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

COMMUNICABLE DISEASES COMMUNIQUÉ

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CONTENTS

Coronavirus disease 2019 (COVID-19) pathogen

Editor's Note

Dr Ann Mathews

As the coronavirus disease 2019 (COVID-19) pandemic continues to spread across the globe, we provide a summary of the first 100 cases in South Africa. The first case of COVID-19 in South Africa was announced on 5 March 2020, and on 15 March 2020, President Cyril Ramaphosa declared a national state of disaster according to the Disaster Management Act. Following an increase in the number of COVID-19 cases in the country, on 23 March 2020, the President further announced a nation-wide lockdown for 21 days with effect from midnight Thursday, 26 March 2020. This with the aim that social distancing efforts will save millions of South Africans from COVID-19 infections and ease the burden on an already strained healthcare system.

With the onset of the influenza season, it is important to note that the clinical presentations of influenza and COVID-19 are similar. As such, it is recommended that the influenza vaccine be taken, where available, particularly for those aged 65 years and above, those with chronic medical conditions, pregnant women and people living with HIV.

There are signs that the Ebola outbreak in the Democratic Republic of Congo (DRC) is on the downward trend, although it is still unclear when the outbreak will end. Since 17 February 2020, there have been no new Ebola cases reported in the DRC. South Africa has reported no cases of human rabies that have been laboratory-confirmed since the beginning of 2020 to date. Malaria continues to be a seasonal infectious disease of concern in South Africa, with cases occurring in non-endemic areas, particularly in the Gauteng Province. This stresses the need for a high index of suspicion from treating clinicians. In addition, the Beyond our Borders articles offer summaries of other outbreaks of significance across the rest of the world.

ZOONOTIC AND VECTOR-BORNE DISEASES

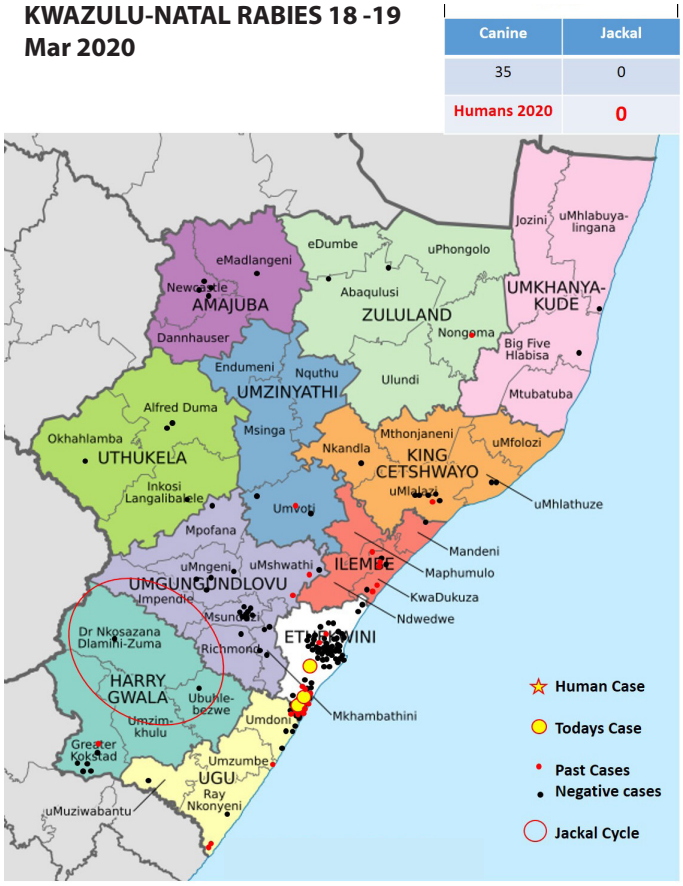
An update on rabies in South Africa

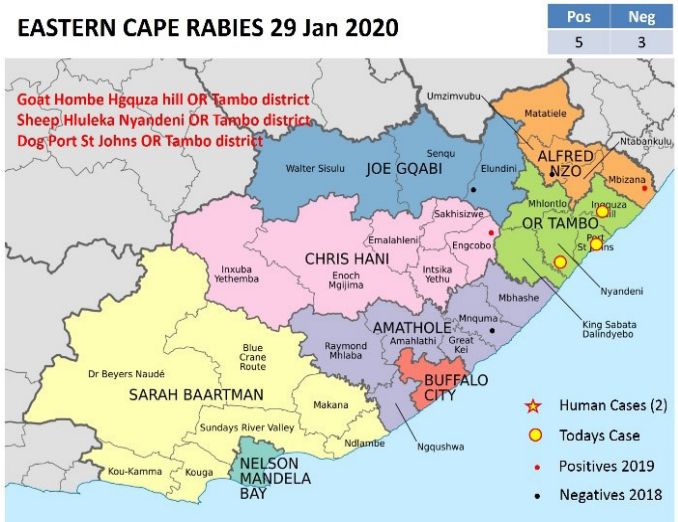
No cases of human rabies have been laboratory confirmed in South Africa for 2020 to date. In 2019, South Africa reported a total of ten laboratory confirmed cases. In addition, six more deaths were classified as probable rabies cases (cases were compatible with rabies clinical manifestations and a history of exposure, but it was not possible to confirm or exclude a diagnosis of rabies in the laboratory due to no or insufficient specimens received).

The vast majority of reported human rabies occur in Africa (36.4%) and Asia (59.6%). It is estimated that worldwide, 60 000 individuals, the majority of whom are children, die of rabies annually. Over the last ten years, South Africa has recorded an annual average of eight human rabies cases across the country, with the exception of the Western Cape Province. From 2010-2019, most human rabies cases in South Africa were reported from the Eastern Cape (27%, n=22), KwaZulu-Natal (31%, n=25) (Figures 1 and 2) and Limpopo (23%, n=19) provinces. More than 80% of these cases were linked to a domestic dog exposure.

The Animal Diseases Act, 1984 (Act No 35 of 1984) law mandates owners to have their pets vaccinated against rabies between the ages of 3 and 7 months, again at 12 months later and then every 3 years. Vaccination protects the animals from rabies and consequently prevents transmission of the rabies virus from animals to humans. In combination with rabies awareness, and availability of, and access to, anti-rabies prophylaxis, vaccination of animals provides effective measures to prevent rabies in humans. For more information about rabies prophylaxis for human patients after exposure, please visit www.nicd.ac.za.

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





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 Province.

INTERNATIONAL OUTBREAKS OF IMPORTANCE

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

On 31 December 2019, the World Health Organization (WHO) China country office reported a cluster of pneumonia cases in Wuhan City, Hubei Province of China now known to be caused by a novel virus. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has been confirmed as the causative virus of coronavirus disease 2019 (COVID-19). Cases have now been identified in over 100 countries including South Africa. On 15 March 2020, President Cyril Ramaphosa declared a national state of disaster in South Africa. Along with this, he announced school closures and travel bans as the number of novel coronavirus (COVID-19) infections continued to rise.

On 5 March 2020, South Africa reported its first imported case of COVID-19. The patient was a 38-year-old male from KwaZulu-Natal who travelled to Italy with his wife. They were part of a group of 10 people. One person travelled directly onward to the United Kindom and the other 9 group members arrived back in South Africa on March 1, 2020. The patient consulted a private general practitioner on March 3, with symptoms of fever, headache, malaise, a sore throat and a cough. Of 9 members of the travel group who returned to South Africa, 7 individuals were diagnosed with laboratory-confirmed COVID-19. As of 23 March 2020, the number of confirmed cases of SARS-CoV 2 in South Africa had increased to 402, with no reported deaths to date. Here we present preliminary data on the first 100 laboratory-confirmed cases of COVID-19 in South Africa.

The specimen of the first laboratory-confirmed case of SARS-CoV-2 was submitted on the 3 March 2020. Subsequently, from 6 March numbers of confirmed cases increased rapidly (Figure 1). A majority of cases were from the Gauteng Province (n=54), followed by Western Cape Province (n=25), KwaZulu-Natal Province (n=18), Mpumalanga Province (n=2) and Limpopo Province (n=1) (Figure 2). Overall, a majority of the cases were in the age group 30-39 year, n=30 (Figure 3). Among the first 100 confirmed cases, 68 were male.

The NICD with the National Department of Health continues to enhance surveillance activities for COVID-19. Guideline for case finding, diagnosis management and public health response to the COVID-19 have been published by the NICD on http://www.nicd.ac.za/diseases-a-z-index/covid-19/.

Note: While influenza vaccine does not protect against COVID-19, the clinical signs and symptoms of influenza and COVID-19 are similar. If available, influenza vaccination is recommended to decrease the chances of getting influenza during the period of co-circulation of influenza and COVID-19. For this year's influenza vaccination campaign, in light of COVID-19, the Department of Health is prioritising publicly available influenza vaccination as follows: healthcare workers, individuals aged >65 years, pregnant women, people with chronic disease and people living with HIV.

We would like to acknowledge all members of the COVID-19 response team. All contributors are thanked for their inputs.

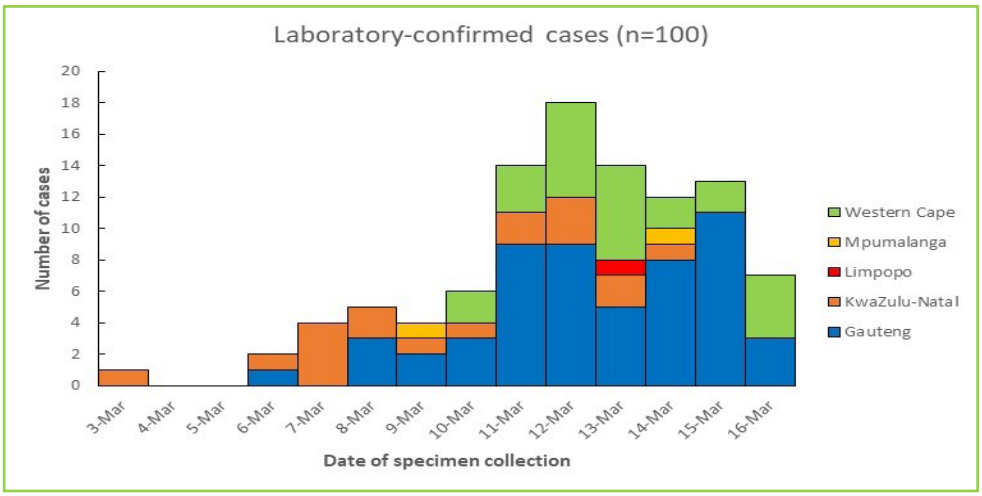


Figure 3. Epidemic curve of COVID-19 laboratory-confirmed cases of COVID-19 by date of specimen collection, 3-16 March 2020, South Africa n=100.

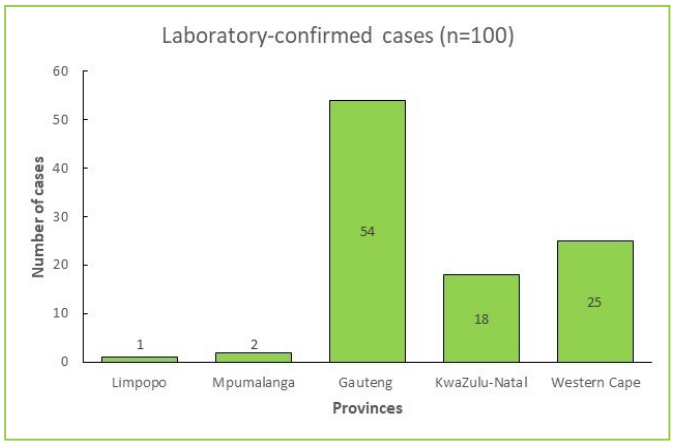


Figure 4. Distribution of COVID-19 laboratory-confirmed cases by province, 3-16 March 2020, South Africa n=100

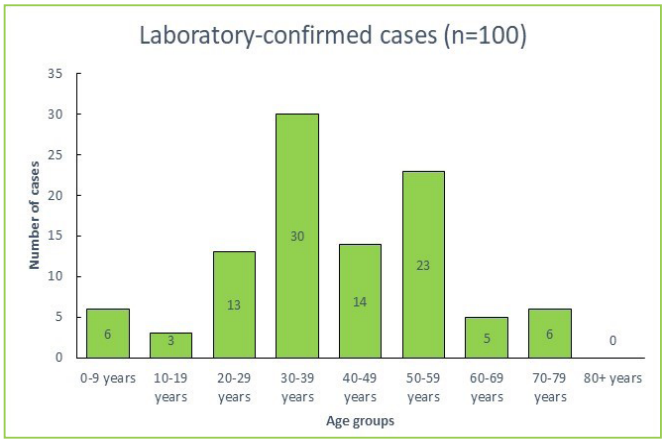


Figure 5. Distribution of COVID-19 laboratory-confirmed cases by age group, 3-16 March 2020, South Africa n=100 .

Article source: COVID-19 response team; cherylc@nicd.ac.za

An update on Ebola virus disease outbreak, 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 is slowly reducing, but it is unclear when it may end. There have been no new cases of EVD reported in the ongoing outbreak in the DRC since 17 February 2020. On 3 March 2020, the only person confirmed to have EVD in the last 21 days was discharged from an Ebola Treatment Centre (ETC) after recovering and testing negative twice for the virus. On 9 March, the last 46 contacts finished their follow-up. These are important milestones in the outbreak.

As of 17 March 2020, a total of 3 444 EVD cases were reported from 29 health zones, including 3 310 confirmed and 134 probable cases, of which 2 264 cases died (overall case fatality ratio 66%). Of the total confirmed and probable cases, 56% (1 931) were female, 28% (975) were children aged less than 18 years, and 5% (171) were healthcare workers. Although there is a reduced trend and spread of the outbreak, there is still a risk of re-emergence of EVD. It is critical to maintain surveillance and response operations until and after the end of outbreak declaration. The World Health Organization (WHO) continuously monitors changes to the epidemiological situation and context of the outbreak to ensure that support to the response is adapted to the evolving circumstances. The latest risk assessment from WHO concluded that the national and regional risk levels remain high, while global risk levels remain low.

From 9 to 15 March 2020, over 32 000 alerts were reported and investigated. Of these, 2 550 alerts were validated as suspected cases, requiring specialised care and laboratory testing to rule-out EVD. During this same period, 2 760 samples were tested, including 1 565 blood samples from alive suspected cases, 405 swabs from community deaths, and 790 samples from re-tested patients.

More than 249 395 contacts have been registered to date, and none were under surveillance as of 10 March 2020. On average, 91% of contacts were followed daily in the last seven days in health zones with continued operations. An average of 4 781 alerts were reported per day over the last seven days, of which 4 669 (99%) were investigated within 24 hours of reporting. As of 14 March 2020, there are nine operational ETC, and 12 Ebola transit centres located in North Kivu, South Kivu and Ituri provinces. Ebola vaccinations continue

with 301 585 people vaccinated with the rVSV-ZEBOV-GP Ebola vaccine as of 14 March 2020, and 20 339 vaccinated with the Ad26.ZEBOV/MVA- BN-Filo vaccine in two health areas near Goma since its introduction on 14 November 2019. Infection prevention and control (IPC) detection, evaluation, monitoring and supervision is important to reduce exposure to possible nosocomial infection and EVD cases.

The government and the Ministry of Health (MOH), and other national authorities in the DRC, the 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. The WHO still advises against any restriction of travel to, and trade with the DRC, although port screening is conducted. Furthermore, the 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 March 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, February 2020

For the month of February 2020, 781 malaria cases were notified through the National Notifiable Medical Conditions Surveillance System (NMCSS), a decrease of 22% compared to February 2019. Of the 781 notified cases, 131 cases were excluded from further analysis due to missing data or being identified as a duplicate report. The majority of the 650 remaining cases were reported in non-endemic districts (56%, 364/650), with districts in Gauteng Province (57%, 207/364) once again accounting for most of this burden. Males (61%, 389/640), predominately between the ages of 20 and 40 years, were the most affected by malaria in both the endemic and non-endemic districts. Of the 68 notified cases of malaria in children under the age of five, 58% (40/68) came from non-endemic districts, mainly within the Gauteng Province. Microscopic examination of blood smears remains the main method of diagnosis (87%, 564/650) for cases captured by the NMCSS. Intravenous (IV) quinine as opposed to the recommended IV artesunate was used to treat 22% (22/99) of the severe malaria patients, primarily at health facilities located within non-endemic districts (91%, 20/22). During this reporting period, a marked decrease in the importation of malaria from neighbouring Mozambique was noted, while Gauteng Province reported a number of malaria cases imported from South Africa's endemic districts.

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 recording 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 6 on page 7.

1. Cholera: Yemen and Somalia

Yemen is currently suffering from a forgotten cholera crisis. Oxfam international (a confederation of 19 independent charitable organisations focusing on the alleviation of global poverty), warned of the high number of people infected with the disease with the approaching rainy season in April, while health care systems are on the verge of collapse. It noted that more than 56 000 suspected cases have already been recorded in the first seven weeks of 2020, roughly equal to the same period in 2019.

The number of deaths from cholera in 2019 dropped to 1 025, less than half the number of fatalities in 2017. However, efforts to definitively beat the disease have been massively undermined by the war, which has decimated health, water and sanitation systems. Medical supplies are in chronically short supply and only around half the health facilities in Yemen are fully functional. Fluctuating exchange rates have pushed up the price of diesel, in turn increasing the price of trucking clean water to parts of the country where groundwater is unavailable. More than 17 million people struggle to get clean water.

Meanwhile, in Somalia, at least seven deaths and over 700 cases have been reported in a cholera outbreak, the United Nations (UN) said on Sunday 1 March 2020. A total of 732 cases was recorded across the country between 23 January and 25 February 2020. According to the UN's Office for the Coordination of Humanitarian Affairs (UNOCHA), women and children under the age of five were most vulnerable, and they would need more help if acute watery diarrhoea (AWD)/cholera cases surge after the next rainfall season.

2. Measles: Central African Republic

The Central African Republic (CAR) has experienced an upsurge in measles cases as a result of outbreaks since 2019. The first case of measles was recorded in week 5 of 2019 (week commencing 28 Jan 2019), and the outbreak has continued through to week 7 of 2020 (week commencing 10 February 2020), with 18 health districts affected, including 12 newly affected in 2020. From 1 January 2019 through 16 February 2020, a total of 7 626 suspected cases, including 83 deaths, was reported. A large proportion of cases (72%) was below the age of five, and 18% of cases were aged between 5 and 10 years. A total of 1 167 samples from suspected cases were tested at the reference laboratory of the Institut Pasteur in Bangui, of which 180 were positive for measles using immunoglobulin M (IgM).

The low vaccination coverage for routine measles vaccine over the past five years (below 60% for the 1st dose at 9 months), the absence of a 2nd measles vaccine dose in the national immunisation schedule, and inadequate follow-up campaigns, resulted in a high proportion of measles susceptible people. This has contributed to the ongoing epidemic. All 35 health districts of the CAR are at risk of a measles outbreak, and without adequate response, the epidemic could spread through the entire country.

In December 2019, the outbreak affected 8 health districts, and the country organised local measles vaccination campaigns that targeted children aged 6 – 59 months, in seven districts. Despite vaccination coverage of more than 95% after the campaign, as confirmed by the vaccination coverage survey, new cases are being recorded in these districts and neighbouring health districts in children aged from 5 – 15 years old. Based on the age distribution of cases as indicated by epidemiological investigations, the proposed vaccination strategy is to target the risk group (aged 6 months to 10 years) to help stop transmission.

3. Dengue: French Guiana, Guadeloupe, Martinique, and Saint-Martin

On 12 February 2020, the European Centre for Disease Prevention and Control (ECDC) reported an increase in the number of cases of dengue infection in French Guiana, Guadeloupe, Martinique, and Saint-Martin. Dengue epidemics in these territories usually occur when there is a shift in the predominant circulating dengue virus (DENV) serotype, and non-immune populations (e.g. tourists, new immigrants, or people not previously exposed to the circulating serotypes) are exposed to the new serotype through human movements within the territories or across neighbouring countries. Local transmission occurs through the *Aedes* mosquito vector present on the islands and in French Guiana.

Health authorities in French Guiana, Guadeloupe, Martinique, Saint-Martin, and Saint-Barthélemy are implementing the following measures:

- Strengthening integrated vector management (IVM);
- Enhanced surveillance of cases;
- Updating clinical management guidelines;
- Social mobilisation; and
- Emergency risk communications.

4. Lassa fever: Nigeria

Lassa fever is endemic in Nigeria, and the annual peak of human cases is usually observed during the dry season (December–April). In week 10 of 2020 (1 – 8 March 2020), the number of new confirmed cases decreased from 85 cases in week 9, to 81 cases. The 81 newly confirmed and 364 newly suspected cases in week 10 indicate that Lassa fever virus transmission is continuing at a relatively high level, although declining somewhat. These cases were reported from 15 States. Cumulatively from week 1 to week 10 of 2020, 144 deaths have been reported with a case fatality rate (CFR) of 16.8%, which is lower than the CFR for the same period in 2019 (23.3%). The predominant age-group affected is 21-30 years. The male to female ratio for confirmed cases is 1:1.2.

Transmission of Lassa fever virus occurs when individuals are in contact with rodent reservoir host excreta, or are within healthcare facilities. The National Emergency Operations Centre (EOC) of Nigeria has been activated to coordinate response activities across states. Of the states with confirmed cases, eight of them have activated state-level EOCs.

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.

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

WHO-AFRO: OUTBREAKS AND EMERGENCIES

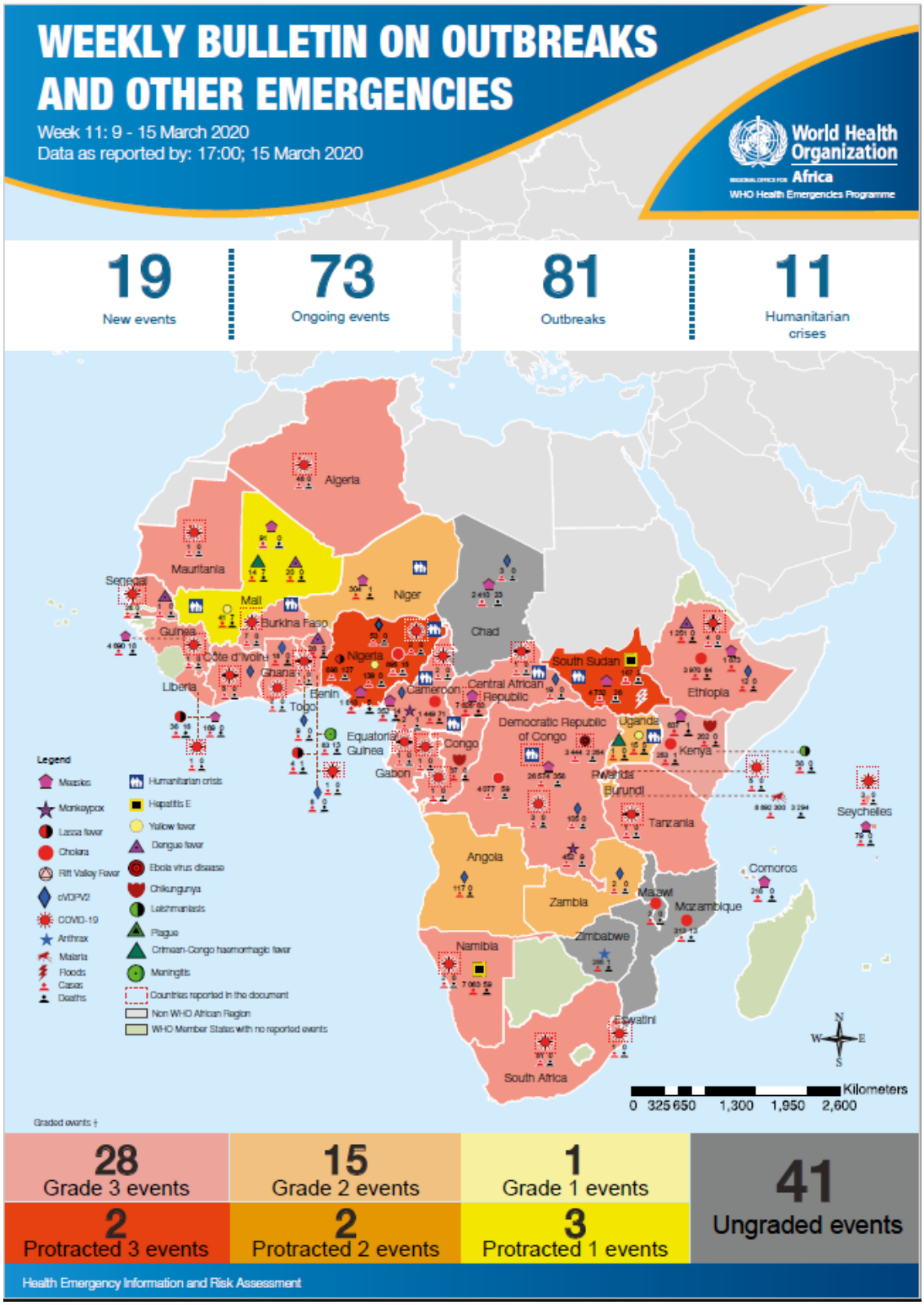


Figure 7. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 73 events. For more information click the link https://apps.who.int/iris/bitstream/handle/10665/331451/OEW11-0915032020.pdf

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/

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