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EDITORIAL

This month's edition of the NICD Communiqué provides updates on a number of outbreaks and endemic communicable diseases in South Africa, including the ongoing pertussis cases observed in Nelson Mandela Bay Metro in the Eastern Cape Province and an update on the malaria season in endemic provinces. In addition to the regular update on human rabies cases, we also report on a case of brucellosis in Limpopo Province, and for the first time on congenital syphilis in South Africa. This edition also includes an updates on influenza in the northern hemisphere, and on the progress towards achieving compliance with the Notifiable Medical Conditions (NMCs) Regulations that were signed into effect in December 2017. The NICD has set up

a data management system to facilitate reporting and notification of NMCs. To date, up to and sometimes over 5 000 notifications across the range of the 51 NMCs are being received monthly, through both laboratory (NHLS) and clinical sources. Work is ongoing to ensure good quality data and integration with existing systems, particularly with TB and malaria control programmes. Finally, a number of outbreaks continue to be of concern beyond our borders, including a large measles outbreak that is ongoing in Madagascar. The Ebola virus disease outbreak continues in the north-eastern Democratic Republic of Congo.

1 NOTIFIABLE MEDICAL CONDITIONS

a Progress on the implementation of the new Notifiable Medical Conditions Surveillance System

Notifiable Medical Conditions (NMCs) are diseases that are of public health importance as they represent significant public health risks that can result in disease outbreaks or epidemics. In 2016, an assessment was conducted on the existing South African notification system, policies, guidelines, tools and processes. This system was found to be ineffective, as it was unable to produce information for action timeously. This led to the development of an enhanced NMC surveillance system (NMCSS) with two new reporting platforms: an electronic real-time notification platform and a paper-based system. In 2018, the NMCSS electronic App was officially launched in the following provinces: Gauteng, Limpopo, Free State, KwaZulu-Natal and North West. Training for the electronic App has commenced in the remaining four provinces and roll-out will take place in 2019. Since the inception of the NMCSS electronic App, there has been a gradual increase in the proportion of cases reported using the App, from 2% in April 2018 to 38% in November 2018 (Figure 1).

progress. The collection of reliable quality data is of paramount importance to the success of any surveillance system. Data quality is emphasised during training and is monitored by the NMC epidemiologists. The NMC team is actively engaging the centres of the National Institute for Communicable Diseases (NICD) to review the case definitions, thus refining the quality of NMC data. The NMCSS is at a stage where healthcare providers are getting used to notifying using the new system. As the NMCSS App usage increases, its full potential for providing an early-warning surveillance system for rapid outbreak response can be realised. The NMCSS App data can significantly assist in identifying epidemiological patterns and trends over time. Monthly reports on the preliminary data from the NMC notifications and App utilisation are sent to the NICD centres, and national and provincial departments of health.

An NMC nurse trainer has been appointed in each province to conduct training on both NMCSS platforms in the public and private sector. The integration of National Health Laboratory Service data to the NMCSS has been completed, while private laboratory data integration is still in

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

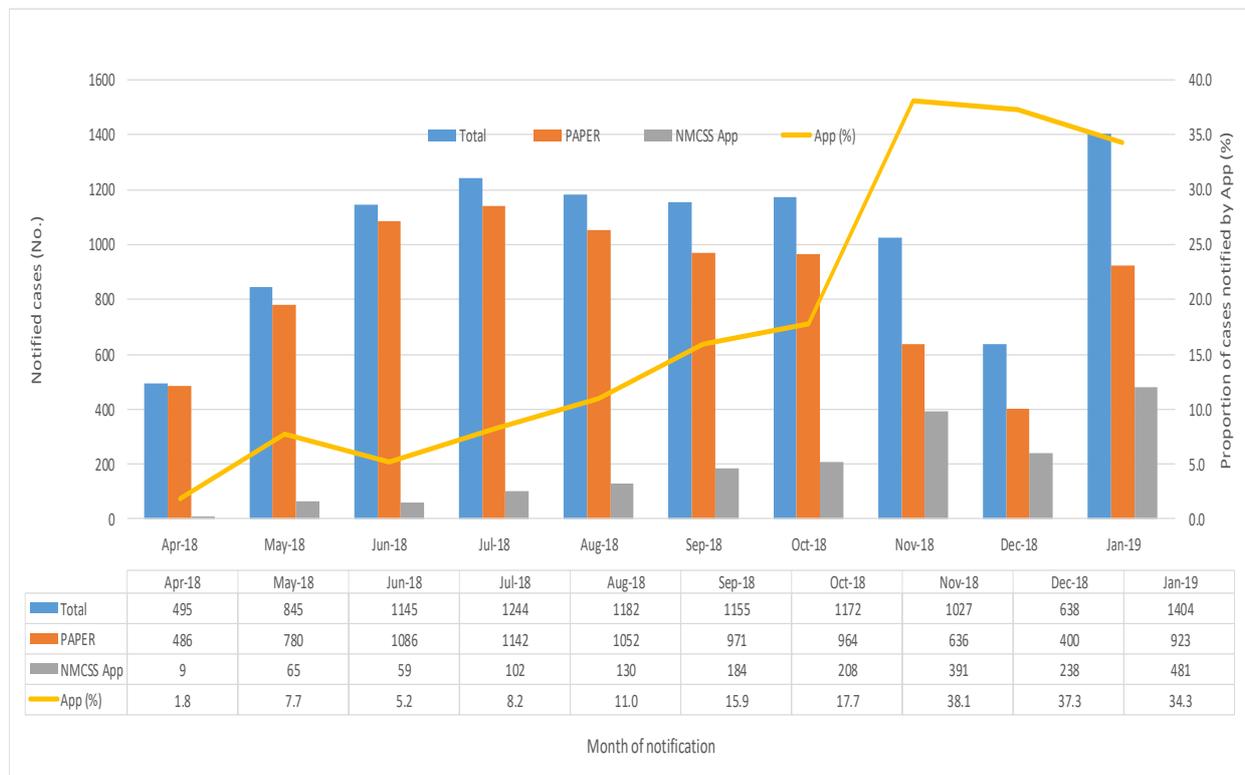


Figure 1. Distribution of NMCs reported via the NMCSS electronic App, April 2018 to January 2019

2 ZONOTIC AND VECTOR-BORNE DISEASES

a An update on rabies in South Africa

A case of rabies was confirmed in a 3-year-old girl from Limpopo Province. The child, from Masia Tshikwarani, Makhado, in Vhembe District, was scratched by a puppy on the feet and face on 18 December 2018. No rabies post-exposure prophylaxis was sought. The puppy was killed and no further information on the animal could be obtained. The child presented in the third week of January 2019 with confusion, fever and hydrophobia. The diagnosis of rabies was confirmed by RT-PCR on two saliva samples. The child died on 12 February 2019.

This is the second case of human rabies reported for 2019 to date. The first case involved a child from the Eastern Cape Province. The 4-year-old girl was admitted to hospital on 25 January with fever, vomiting and had muscle spasms and hydrophobia. She was agitated, aggressive and confused. She

died on 28 January 2019. A saliva specimen, collected at admission, and a brain specimen, collected at post-mortem, tested positive for rabies by PCR and DFA respectively. She was bitten on her face by a known dog and did not receive adequate post-exposure prophylaxis afterwards. The dog was killed after it had injured the child. In 2018, a total of 16 human rabies cases was laboratory-confirmed. These cases were reported from KwaZulu-Natal (n=8), Eastern Cape (n=6), Mpumalanga (n=1) and Free State (n=1) provinces. For more information on how to prevent rabies in humans, visit the NICD website: www.nicd.ac.za.

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

b A case of human brucellosis in Limpopo Province, January 2019

Brucellosis is a bacterial zoonotic disease caused by *Brucella* species. Infection in humans is acquired through ingestion of contaminated animal products such as unpasteurised milk, or by direct contact with reproductive tissues of infected animals, or by exposure to cultures in the laboratory. Symptoms are non-specific and include fever, profuse sweating mostly during the night, extreme tiredness, and pain in bones and joints, especially the lower back, hip or knee joints. The incubation period is usually 2–4 weeks but may range from five days to five months. *Brucella* species that are able to infect people have various animal hosts, as follows: *B. abortus* (cattle), *B. melitensis* (goats, sheep, camels, occasionally cattle), *B. suis* (swine), and *B. canis* (dogs); *B. abortus* and *B. melitensis* are the predominant public health problems.

On 16 January 2019, Limpopo Department of Health (Public Health Directorate) was notified of a confirmed case of brucellosis in a 54-year-old male. The patient was admitted on 10 January as a suspected case of tetanus with a 1-day history of fever, fatigue, myalgia, muscle spasm and stiffness of the neck. The patient demised on the day of notification. *Brucella* sp. was isolated by blood culture and identity was confirmed by MALDI-TOF MS at NICD (Centre for Emerging Zoonotic and Parasitic Diseases). Further genetic testing is currently underway to determine the species.

During the investigation, the family reported that the deceased started consuming unpasteurised milk from his cattle after early March 2018. The herdsman stated that some of the cattle started aborting

in September and October 2018. The milk from the cattle was consumed by himself, and two of the cattle owners (including the deceased). In addition, the unpasteurised milk was sold to some of the villagers. Seven contacts from the village reported consuming unpasteurised milk that they bought from the herdsman after March 2018. There was no report of direct contact with any animal products other than the unpasteurised milk. No person reported signs and symptoms suggestive of brucellosis at the time. No clinical samples were collected from any of the nine contacts. Giyani Veterinary Services reported collection of five serum samples from two aborting and three milking cows out of 51 cattle. *Brucella abortus* antibodies were detected in 2/5 samples.

The herdsman stopped milking the cows and selling the milk. Health promotion information was given regarding prevention of brucellosis (e.g. heating of fresh milk before consumption). Preliminary findings suggest that drinking of unpasteurised milk was the likely source of the deceased's brucellosis infection. Investigations are still ongoing.

Source: Centre for Emerging Zoonotic and Parasitic Diseases and Division of Public Health Surveillance and Response, Provincial Epidemiology Team, NICD-NHLS; Limpopo Department of Health, Giyani Veterinary Services; johnf@nicd.ac.za

3 VACCINE-PREVENTABLE DISEASES

a Increase in pertussis cases, Nelson Mandela Bay Health District, Eastern Cape Province, 2018-2019

Following an alert in August 2018 on an increase in pertussis cases at the National Institute for Communicable Diseases (NICD) sentinel pneumonia surveillance sites, retrospective review of pertussis cases recorded in the district's notifiable medical conditions surveillance system between 1 January 2013 and 14 September 2018 was conducted. A total of 49 cases was reported, with 6% (3/49) reported in 2013, 20% (10/49) in 2014, 22% (11/49) in 2015, 8% (4/49) in 2016, 10% (5/49) in 2017 and 33% (16/49) in 2018. The period 1 January to 14 September 2018 accounted for the highest number of cases compared to the five preceding years, which prompted the declaration of a pertussis outbreak on 19 October 2018. Case investigation and public health actions commenced on 23 October 2018.

From 1 January 2018 to 19 February 2019, 116 laboratory-confirmed cases have been reported from health facilities in the district (Figure 2). Majority (88%, 102/116) of the laboratory-confirmed cases reside in Nelson Mandela Bay Health District, 12 cases reported place of residence as Sarah Baartman (7/12) and Chris Hani (5/12) districts, and two cases had unknown place of residence. Seventy-eight percent (91/116) of cases were under five years of age. Of these, 29% (26/91) were <6 weeks old, 21% (19/91) between 6 and 9 weeks, 13% (12/91) between 10 and 13 weeks, 10% (9/91) between 14 and 23 weeks and 27% (25/91) older than six months. Three deaths (2.6%, 3/116) in infants with laboratory-confirmed pertussis were reported in 2018.

Public health response, including contact tracing and management, has been conducted for 54%

(63/116) of the laboratory-confirmed cases. Of 372 contacts identified, 66% (246/372) received chemoprophylaxis. A community catch-up immunisation campaign among children <5 years was conducted in all three sub-districts. Administration of a tetanus, diphtheria, and pertussis (Tdap) combination vaccine booster dose to pregnant women from 32 weeks of gestation is underway at public health facilities in the districts. Public health response is ongoing, and case and contact numbers will be revised as pertussis case investigations continue.

Pertussis, also known as whooping cough, is a highly contagious, vaccine-preventable respiratory tract disease. Though it can affect persons of all ages, young unimmunised and partially immunised infants are most vulnerable to the disease and are at high risk of complications and death. Clinicians are advised to be on alert for cases, to notify cases, and to identify and manage contacts of persons with confirmed and suspected pertussis. NICD recommendations for pertussis diagnosis, management and public health response are available on the NICD website at www.nicd.ac.za.

Source: Eastern Cape Provincial Department of Health; Nelson Mandela Bay Health District, South African Field Epidemiology Training Programme; Centre for Respiratory Diseases and Meningitis and the Division of Public Health Surveillance and Response, Provincial Epidemiology Team, NICD-NHLS; sibongilew@nicd.ac.za

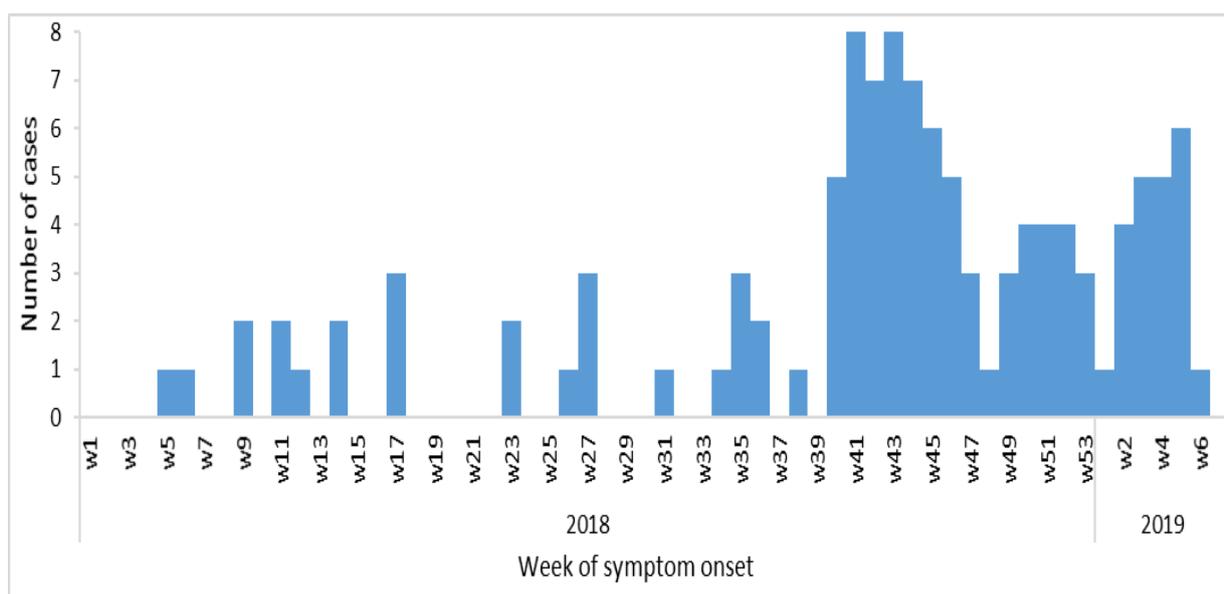


Figure 2. Epidemic curve of laboratory-confirmed pertussis cases by week of symptom onset, Nelson Mandela Bay Health District, Eastern Cape Province, January 2018 to 19 February 2019 (N=116)

4 INTERNATIONAL OUTBREAKS OF IMPORTANCE

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

The Ministry of Health (MoH), WHO and partners continue to respond to the ongoing Ebola virus disease (EVD) outbreak in the Democratic Republic of the Congo (DRC). As of 12 February 2019, 823 EVD cases (762 confirmed and 61 probable), including 517 deaths have been reported, with a case fatality rate of 63%. Of confirmed and probable cases with reported gender, 58% (465/815) were female. Thus far, 283 people have been discharged from Ebola Treatment Centres (ETCs). As of 10 February, 68 (8.3%) healthcare workers were infected.

Although the number of reported cases decreased in the past few weeks, Katwa and Butembo remain the major health zones of concern. Small clusters of cases continue to occur in various geographically dispersed regions. During the last 21 days (23 January–12 February 2019), 98 new cases have been reported from 13 health zones including: Katwa (59), Butembo (12), Beni (7), Kyondo (4), Oicha (4), Vuhovi (3), Biena (2), Kalunguta (2), Komanda (1), Manguredjipa (1), Mabalako (1), Masereka (1), and Mutwanga (1). A recent case reported in the Komanda health zone, a resident of Katwa, was exposed to the virus and subsequently travelled to both Bunia and Komanda. This case comes one month after the last reported case in Ituri Province, highlighting the high risks of reintroduction to previously affected areas, as well as the potential for spread to new ones.

Teams are working actively to build community trust and scale up response activities around these new clusters. As of 10 February 2019, a total of 77 680 individuals has been vaccinated since the start of the outbreak. Contact tracing is continuing and 50 000 contacts have been registered and 8 057 contacts remain under surveillance.

Public health response

The MoH of the DRC continues to strengthen response measures, with support from WHO and partners. Priorities include coordination, surveillance, contact tracing, laboratory capacity, infection prevention and control, clinical management of patients, vaccination, risk communication and community engagement, psychosocial support, safe and dignified burials, cross-border surveillance, and preparedness activities in neighbouring provinces and countries.

Main challenges in the past week primarily pertain to community mistrust, particularly in Katwa, and the difficulty in encouraging community members to be more proactive in reporting suspected cases, presenting early to ETCs for treatment, and participating in community-based prevention and response efforts. However, in the face of these protracted challenges, response strategies have demonstrated to be effective in curtailing the spread of EVD. The field team is intensifying community engagement and case investigation to ensure 100% of high-risk contacts are identified timeously and followed up daily. As of 10 February 2019, more than 34 million travellers have been screened. During the week preceding 10 February 2019, an average of 587 alerts were received per day and 94% investigated and validated.

WHO risk assessment.

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

Situation in South Africa

As of 19 February 2019, there have been no EVD cases in South Africa associated with the current outbreak in the DRC. In addition, there are no suspected cases of EVD in South Africa at present.

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

5 SEASONAL DISEASES

a Malaria update

Malaria cases and deaths for 2018 are shown in Figure 3. As expected, there was a substantial increase in cases in January as travellers returned from high transmission areas, and high rainfall and temperatures continued across endemic regions. Although data are incomplete, confirmed cases in

the three malaria-endemic provinces of South Africa (Limpopo, Mpumalanga, KwaZulu-Natal) totaled 1 761 in January 2019, compared with 429 in December 2018. The largest percentage increase in malaria cases was in KwaZulu-Natal Province, which reported 52 cases in December, but 369 cases in

January. It is likely that more active screening at border posts, rather than increased transmission within the province, is responsible for the large increase in cases reported in the province.

Regarding treatment of malaria, there are two issues of concern. Many healthcare professionals that dispense Coartem (artemether-lumefantrine) are not aware that all doses must be taken with fatty food or drink, such as full cream milk. This is to optimise absorption of the lumefantrine component; if this is not done, there is a risk of late treatment failure, even if the initial clinical response is satisfactory. Some healthcare professionals continue to use quinine as first-line treatment for severe and complicated malaria, despite the

availability of artesunate. Artesunate is now licensed for use in South Africa under the tradename Garsun, and is much safer and easier to use, is faster acting, and has fewer adverse effects than quinine. Full treatment details are available in the updated malaria treatment guidelines, available on the NICD website (www.nicd.ac.za).

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

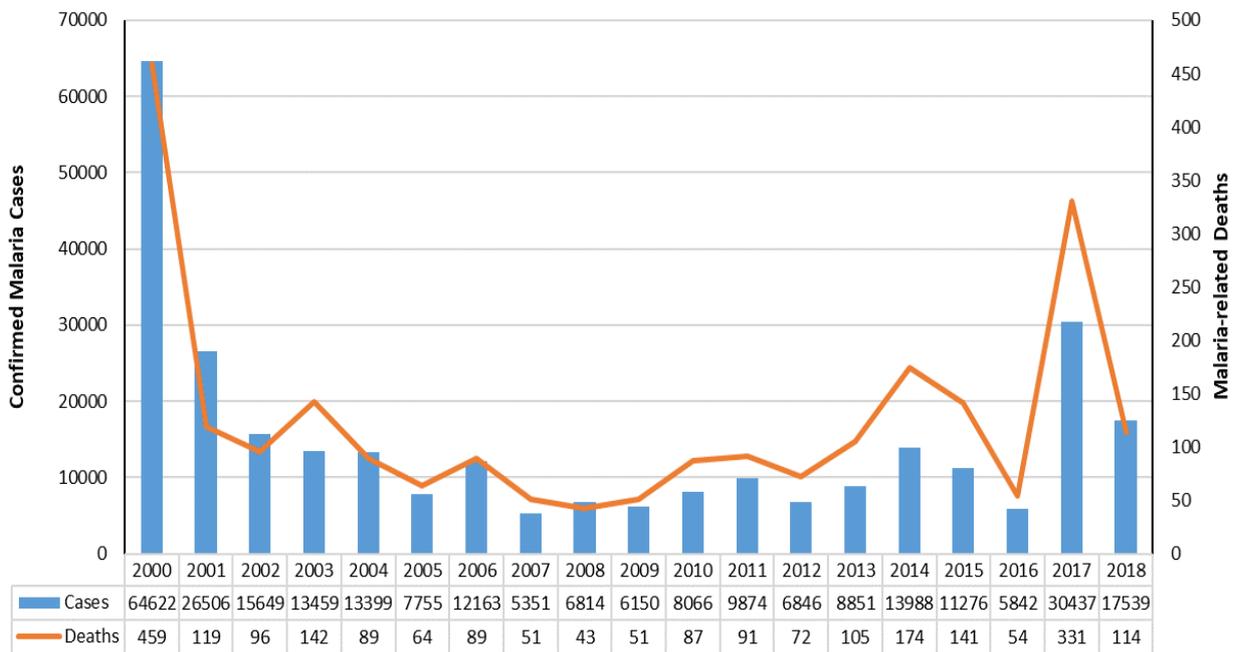


Figure 3. Confirmed malaria cases and deaths, South Africa, 2018. Source: National Department of Health. Data are subject to updating.

b An update on influenza in the northern hemisphere

Influenza activity has continued in the temperate zone of the northern hemisphere, and thresholds remain above seasonal levels. In Europe, influenza A(H1N1)pdm09 and A(H3N2) have been co-circulating, in North Africa, where A(H3N2) had been the predominant strain, detections of influenza A(H1N1)pdm09 have increased. Detections of influenza A(H1N1)pdm09 predominated in the United States of America and Canada, as well as in East Asia.

Preliminary influenza vaccine effectiveness (VE) data from the northern hemisphere showed adjusted VE against influenza A(H1N1)pdm09 of 62% (95% CI: 40%-75%) amongst children <18 years in the USA, 72% (95% CI: 60% - 81%) against

medically attended, laboratory confirmed influenza in Canada, and 92% (95% CI: 82% - 96%) in children <18 years in Hong Kong.

Although our influenza season has not started, clinicians should have a high index of suspicion for influenza in returning travellers from the northern hemisphere.

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

6 CONGENITAL SYPHILIS

a Congenital syphilis notifications and laboratory alerts

In order to establish a baseline congenital syphilis (CS) burden and monitor progress towards elimination, South Africa included CS on its enhanced NMC surveillance system (NMCSS) in 2017. CS is a category 2 NMC which means all healthcare workers are required to notify cases through the paper-based or electronic forms within seven days of diagnosis. In addition to the NMC platforms, CS surveillance is complemented by a laboratory alert system where an alert is generated by the laboratory whenever there is a positive RPR result (RPR+) in an infant/child <2 years of age. The alert is then sent to the requesting health facility for evaluation and if appropriate, notification.

The Centre for HIV and STIs receives line lists containing notified cases and laboratory alerts for case classification and analysis respectively. In the period June to December 2018, there were 85 notified cases of congenital syphilis and 2 494 laboratory alerts for RPR+ results in infants/children <2 years.

The numbers of CS cases were constant throughout the six-month period, monthly median of 11 (range 8- 17), Figure 4. Of the cases, 37 (43.5%) were clinical notifications alone while the remaining 48 (57.5%) had a laboratory alert associated with them. Notifications were from 19 districts in six provinces, 39 (45.8%) from six districts in KwaZulu-Natal Province, 33 (38.8) from three districts in Gauteng Province, six (7.1%) from two districts in Free State Province, four (4.7%) from two districts in Northern Cape Province, two (2.4%) from one district in Limpopo Province and one (1.2%) from one district in Western Cape Province.

Of the 2 494 laboratory alerts for RPR+ results, the

date of birth or age was missing for 78 (3.1%) and age was >2 years for 39 (1.6%), leaving 2 377 eligible alerts. While the number of RPR+ results fluctuated in the 6-month period, the ratio of clinical notifications to RPR+ results declined consistently (Figure 4). RPR positive tests were requested from facilities in 51 districts in all nine provinces. The median number of RPR+ tests per district was 15 (range 1-195), 22 districts had ≥20 RPR+ and these accounted for 85% of all RPR+ results. The 10 highest numbers of RPR+ were reported in the following metropolitan municipalities and urban districts: City of Cape Town, 195 (13.5%), City of Johannesburg, 115 (8.0%), Cape Winelands, 115 (8.0%), uMgungundlovu, 86 (6.0%), eThekweni, 85 (5.9%), Nelson Mandela Bay, 79 (5.5%), Dr Kenneth Kaunda, 67 (4.6), Mangaung, 56 (3.9%), uThungulu, 42 (2.8%) and Ekurhuleni, 40 (2.7%).

The NMC platform and RPR+ laboratory alert system for CS surveillance are fully operational. Preliminary data presented here suggest screening syphilis-exposed infants occurred in nearly all districts although concentrated in the cities and metros, whereas congenital syphilis notifications were concentrated in fewer districts. Health providers should i) actively screen for CS among syphilis-exposed infants, ii) evaluate all RPR+ infants/children for CS, iii) maintain a high index of suspicion for CS, and iv) rapidly notify CS cases as they occur.

Source: Centre for HIV and STIs, NICD-NHLS; tendesayikc@nicd.ac.za

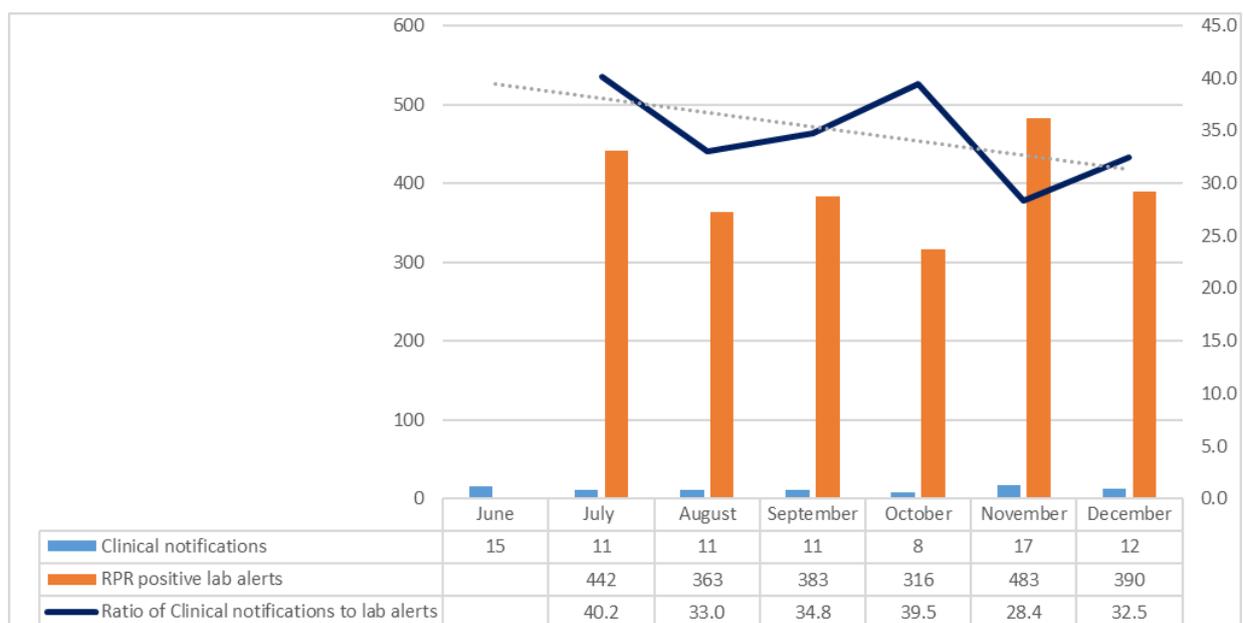


Figure 4. Distribution of clinical notifications and laboratory alerts for RPR positive for syphilis among infants and children <2 years of age. Trend shown as a dotted line.

7 BEYOND OUR BORDERS

The 'Beyond our Borders' column focuses on selected and current international diseases that may affect South Africans travelling abroad. Numbers correspond to Figure 5 on page 9.

1. Réunion: Dengue

There has been a total of 476 locally-acquired cases of dengue reported on Réunion Island in 2019, with 145 cases confirmed between 28 January and 3 February 2019. Cases have been diagnosed in the South, West and North Zones with most cases reported from Saint-Louis, Rivière Saint-Louis, Saint Pierre, La Possession, Les Avironns and Piton Saint-Leu.

Persons with dengue may present with fever, nausea and vomiting, headache, joint pain, rash or abdominal pain.

Notification of dengue infection to public authorities in Réunion is compulsory. The public health response by Reunion has been to re-inforce vector control, enhance surveillance, encourage social mobilisation and raise awareness amongst the public and healthcare workers. Awareness activities include the use of posters at points of entry (PoE) and announcements onboard flights to and from Réunion. The World Health Organization (WHO) advises against any restrictions on travel to or trade with Réunion, based on the information available.

2. Oman: MERS-CoV

As at 13 February 2019, six cases of MERS-CoV have been reported in Oman; five have been among women from the same family. All five women lived on a farm where dromedary camels and other animals were kept. The source of infection in this cluster is under investigation in Oman and four of the five cases appear to be secondary cases resulting from human-to-human transmission.

According to WHO, investigation to identify exposure to known risk factors in the 14 days prior to the onset of symptoms is ongoing. Ministry of Health officials in Oman have established a contact list of healthcare workers and familial contacts. As of 4 February 2019, a total of 60 familial contacts was identified, with 26 contacts classified as high risk.

WHO encourages all states to continue surveillance for acute respiratory infections and to carefully review any unusual patterns which may occur. People should avoid close contact with animals, particularly camels, when visiting farms, markets, or barn areas where the virus is known to be potentially circulating.

3. Nigeria: Lassa Fever

From 1 January to 10 February 2019, 327 cases of Lassa fever (324 confirmed and 3 probable) with 72 deaths have been reported across 20 states and the Federal Capital Territory, with the majority of cases being reported from Edo (108) and Ondo (103) states. A total of 12 cases has been reported

among healthcare workers in seven states.

Lassa fever is a viral haemorrhagic fever that is transmitted to humans via contact with food or household items contaminated with rodent urine or faeces. Person-to-person infections and laboratory transmission can also occur. There is currently no approved vaccine.

Lassa fever is known to be endemic in Nigeria with the peak season anticipated from December through June. Prevention of Lassa fever relies on community engagement and promoting hygienic conditions to discourage rodents from entering homes. In healthcare settings, staff should consistently implement standard infection prevention and control measures when caring for patients, to prevent nosocomial infections. WHO does not recommend any travel or trade restriction to Nigeria, based on the currently available information.

4. USA: Coccidioidomycosis

The number of valley fever (coccidioidomycosis) cases rose eight percent in 2018 from the previous year, according to a report released by the California Department of Public Health last week.

Valley fever, also known as coccidioidomycosis, is an infection caused by a fungus found in soil. Valley fever is contracted by breathing in spores in the air and cannot be spread from person to person. Symptoms appear one to three weeks later and include a rash, fatigue, headache, fever, shortness of breath, coughing and muscle or joint pain. In a few cases, the infection can spread from the lungs to the brain, bones, skin or eyes, causing blindness, skin abscesses, lung failure and occasionally, death.

Risk factors for more severe pulmonary disease include diabetes, recent history of cigarette smoking and older age. Disseminated infection occurs more frequently in certain ethnic groups (persons of African, Filipino, and, to a lesser extent, Hispanic descent), pregnancy, and immunodeficiency, such as that due to AIDS or immunosuppressive drugs.

5. Brazil: Yellow fever

Brazil is currently in the seasonal period for yellow fever, which occurs from December through May. From December 2018 through January 2019, 36 confirmed human cases, including eight deaths, have been reported in 11 municipalities of two states of Brazil. Recent human cases of yellow fever during the current seasonal cycle have been reported in São Paulo and Paraná states in Southeast Brazil.

WHO recommends vaccination of international travellers above nine months of age going to Brazil.

It also recommends against the application of any general travel or trade restrictions to Brazil based on the information available for this event.

6. Namibia: Hepatitis E

As of 27 January 2019, a total 4 432 hepatitis E cases, with 40 deaths, had been reported in Namibia. The deaths have been disproportionately highest among pregnant women and those who have given birth (17 cases).

Hepatitis E is found worldwide and different genotypes of the hepatitis E virus determine differences in distribution of the disease. Genotype 1 is usually seen in developing countries and causes community-level outbreaks, and genotype 3 is usually seen in developed countries and does not cause outbreaks. Many of the deaths in the pregnant women were characteristic of genotype 1. The highest prevalence rates of hepatitis E are observed in regions where low standards of sanitation increase the risk for transmission of the virus. A public health response has been initiated by Namibia.

7. Madagascar: Measles

Madagascar has been experiencing a measles outbreak since early October 2018. As of 15 February 2019, a total of 68 912 cases has been reported, of which 798 were laboratory-confirmed

(IgM-positive), and 66 624 were epidemiologically linked. Cases were reported from 110 of 114 districts in all 22 regions of Madagascar. The reported number of cases has been declining gradually since the peak in week 4 (week ending 27 January 2019).

Measles is an acute, highly contagious viral disease that has potential to lead to major epidemics. Infected persons present with a fever and a maculopapular rash, with a cough, coryza (runny nose) and/or conjunctivitis (red eyes).

The Ministry of Public Health of Madagascar is coordinating the response activities, with support from the World Health Organization (WHO) and other partners. Some of the activities include vaccination campaigns, community mobilisation, risk assessments and enhanced active surveillance. Currently, the WHO does not recommend any restriction on travel and/or trade to Madagascar based on the information available on the current outbreak.

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



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

8 WHO-AFRO: OUTBREAKS AND EMERGENCIES

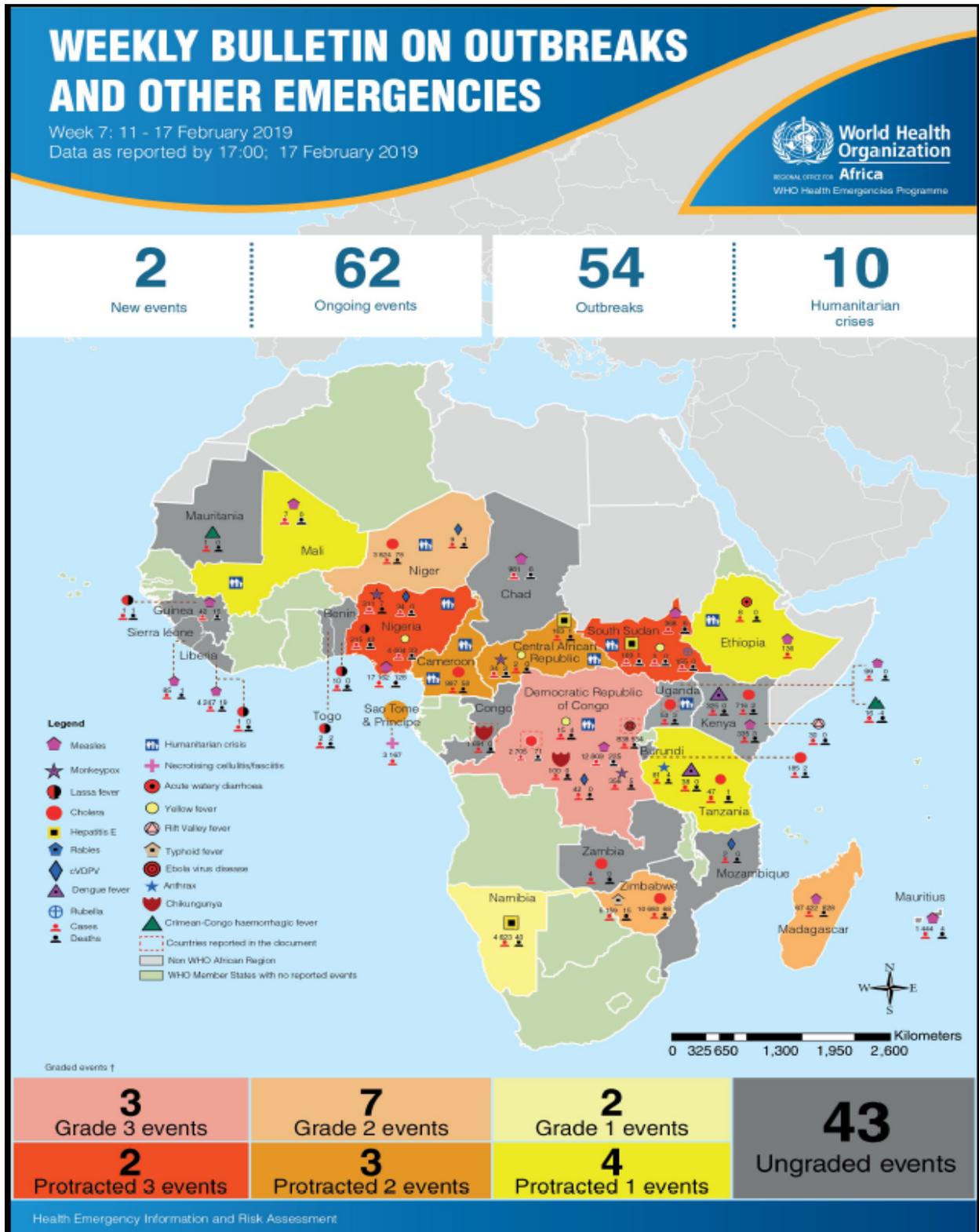


Figure 6. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 64 events. For more information see link below: <https://apps.who.int/iris/bitstream/handle/10665/310904/OEW07-1117022019.pdf>