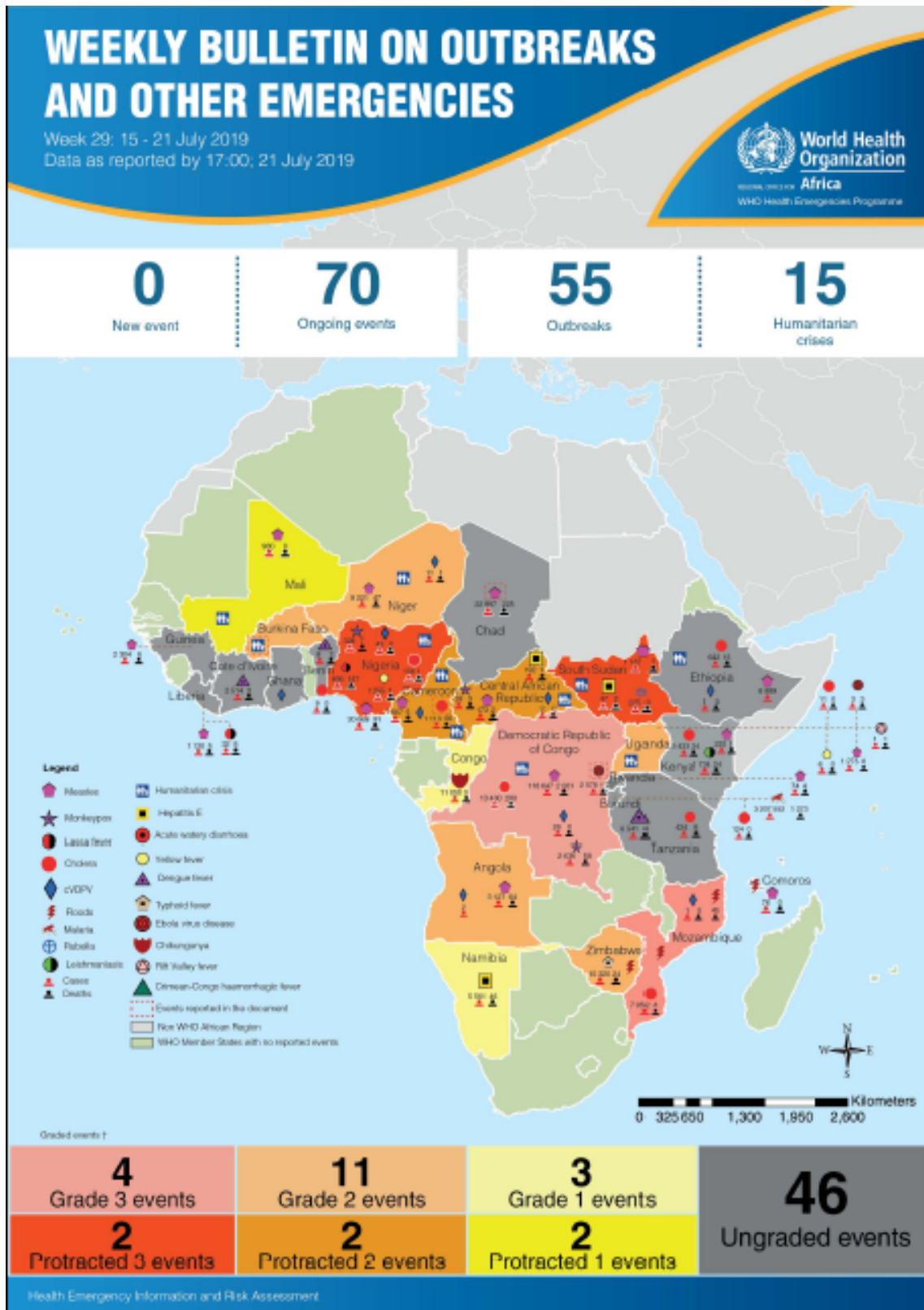


Figure 6. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 70 events. For more information see link below: <https://apps.who.int/iris/bitstream/handle/10665/325979/OEW29-1521072019.pdf>