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Editor's Note



Dr Ann Mathews

In this month's edition of the Communicable Diseases Communiqué, we bring you an update on the COVID-19 outbreak that has grown significantly since last month. To date, it has spread to over 30 countries, with the potential to spread further. The COVID-19 outbreak was declared a Public Health Emergency of International Concern (PHEIC) by the World Health Organization (WHO) on 30 January 2020. The elderly, individuals with comorbidities and healthcare

workers have been found to be at higher risk of morbidity and mortality associated with SARS-CoV-2. At this point, COVID-19 treatment is supportive and no vaccine exists as yet to counter the virus.

The other PHEIC of significance is the Ebola virus disease outbreak in the Democratic Republic of Congo, which continues despite the roll-out of the Ebola vaccine, due to ongoing conflict and unrest, and the concomitant measles and vaccine-derived polio virus outbreaks in the country. A round-up of other international outbreaks of interest is also provided in the 'Beyond our Borders' articles.

We also report on two cases of Crimean Congo haemorrhagic fever in the North West and Northern Cape/Free State provinces, and a case of cutaneous diphtheria in the Eastern Cape Province.

ZOONOTIC AND VECTOR-BORNE DISEASES

An update on rabies in South Africa

While no human rabies cases have been confirmed for 2020 in January and February, to date, 18 rabid dogs from KwaZulu-Natal Province (up to 20 February 2020), and five from the Eastern Cape Province (up to 29 January 2020) were laboratory confirmed (Figures 1 and 2). Each year, rabies causes approximately 59 000 human deaths worldwide, including an average of eight cases in South Africa during the past decade. The vast majority of reported animal rabies cases in South Africa and worldwide are in dogs. Accordingly, most human rabies cases are caused by dog bites. In previous years, including in 2016, human rabies cases were linked to outbreaks of dog rabies in KwaZulu-Natal and Eastern Cape provinces. That said, rabies has been confirmed in a number of livestock and wildlife, mainly the black-backed jackal, yellow mongoose, bat-eared fox and bats. These wild animals seldom come in contact with people and therefore account for a very small percentage of human rabies cases.

In 2019, rabies was laboratory confirmed in 10 persons in South Africa. These cases were reported from Limpopo (n=2), KwaZulu-Natal (n=4) and Eastern Cape (n=4) provinces. In addition, six more deaths were classified as probable rabies cases, three each from KwaZulu-Natal and Eastern Cape provinces.

Rabies is an incurable disease in humans upon the onset of clinical symptoms, but it may be prevented through vaccination of animals and rabies post-exposure prophylaxis following possible exposure events in humans. For more information on rabies and rabies post-exposure prophylaxis following dog bites and other animal exposures, visit www.nicd.ac.za.

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

KWAZULU-NATAL RABIES 20 Feb 2020

Canine	Jackal
18	0
Humans 2020	
0	



EASTERN CAPE RABIES 29 Jan 2020

Pos	Neg
5	3



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

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

Crimean-Congo haemorrhagic fever

Two people recently tested positive for Crimean-Congo haemorrhagic fever (CCHF) in South Africa.

In the first case, CCHF was confirmed in a 56-year-old farmer from Ventersdorp, North West Province, in early February 2020. The man had multiple tick exposures (bites and squashing of ticks) from his livestock. He presented to a healthcare facility in Ventersdorp on 7 February 2020 with acute fever, rigors, headache, malaise, abdominal, back and body pains. The next day, he was transferred to Klerksdorp hospital for treatment and was isolated on suspicion of a CCHF virus infection. Laboratory confirmation was done on 8 February 2020 by PCR. Antibody response was detected from samples collected on 13 February 2020 – immunoglobulin G (IgG) at titre 1:1000 and IgM at titre 1:10. The patient still had positive PCR result at that time. CCHF PCR was negative on 17 February 2020, and immune response remained the same. The man has since been discharged from the hospital and is recovering at home.

The second case, also 56 years of age, contracted CCHF from crushing ticks in an area in the Free State and Northern Cape provinces where he had recently visited. He became ill with fever and body pains on 19 February 2020 while attending a congress in Skukuza, Kruger National Park, Mpumalanga Province. He visited the local general practitioner on 20 February 2020 in Skukuza who immediately notified the NICD for investigation. A diagnosis of CCHF was confirmed by laboratory testing

at the NICD on 21 February 2020. He is currently receiving medical care in a hospital in Gauteng Province.

These were the first cases of CCHF reported for South Africa in 2020 to date. In the previous year, three cases of CCHF were confirmed, one each from the Free State, Northern Cape and North West provinces.

To date, 217 CCHF cases have been laboratory confirmed since first detection of CCHF in the country in 1981. Majority of the cases occurred from tick exposures in farmers from the Free State, Northern Cape and North West provinces. CCHF is a serious illness in humans with a case-fatality-ratio of 24% recorded amongst laboratory-confirmed cases. At present, there is no vaccine or effective anti-viral therapeutic available. Clothing and protective worn for job-related occupational safety and health purposes (overall, apron, boots, gloves and other) referred to as personal protective equipment (PPE), can prevent CCHF infection from tick or animal blood/products exposure. Laboratory and health facility staff should institute special infection control measures and isolation precautions when managing suspected or confirmed cases of CCHF. More information on CCHF is accessible from www.nicd.ac.za.

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

VACCINE-PREVENTABLE DISEASES

Cutaneous diphtheria caused by toxin-producing *Corynebacterium diphtheriae*, Eastern Cape Province

A 49-year-old female from Kirkwood, Sarah Baartman District, Eastern Cape Province, was diagnosed on 16 January 2020 with cutaneous diphtheria due to a toxin-producing *Corynebacterium diphtheriae*. The patient presented to the general practitioner on 7 January 2020 and was referred to a local hospital for management of septic ulcers and cellulitis on the left lower leg. On admission, the patient complained of a long-standing ulcer on the left lower leg which started in June 2019, with

episodes of healing and recurring ulcers. On 21 December, she experienced severe pain radiating up to the thigh, fever and chills. On 22 December 2020, she developed swelling of the left lower leg, which subsided after a few days. Meanwhile, the wound progressively got worse with foul-smelling discharge and smaller ulcers developing around the chronic ulcer. During this period, she tried self-medication, including cleaning the wound with salt and water or water with Dettol.

The patient is immune-compromised and reportedly defaulted treatment three years ago. She has no other underlying medical conditions. She was initially admitted in a general ward, a wound swab was taken for culture and a 5-day course of intravenous antibiotic treatment (metronidazole and cefazolin) was initiated, followed by oral flucloxacillin. The wound improved and discharge from hospital was initially planned for 14 January 2020. However, provisional culture results from local laboratory received on 14 January were positive for *Streptococcus pyogenes* and *C. diphtheriae*. Results from the wound swab received from NICD on 16 January 2020 confirmed toxin-producing *C. diphtheriae*, at which point the patient was transferred to an isolation ward and the antibiotic agent was changed to oral penicillin. Further clinical examination at this time revealed multiple ulcers >2 cm in diameter (Figure 3A), with no clinical manifestation of systemic diphtheria disease. The ulcers continued to heal slowly (Figure 3B). The patient was discharged on 24 January 2020.

From 20 December 2019 until 7 January 2020, the patient was in close contact with five family members. Contact tracing was conducted and collection of oropharyngeal swabs from 15 hospital contacts was performed. A home visit was conducted on 21 January 2020; however, none of the family contacts were swabbed or given prophylaxis. Chemoprophylaxis was administered to all hospital contacts from 20-22 January 2020. All 15 hospital contacts with samples taken tested negative for *C. diphtheriae*. Repeat samples from patient ulcers and oropharyngeal samples collected on 20 January 2020 were negative for *C. diphtheriae*.

Diphtheria is caused by *C. diphtheriae*, and presents most commonly as a membranous pharyngitis, although other presentations such as cutaneous disease also occur. The organism produces a toxin that causes necrosis of tissues, leading to respiratory obstruction, and myocarditis which can be complicated by heart failure and death. Cutaneous diphtheria can be caused by both toxigenic and non-toxigenic strains, and the lesions usually appear on exposed body parts. The lesions start as vesicles and quickly form small, clearly demarcated ulcers. The lesions of cutaneous diphtheria can be a source of life-threatening respiratory infection in inadequately immunised people. Cutaneous diphtheria with toxigenic strains can be associated with toxin mediated complications and death. Bacterial co-infection of cutaneous diphtheria lesions is common, most notably with *Staphylococcus aureus* and *Streptococcus pyogenes*. This may lead to delay in diagnosis of cutaneous diphtheria. Skin ulcers not responding to conventional antibiotic treatment should be investigated for rarer causes such as cutaneous diphtheria.

Diphtheria (respiratory and cutaneous) is a category 1 notifiable medical condition (NMC); health workers are required to notify a suspected case of diphtheria within 24 hours of making the diagnosis by completing the NMC case notification form or logging it directly using the NMC App. Forms are to be emailed to NMCSurveillanceReport@nicd.ac.za and to local or district Communicable Diseases Control focal person. Contact tracing of close contacts of all positive cases is important and nasopharyngeal/oropharyngeal swabs should be collected before administration of chemoprophylaxis as asymptomatic contacts may be reservoirs of toxigenic *C. diphtheriae*.



3A. Left leg of patient 16 January 2020



3B. Left leg of patient 20 January 2020

Figure 3A and 3B. Pictures of left leg with cutaneous diphtheria, courtesy Dr Kom, picture 3A taken on 16 January 2020 and picture 3B on 20 January 2020

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

HOSPITAL-ASSOCIATED INFECTIONS

An outbreak of carbapenem-resistant *Klebsiella pneumoniae* infections in a neonatal unit in Gauteng Province

On 24 December 2019, the Centre for Healthcare-Associated Infections, Antimicrobial Resistance and Mycoses at the NICD was notified of eight cases of culture-confirmed carbapenem-resistant *Klebsiella pneumoniae* bloodstream infection (BSI) from a neonatal unit in Gauteng Province. In the preceding month (November 2019), four cases of carbapenem-resistant *K. pneumoniae* BSI had been reported. Additionally, through rectal swab screening of high-risk neonates for colonisation, three more cases were identified. NICD initiated an investigation to determine the extent of the outbreak. This investigation is ongoing and only preliminary data are presented here. From 1 November 2019 through to 24 January 2020, 23 babies had a carbapenem-resistant *K. pneumoniae* BSI, and eight babies were colonised. Of the 23 with invasive disease, 11 died (Figure 4).

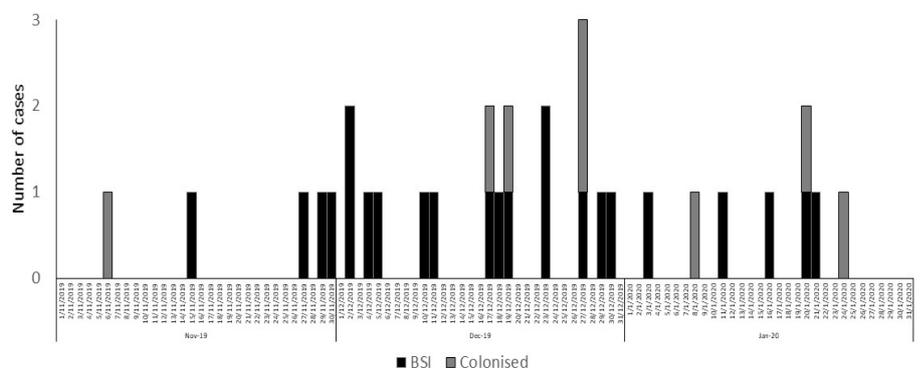
plan was implemented to address a shortage of healthcare personnel, overcrowding of the unit and infrastructural challenges. At this meeting, the GDoH declared an outbreak.

Specific infection, prevention and control (IPC) measures were implemented early, following the observed increase in the number of cases. For instance, all babies colonised and/or infected were cohorted or isolated in separate sections of the unit. Additional cleaning of the unit was conducted several times during November and December 2019.

From October 2019 to date, NICD received 22 *K. pneumoniae* BSI isolates for laboratory testing through the Baby GERMS surveillance project; these isolates will be typed to determine their genetic relatedness. With representatives from the National Department of Health and GDoH, NICD also participated in an external IPC audit of the neonatal and labour wards on 29 January 2020. The audit was performed to assess the progress of a corrective operational plan and to develop further short-, medium- and long-term recommendations.

Following a stakeholder meeting on 6 January 2020 with representatives from the Gauteng Department of Health (GDoH), hospital services, the neonatal ward, Tshwane district microbiology team and the NICD, an operational

Figure 4. Epidemic curve of cases of culture-confirmed carbapenem-resistant *Klebsiella pneumoniae* bloodstream infection (BSI) or colonisation reported by the neonatal ward, 1 November 2019-24 January 2020, n=23 BSI / n=8 colonised.



Article source: Centre for Healthcare-Associated Infections, Antimicrobial Resistance and Mycoses (CHARM), NICD-NHLS; neleshg@nicd.ac.za

INTERNATIONAL OUTBREAKS OF IMPORTANCE

An update on the novel coronavirus disease 2019 (COVID-19) outbreak

The NICD has been closely monitoring the outbreak of respiratory illness that was first detected in Wuhan City, Hubei Province of China on 31 December 2019. On 7 January 2020, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was confirmed as the causative agent of coronavirus disease 2019 (COVID-19). The SARS-CoV-2 virus is a betacoronavirus, like Middle East respiratory syndrome coronavirus (MERS-CoV) and severe acute respiratory syndrome coronavirus (SARS-CoV), both of which have their origins in bats. On 30 January 2020, the Emergency Committee convened by the WHO Director-General declared the COVID-19 outbreak a PHEIC.

To date, there has been ongoing sustained transmission of COVID-19 in Mainland China (all provinces), Hong Kong, Japan, Republic of Korea, Singapore, Vietnam, Taiwan, Italy and Islamic Republic of Iran. As of 26 February 2020, there were 81 108 laboratory-confirmed cases of COVID-19 globally. An estimated 80% of cases were mild whilst 14% were severe (including pneumonia and shortness of breath) and 6% were in critical condition characterised by septic shock, respiratory failure and multi-organ failure. As of 26 February 2020, a total of 2 761 deaths have been reported, the majority of which (2718/2761, 98.4%) occurred in China. A total 15 COVID-related deaths occurred in the Islamic Republic of Iran followed by 12 deaths in Republic of Korea, 11 deaths in Italy and 1 death each in the Philippines, Japan and France. There have been 2 917 cases reported outside of China affecting 36 countries. Of the 2 917 cases reported outside of China, 86 were detected while apparently asymptomatic. On 25 February 2020, the Ministry of Health, Population and Hospital Reform of Algeria has reported the country's first case of COVID-19, which is also the first reported case in the African continent. On 14 February 2020, the Minister of Health and Population of Egypt reported a person with confirmed COVID-19 infection. However, the case has since tested negative for COVID-19 by PCR, but is still undergoing a 14-day observation period that is scheduled to end on 27 February 2020.

Since SARS-CoV-2 has only been recently identified, there is limited information regarding the mode/s of transmission, clinical features, and severity of disease at

this stage. The main clinical signs and symptoms are fever and cough with a few patients presenting with difficulty in breathing and bilateral infiltrates on chest X-rays. Treatment is supportive, as no specific therapy has been shown to be effective. Due to the transmissibility of SARS-CoV-2 (mainly through respiratory droplets, contact and fomites), infection prevention and control practices are vital in order to contain the spread of COVID-19. For droplet precautions, personal protective equipment (PPE) such as masks (surgical/medical), goggles, face shield, clean non-sterile long-sleeved gowns and gloves are recommended. For aerosol generating procedures, N95 masks and eye protection must be used. The public has been urged to continue practising hand hygiene, cough etiquette, avoid close contact with people suffering from acute respiratory infections and avoid visiting live animal markets.

The NICD, South Africa and the Institut Pasteur Dakar, Senegal, have been identified as the two referral laboratories to provide reference testing support for COVID-19 for the African Region. There have been ongoing surveillance activities in South Africa including the screening of travellers at ports of entry for early detection of COVID-19. As of 26 February 2020, 121 people from within South Africa have been tested for SARS-CoV-2, of which 77 were persons under investigation (PUI), all results were negative. There have been continuing efforts to strengthen capacity within South Africa to detect and respond to any imported cases of COVID-19. Guideline for case finding, diagnosis, management and public health response to COVID-19 has been published by the NICD on <http://www.nicd.ac.za/diseases-a-z-index/covid-19/>. It has been recommended that persons returning to South Africa from an area with community transmission of SARS-CoV-2 self-isolate at the first onset of symptoms and seek medical attention immediately from healthcare providers and share their travel history with the health provider. To date, no vaccine is available for COVID-19.

COVID-19 is classified as a Category 1 notifiable medical condition under 'Respiratory disease caused by a novel respiratory pathogen', therefore, notification should be made immediately on identification of a case meeting case definition of suspected infection with SARS-CoV-2,

i.e. person under investigation, a cluster of cases with severe respiratory illness with evidence of common exposure or epidemiologic link, or on receipt of a laboratory diagnosis of the novel respiratory pathogen. More details can be found on <http://www.nicd.ac.za/nmc-overview/>. Additionally, provincial communicable disease co-ordinators (CDCCs) are to contact the NICD.

In the event of a confirmed case, contact tracing will be conducted.

Source: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>

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

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

The Ebola virus disease (EVD) outbreak in northeast Democratic Republic of the Congo (DRC) still remains a serious public health concern internationally since the outbreak was declared on 1 August 2018. There have been positive signs that the number of cases are slowly reducing, but it is unclear when it may end. Although the proportion of cases have been fluctuating from the end of 2019 into 2020, the rates are still high in North Kivu, South Kivu and Ituri provinces.

As of 16 February 2020, 3 432 EVD cases have been reported including 3 309 confirmed and 123 probable cases, of which 2 253 cases have died (overall case fatality rate 66%). Of the total confirmed and probable cases, 56% (1 923) were female, 28% (968) were children aged less than 18 years, and 5% (172) were healthcare workers.

In the past 21 days from 27 January to 16 February 2020, 10 new confirmed cases were reported from 4 of the 30 health areas in two active health zones in North Kivu Province: Mabalako (10%, n=1), Beni (90%, n=9). There have been more than 42 days since new cases have been confirmed from Butembo Health Zone. In Mabalako, there are no more contacts in their high risk period of day 7-13 since last exposure. Although there is a reduced trend and spread of the outbreak, the security situation is volatile and risk of spread within DRC and neighbouring countries remain high. The WHO risk assessment for the outbreak moved from very high to high at the national and regional levels, while low at the global level. However, delays in isolation of cases and

continued reports on nosocomial transmission might raise the number of cases in near weeks. It is therefore critical to rapidly detect, investigate and follow-up all cases and their contacts.

More than 249 000 contacts have been registered to date, and 1 662 were under surveillance as of 16 February 2020. On average, 91% of contacts were followed daily in the last seven days in health zones with continued operations. An average of 5 186 alerts were reported per day over the last seven days, of which 5 142 (99%) were investigated within 24 hours of reporting. There are currently eight operational Ebola treatment centres (ETC) and 13 Ebola transit centres located in North Kivu, South Kivu and Ituri provinces. Ebola vaccinations continue with 295 673 people vaccinated with the rVSV-ZEBOV-GP Ebola vaccine as of 16 February 2020, and 12 233 vaccinated with the Ad26.ZEBOV/MVA- BN-Filo vaccine in two health areas near Goma, since its introduction on 14 November 2019. On 10 February 2020, WHO published new guidelines regarding the management of pregnant and breastfeeding women to prevent and control EVD. Infection prevention and control (IPC) detection, evaluation, monitoring and supervision is important to reduce exposure of possible nosocomial infection and EVD cases.

The government and the Ministry of Health (MOH), and other national authorities in the DRC, World Health Organization (WHO) and partners are implementing outbreak control interventions together with teams in the surrounding provinces, who are taking measures to ensure that they are response-ready. WHO still advises against any restriction of travel to, and trade with the DRC, although port screening is

done. WHO continues to closely monitor and, if necessary, verify travel and trade measures in relation to this event. Travellers should seek medical advice before travel and should practice good hygiene.

As of 25 February 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. Surveillance amongst returned travellers is ongoing.

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

SEASONAL DISEASES

Malaria notification data, January 2020

A total of 1 086 malaria cases was notified through the NMCSS for the month January 2020. Of these cases, 243 were excluded from the analysis, either due to missing data or being identified as duplicate reports. Among the 843 cases further analysed, 60% (506/843) were reported in non-endemic districts, with Gauteng Province (304/506) accounting for the majority of these cases. Males (62%, 523/843), predominately between the ages of 20 and 40 years, were the most affected by malaria in both the endemic and non-endemic districts. During the current reporting period, 66 cases of malaria in children under the age of five were notified, with 64% (42/66) of these cases coming from non-endemic districts, predominately in Gauteng Province. Microscopic examination of blood smears was the main method of diagnosis (86%, 727/843) in both the endemic and non-endemic districts. Of the 96 cases of severe malaria reported, 18 were treated with quinine rather than the recommended intravenous (IV) artesunate. The vast majority of these health facilities

(89%, 16/18) still treating with quinine are located within non-endemic districts. Importation of malaria from other malaria endemic countries, particularly Mozambique, remains a major challenge to South Africa's control and elimination efforts. There was a marked decrease in the number of malaria cases reported through the NMCSS in both the endemic and non-endemic districts for January 2020 compared to January 2019, when 1 979 cases were notified.

Important: Note that these data do not reflect the country's total burden of malaria disease, as most malaria-endemic districts are currently using alternative malaria case record systems, such as the District Health Information System 2 (DHIS2).

Article source: Centre for Emerging Zoonotic and Parasitic Diseases and the Notifiable Medical Conditions Surveillance System, NICD-NHLS; 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 5 on page 10.

1. Hepatitis E: Namibia

There is an ongoing outbreak of hepatitis E in Namibia. According to the latest report issued in December 2019, majority of the cases are males, with 4 167 men testing positive, compared with 2 896 women. The least affected are children under one year, representing 0.11%. The report also shows that most of those affected are between the ages of 20 and 39.

Cumulatively, up to 29 December 2019, a total of 7 063 hepatitis E virus cases was reported since the outbreak began in December 2017. This includes 1 731 laboratory confirmed, 4 345 epi-linked, and 987 suspected cases. A total of 59 deaths has been reported nationally, and among those are 24 maternal deaths. The virus cases have been reported mainly from informal settlements such as Havana and Goreangab in Windhoek, Democratic Resettlement Community in Swakopmund, Kanaan C in Gobabis, Omaheke Region, and similar settings in other regions where access to potable water, sanitation and hygiene is a serious challenge.

The latest official report on the outbreak indicated that during the period of 16-29 December 2019, a total of 82 hepatitis E virus cases was reported countrywide, compared to 63 cases reported during 2-15 December 2019. Omaheke regional health director Jeremiah Shikulo said regional and district health emergency committees have been activated and are in full operation leading and coordinating the outbreak response process with other line ministries. The Ministry of

Agriculture, Water and Forestry has provided four water tanks to the community of Kanaan C, which the Gobabis municipality are refilling on a regular basis. Water purification tablets are also being distributed to households on a daily basis by community health workers. The municipality has likewise given Kanaan C informal residents permission to build their own affordable temporary toilets.

Among other attempts to combat hepatitis E in the region, campaigns on how to properly clean water containers, screening pregnant women for the virus, and health education through community health workers have been conducted at Kanaan C.

2. MERS: Saudi Arabia

The first Middle East respiratory syndrome coronavirus (MERS-CoV) case in Saudi Arabia was reported in September 2012. From 2012 till 31 January 2020, a total of 2 519 laboratory-confirmed cases of Middle East respiratory syndrome (MERS), including 866 associated deaths (case-fatality rate: 34.3%) were reported globally to the WHO.

The majority of these cases were reported from Saudi Arabia (2 121 cases), including 788 related deaths with a case-fatality rate of 37.1%.

A total of 15 new laboratory-confirmed cases of MERS were reported from Saudi Arabia in January 2020, including five deaths. Cases were reported from the regions of Asir (6), Riyadh (5), Al Qasim (2), Al Madinah (1) and Al Jawf (1).

Sporadic cases of MERS continue

to occur in Saudi Arabia. A hospital outbreak was reported in Asir Region with a cluster of six cases. Three of the cases were health care workers, two were patients (one of whom died) and one was a visitor. The source of infection of the first case reported in the cluster is currently unknown and under investigation. Investigation of household and hospital contacts revealed no further secondary cases. Upon identification of these above-mentioned cases, an incident report, case investigation, and contact tracing were initiated. The investigation included screening of all close contacts, including occupational contacts, household contacts, and healthcare workers at the healthcare facilities. All of them have been monitored on a daily basis for the appearance of respiratory or gastrointestinal symptoms for 14 days after the last exposure to the confirmed cases. The veterinary authorities have been notified, and investigation in animals is ongoing. Early identification, case management and isolation, together with appropriate infection prevention and control measures can prevent human-to-human transmission of MERS-CoV.

3. Measles: Ethiopia and Democratic Republic of Congo (DRC)

More than 12 000 cases of measles were reported in 36 zones of five regions of Ethiopia in the past 13 months beginning January 2019, according to the United Nations (UN). The continued measles outbreaks were most likely a result of low routine vaccination coverage: 69% of the cases reported not having received a single dose of measles vaccine before the infection, while 12% could not recall encountering such a service.

According to the UN, only 20% of the cases were sure of receiving either one or two doses of measles vaccine. Of the 20% who were sure of receiving either one or two doses of measles vaccine, 53% were children under the age of five, 25% were aged between 5 and 14 years, and 21% were between the age of 15 and 45 years; meaning there are multiple age cohorts without herd immunity.

While in the DRC, Medecins Sans Frontieres (MSF) warns of world's worst measles outbreak. More than 6 000 people have died over the past year alone, with about 75% of the fatalities being children. Over 310 000 people have been infected. The outbreak has affected all 26 provinces of the volatile country that is experiencing a myriad of illnesses. The outbreak of measles has turned into the biggest measles outbreak of the past 10 years in DRC and the biggest worldwide. Measles, which spreads easily through coughs and sneezes, is highly contagious and affects mainly children. In DRC, it comes at a time the country is also experiencing an outbreak of Ebola that has killed over 2 000 people since August 2018.

4. Circulating Vaccine-Derived Poliovirus: Nigeria, DRC, Ethiopia and Philippines

Oral polio vaccine (OPV) contains an attenuated (weakened) vaccine-virus, activating an immune response in the body. When a child is immunised with OPV, the weakened vaccine-virus replicates in the intestine for a limited period, thereby developing immunity by building up antibodies. During this time, the vaccine-virus is also excreted. In areas of inadequate sanitation, this excreted vaccine-virus can spread in the immediate community (and this can offer protection to other children through 'passive' immunisation), before eventually dying out.

On rare occasions, if a population is seriously under-immunised, an excreted vaccine-virus can continue to circulate for an extended period of time. The longer it is allowed to survive, the more genetic changes it undergoes. In very rare instances, the vaccine-virus can genetically change into a form that can cause paralytic disease – this is what is known as a circulating vaccine-derived poliovirus (cVDPV). If a population is fully immunised, they

will be protected against both vaccine-derived and wild polioviruses.

During the week of 16 February 2020, 14 cases of cVDPV, from five countries (Nigeria, Democratic Republic of Congo, Angola, Ethiopia and the Philippines) were confirmed. An additional three countries had positive environmental samples (Pakistan, Cote d'Ivoire and Somalia). In Nigeria, one case of circulating vaccine-derived poliovirus type 2 (cVDPV2) was reported from Anambra Province, making it the first case in 2020. There were 18 cVDPV2 cases reported in 2019 in Nigeria. In the DRC, two cases of cVDPV2 were reported, one each from Kwilu and Sankuru provinces. Seven cVDPV2 cases were reported in Ethiopia: four from Oromiya Province and three from the Southern Nations Nationalities and Peoples' Regional State (SNNPR). There are 12 cVDPV2 cases reported in Ethiopia so far; four cases linked to the outbreak in neighbouring Somalia and eight cases part of three different outbreaks in Ethiopia. Whilst in the Philippines, one cVDPV2 case was reported this week from Central Luzon Province.

Polio eradication remains a top priority for WHO and the global polio partnership.



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.

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

WHO-AFRO: OUTBREAKS AND EMERGENCIES

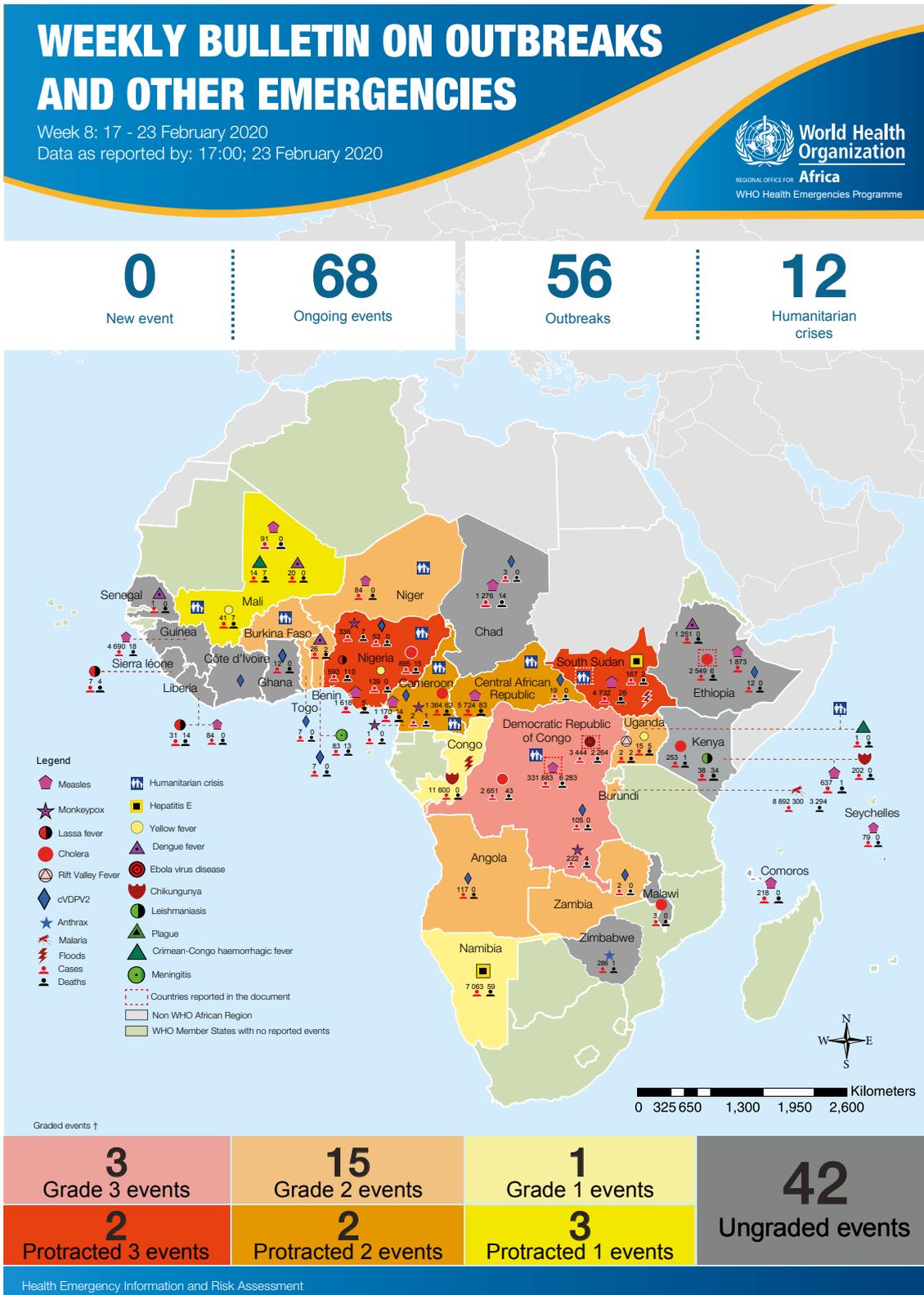


Figure 6. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 68 events. For more information see link <https://apps.who.int/iris/bitstream/handle/10665/331169/OEW08-1723022020.pdf>

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**COMMUNICABLE DISEASES****COMMUNIQUÉ**