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**1 ZONOTIC AND VECTOR-BORNE DISEASES**

**a An update on rabies in South Africa**

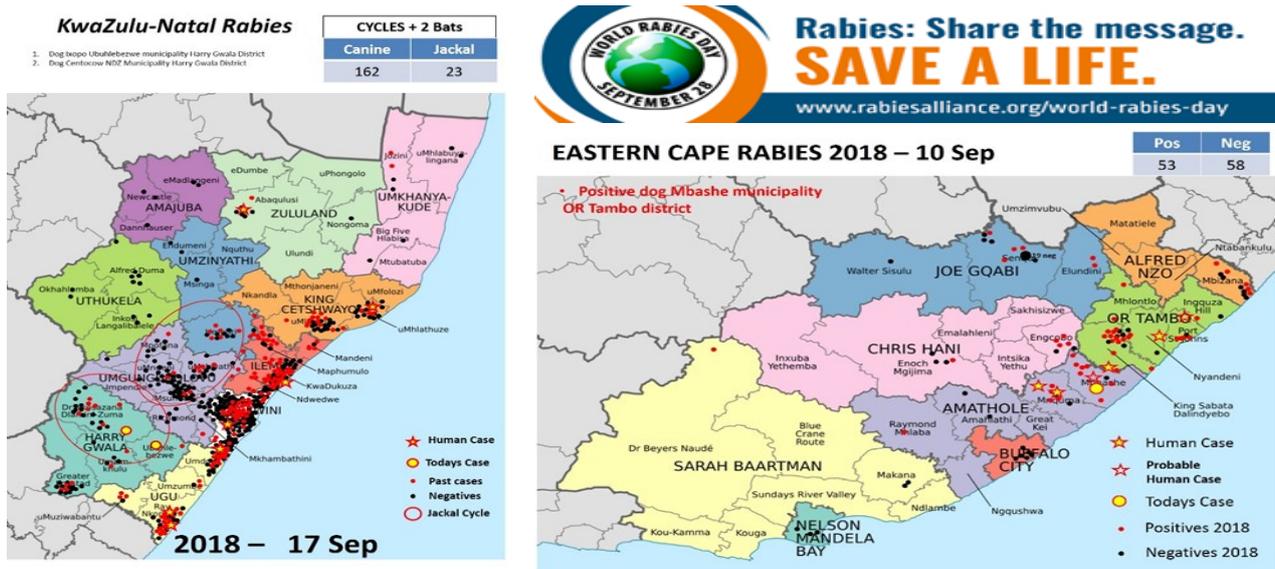
Thirteen human rabies cases (including the two cases reported here) have been laboratory confirmed in South Africa to date. These cases were reported from KwaZulu-Natal (n=7) and Eastern Cape (n=6) provinces. Two additional probable cases were reported from the Eastern Cape Province. These cases could not be confirmed through laboratory testing, but presented with a rabies-compatible clinical history and history of exposure to potentially rabid dogs. This is the greatest number of human rabies cases reported in a year in South Africa since 2010. During 2017, a total of seven cases was reported, and only two cases in 2016. The increase in the number of human rabies cases reported relates to the outbreak of dog rabies in KwaZulu-Natal and Eastern Cape provinces (Figure 1).

Since the previous report, two human cases of rabies have been confirmed. Rabies was confirmed in a five-year-old girl from Mbalisweni (Qumbu), Eastern Cape Province. The child was bitten by a stray dog on the left leg in April 2018. Reportedly, no medical intervention was sought after the bite and the wound was treated at home. The child presented to a local clinical mid-August and was admitted to a local hospital the following day. The child demised shortly thereafter. Rabies was confirmed on postmortem-collected brain samples. Rabies was also confirmed in a 27-year-old male from Gamalakhe (close to Margate and Port Shepstone), KwaZulu-Natal Province. The patient was scratched by a stray dog in May 2018. The dog died shortly after the event. Again, no medical intervention was sought following the exposure. The patient presented with signs and symptoms of rabies and died in the first week of September.

Rabies was confirmed on postmortem-collected brain samples.

The public is urged to ensure that their dogs and cats are vaccinated against rabies. It should be appreciated that due to the outbreak of rabies in KwaZulu-Natal and Eastern Cape provinces, the risk of rabies occurring in other areas of South Africa is also increased. An example of this was the outbreak of rabies in Soweto, Gauteng Province in 2010. Due to low vaccination coverage in dogs in the area, and following an introduction of an infected animal from KwaZulu-Natal Province, an outbreak of rabies in dogs in Soweto ensued. The outbreak required considerable efforts to bring under control and a human case of rabies was reported during the course of the outbreak. Vaccination of dogs and cats does not only protect the animal, but also indirectly protects the humans who may have contact with these animals. When possible exposure events occur, it is imperative that medical attention is sought as a matter of urgency. Wounds require thorough washing with soap and water (and possible antibiotic treatment), and if there is a rabies risk, rabies vaccination (and rabies immunoglobulin therapy) will be provided to prevent infection. Rabies is an incurable disease upon the onset of clinical symptoms, but it may be prevented through vaccination of animals and rabies post-exposure prophylaxis (PEP) following possible exposure events. For more information regarding PEP for rabies, visit [www.nicd.ac.za](http://www.nicd.ac.za)

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



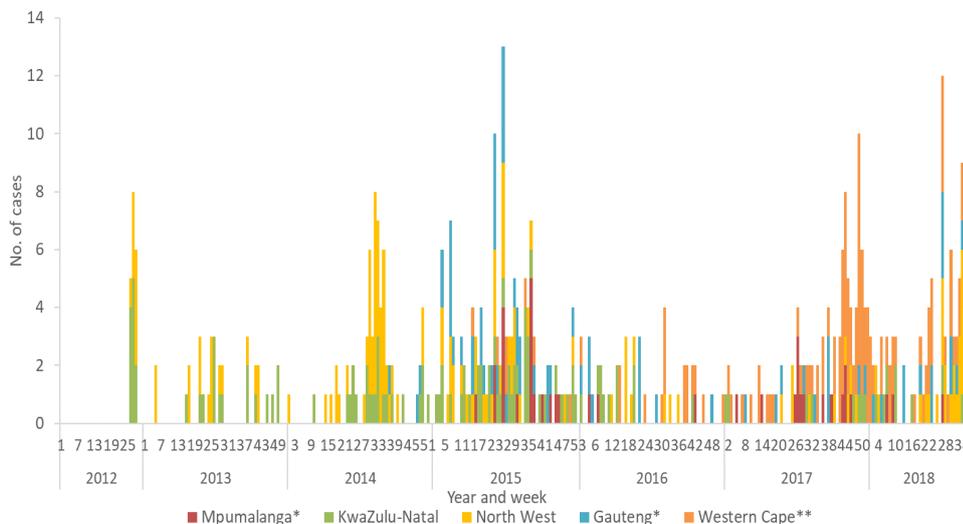
## 2 VACCINE-PREVENTABLE DISEASES

### a Increase in pertussis cases in South Africa

An increase in laboratory-confirmed pertussis cases has been detected from the sentinel sites (Western Cape, Gauteng, Mpumalanga, North West and Kwa-Zulu-Natal provinces) which form part of the pneumonia surveillance and influenza-like illness surveillance programmes (Figure 2). An increase, which was limited to the Western Cape sites, was observed from October 2017 to January 2018. However, the increase observed since July 2018 is more generalised across the surveillance sites. Overall, from January through August 2018, 90 pertussis cases were detected with the detection rate ranging from 0.3% (2/703) in April 2018 to 3.8% (22/582) and 3.2% (22/686) in July and August 2018 respectively. The highest detection rate was observed in infants <3 months of age (44/1023, 4.3%), with a second peak in individuals aged 5-24 years (8/410, 2.0%) (Figure 3). Of the 90 pertussis cases detected in 2018, 46 (51.1%) occurred in the two-month period July - August 2018; of which 20 (43.5%) cases occurred in infants <3 months of age.

Pertussis, commonly known as 'whooping cough', is a vaccine-preventable disease caused by *Bordetella pertussis* and is notifiable (Category 1) according to the Health Act. Immunity following vaccination lasts for 5-6 years. Episodic increases in pertussis cases occur in vaccinated populations every 3-5 years. Clinicians are advised to be on the alert for cases, to conduct diagnostic testing where appropriate, to notify cases and prescribe post-exposure prophylaxis to close and high-risk contacts of suspected or confirmed cases. NICD recommendations for pertussis diagnosis, management and public health response may be found on the NICD web page (<http://www.nicd.ac.za/index.php/pertussis/>). Notification forms can be accessed at <http://www.nicd.ac.za/index.php/nmc/>.

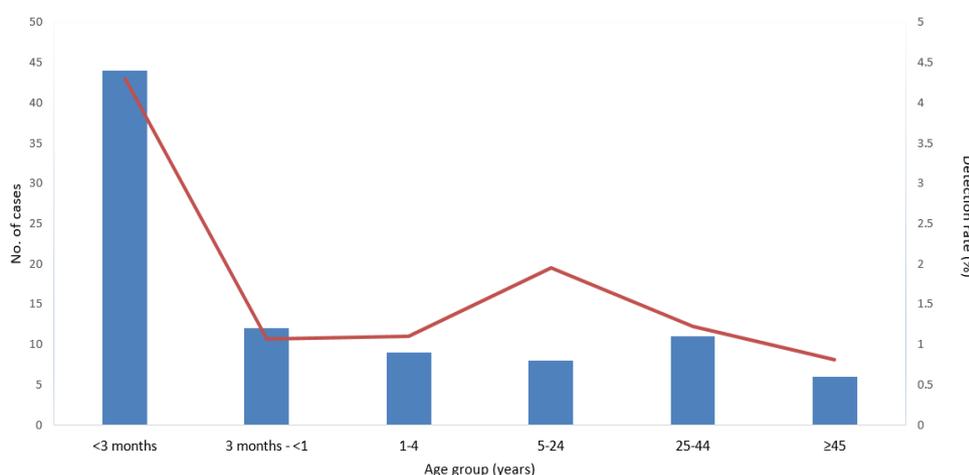
**Source:** Centre for Respiratory Diseases and Meningitis; NICD-NHLS; annev@nicd.ac.za



**Figure 2.** Number of laboratory-confirmed pertussis cases from pneumonia surveillance and influenza-like illness surveillance programmes by year, week and province, 2012-2018

\*Testing from July 2014

\*\*Testing from March 2015



**Figure 3.** Number of cases and detection rate of laboratory-confirmed pertussis cases from pneumonia surveillance and influenza-like illness surveillance programmes by age group, Jan – Aug 2018 (N=90)

### 3 ENTERIC DISEASES

#### a An update on the outbreak of *Listeria monocytogenes*, South Africa

South Africa experienced the largest outbreak of listeriosis globally, between January 2017 and May 2018. Owing to the fact that the number of listeriosis cases detected within the country has gone back to baseline levels and no ST6 (the outbreak strain) has been detected from June 2018 to date, the outbreak was declared over by the Minister of Health Dr Aaron Motsoaledi on 3 September 2018, with 1 065 confirmed cases and 218 recorded deaths.

Although outbreak-related cases have declined sharply, sporadic cases (i.e. not epidemiologically linked) continue to be reported, as expected. Therefore, healthcare workers are encouraged to continue providing risk-reduction guidance to persons at high risk for developing listeriosis (pregnant women, neonates  $\leq 28$  days of age, persons  $> 65$  years of age, and persons with immunosuppression (due to HIV infection, cancer, diabetes, chronic renal disease, chronic liver disease, transplantation and immunosuppressive therapy)). Such guidance includes advice on food hygiene (the World Health Organization's five keys to safer food is a useful resource for generic food hygiene advice) and avoidance of at-risk food.

The following actions have been taken to strengthen health and environmental systems to ensure prevention and early detection of future outbreaks, particularly in ready-to-eat processed meat:

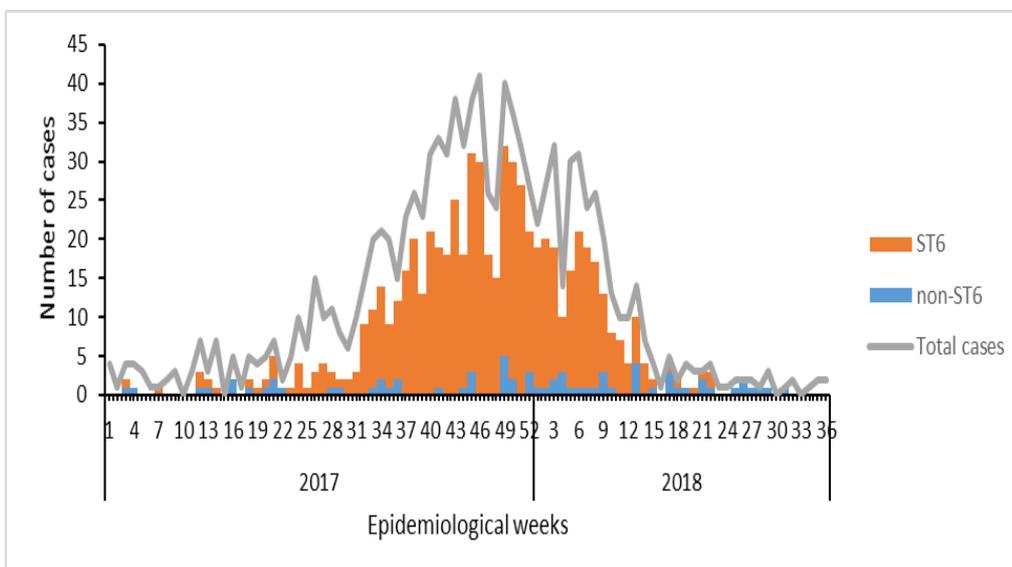
- Listeriosis has been declared a notifiable medical condition under an amendment to the National Health Act;
- The NICD has developed a system of ongoing surveillance and investigation of listeriosis cases including whole genome sequencing (WGS) of all isolates from laboratory-confirmed cases. This allows timeous identification of clusters which may represent outbreaks;
- The NHLS has strengthened capacity to con-

duct food and environmental testing for *Listeria monocytogenes*;

- Almost 900 environmental health practitioners in all health districts have been retrained in inspection procedures, food safety systems, legislative aspects of food control and tools to support inspections, including risk assessment tools and inspection checklists;
- All production facilities that manufacture ready-to-eat processed meat in South Africa have been identified (n=158) and all but nine have been inspected by district environmental health practitioners, supported by a core incident management team;
- An amendment to the Regulations pertaining to the application of the hazard analysis and critical control system (HACCP), (R908 of 2003) was published on 14 June 2018 requiring all producers of ready-to-eat processed meat to be HACCP certified by externally accredited agencies within nine months of publication of this act;
- Risk communication activities including the dissemination of information pertaining to food safety, avoidance of certain foodstuffs by persons who are at risk for listeriosis, and training of health promoters have been conducted.

Further resources on listeriosis can be found on the NICD website at [www.nicd.ac.za](http://www.nicd.ac.za), Diseases A-Z, under 'Listeriosis'.

**Source:** Centre for Enteric Diseases, and Division of Public Health Surveillance and Response, NICD Provincial Epidemiology Teams; NICD-NHLS; Provincial CDCs; ([junot@nicd.ac.za](mailto:junot@nicd.ac.za); [outbreak@nicd.ac.za](mailto:outbreak@nicd.ac.za))



**Figure 4.** Epidemic curve of laboratory-confirmed listeriosis cases by date of clinical specimen collection, South Africa, January 2017 to September 2018.

**b An update on the increase in diarrhoeal cases, Mbombela Sub-district, Mpumalanga Province**

On 22 July 2018, the Ehlazeni Communicable Disease Coordinator (CDC) received a notification of an increase in diarrhoeal cases seen at the Tekwane South Clinic, Mbombela Sub-district, Mpumalanga Province. An outbreak was declared on 23 July 2018. All healthcare facilities in the Mbombela Sub-district were requested to do daily zero reporting of diarrhoea cases. An investigation was conducted with the aim to identify case patients, identify the aetiology, determine the magnitude of the outbreak, document exposures, identify risk factors and to suggest measures for long-term prevention. Activities conducted included epidemiological, environmental and laboratory investigations [NICD Communiqué August 2018, Vol 17(8)].

As of 16 September 2018, a total of 4 190 diarrhoea cases was seen at healthcare facilities in the Mbombela Sub-district from 20 July 2018 (Figure 5). Where age was reported (n=4 095), 45% (1 822/4 095) of the cases were in children aged <5 years.

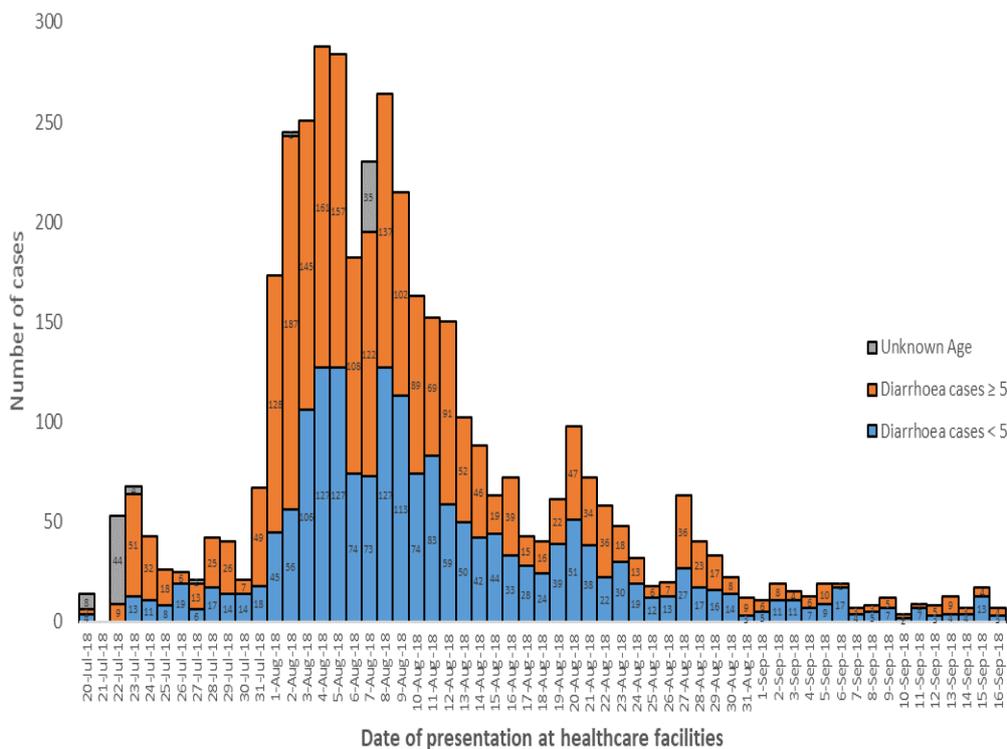
Cases were not epidemiologically linked, and no common event attended by the cases could be identified. Cases complained about intermittent water supply to the community prior to the increase

in diarrhoeal cases being seen at healthcare facilities.

Water samples collected after remedial actions were negative for coliforms and *Escherichia coli*. Results received for stool specimens indicate a multi-pathogen outbreak; the predominant pathogens detected include rotavirus, *Shigella sonnei*, norovirus and adenovirus.

Diarrhoeal case numbers are decreasing and the outbreak appears to be coming to an end. Healthcare facilities will continue to do daily zero reporting of diarrhoea cases as part of diarrhoea surveillance, and in response to the 2018 cholera outbreak in Zimbabwe. Meetings have also scaled down to once a week. Health promotion teams are continuously educating the communities about safe food preparation and good hygiene. Water quality monitoring is continuing.

**Source:** Mpumalanga Department of Health, Division of Public Health Surveillance and Response, NICD Provincial Epidemiology Team, South African Field Epidemiology Training Programme and Centre for Enteric Diseases, NICD-NHLS (outbreak@nicd.ac.za)



**Figure 5.** Epidemic curve of diarrhoeal cases presenting at Primary Healthcare facilities, Mbombela Sub-district, 20 July—16 September 2018.

\*Data to be verified from line lists submitted by the healthcare facilities.

**4 INTERNATIONAL OUTBREAKS OF IMPORTANCE**

**a Ebola virus disease outbreak, Democratic Republic of Congo**

The Ministry of Health (MoH) of the Democratic Republic of the Congo (DRC), declared a new outbreak of Ebola virus disease (EVD) on 1 August 2018. As of 16 September 2018, a total of 142 confirmed and probable EVD cases, including 97 deaths (case fatality ratio 68.3%), has been reported. Of the 142 cases, 111 are confirmed and 31 are probable. Of the 97 deaths, 66 occurred in confirmed cases. A total of 19 healthcare workers has been affected, of which 18 are confirmed and three have died. The epicentres of the outbreak remain Mabalako and Beni health zones in North Kivu Province, reporting 63% (n=89) and 20% (n=29) of all confirmed and probable cases, respectively. However, since late August 2018, most new cases have occurred in Beni or are related to a Beni transmission chain. Of the total deaths to date, 67% (n=65) are from Mabalako, while 24% (n=23) are from Beni. Additionally, six other health zones in North Kivu Province and one in Ituri Province have reported confirmed and probable cases.

The MoH is receiving support from WHO and partners in rapidly initiating response mechanisms in the affected areas. Priorities include the establishment and strengthening of surveillance, contact tracing, laboratory capacity, IPC, clinical management, vaccination, risk communication and community engagement, safe and dignified burials,

response coordination, cross-border surveillance, and preparedness activities in neighbouring provinces and countries.

**WHO risk assessment**

This outbreak of EVD is affecting north-eastern provinces of the Democratic Republic of the Congo, which border Uganda, Rwanda and South Sudan. Potential risk factors for transmission of EVD at the national and regional levels include the transportation links between the affected areas, the rest of the country, and neighbouring countries including the displacement of Congolese refugees to neighbouring countries. Additionally, the security situation in North Kivu and Ituri may hinder the implementation of response activities. Based on this context, the public health risk is assessed to be high at the national and regional levels, and low globally.

**Situation in South Africa**

As at 25 September 2018, 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:** Division of Public Health Surveillance and Response (outbreak@nicd.ac.za); WHO: [www.who.int](http://www.who.int)

**5 SEASONAL DISEASES**

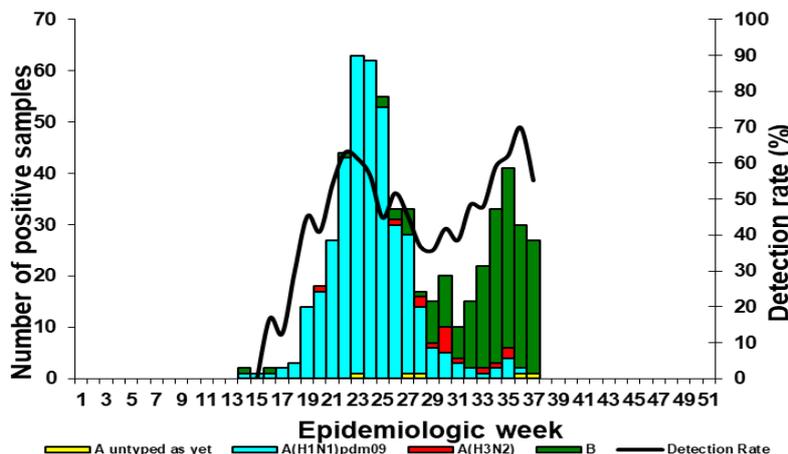
**a Influenza**

The 2018 influenza season, which started in week 18 (first week of May) is ongoing. Although the number of specimens per week submitted by Viral Watch sites started to decline in the beginning of July, numbers have increased again from mid-August (Figure 6).

Since the onset of the season, a total of 587 influenza detections has been made. Of these, 377 (64.2%) have been identified as A(H1N1)pdm09,

15 (2.6%) as A(H3N2) and 190 (32.4%) as influenza B. During May and June, influenza A(H1N1)pdm09 accounted for ≥90% of influenza detections. This tailed off during July and since August influenza B has accounted for ≥90% of detections per week.

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



**Figure 6.** Viral Watch 2018: Number of positive samples by influenza types and subtypes and detection rate\*

\*Only reported for weeks with >10 specimens submitted.

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

### b Invasive meningococcal disease surveillance: January to August 2018

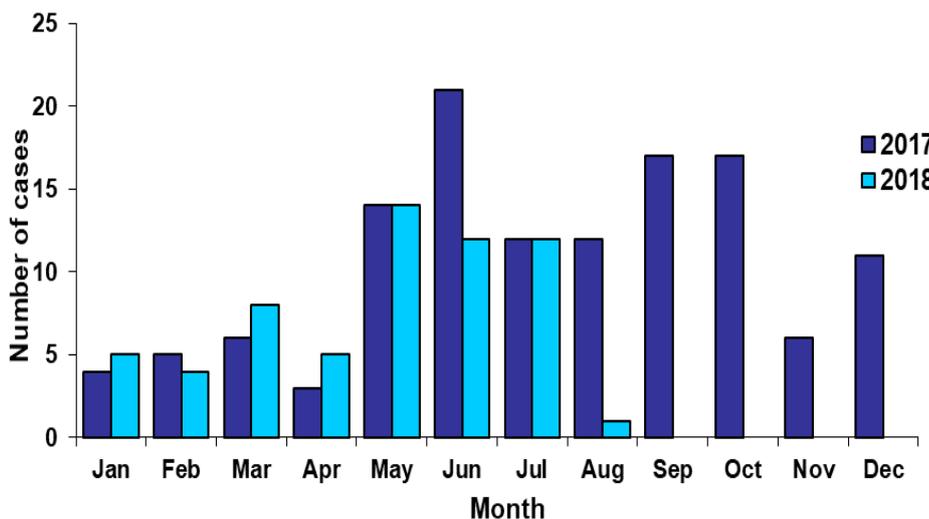
Meningococcal disease in South Africa occurs most frequently in the winter and spring months (Figure 7); therefore, doctors should consider meningococcosis in any patient presenting with symptoms suggestive of meningitis/bacteraemia and not delay in providing appropriate antibiotic treatment targeting meningococcal disease. Meningococcal disease is a Category 1 notifiable medical condition (NMC) and any clinically-suspected case should be reported immediately to the provincial Communicable Disease Control Coordinators to ensure appropriate contact tracing, responsible prescribing of chemoprophylaxis and case counting.

In total for 2018, 61 cases have been reported to the GERMS-SA network, 69% (42/61) of which had isolates available for serogrouping. Serogroup B caused 43% (18/42) of disease, followed by W (26%, 11), Y (19%, 8) and C (12%, 5). The majority of cases occurred in Gauteng Province (33%, 20/61), followed by Eastern Cape (26%, 16/61) and Western Cape (23%, 14/61) provinces. Most people presented with meningitis (67% (41/61) had

a positive culture from cerebrospinal fluid), whilst the remainder had positive blood cultures. One fifth (13/61) of disease occurred in children <1 year of age.

Although numbers of cases reported through GERMS-SA surveillance network only indicate one additional case in August 2018, there have been at least nine laboratory-confirmed cases reported through the NMC network for August and we await those clinical isolates. Microbiology laboratories (both NHLS and private laboratories) are encouraged to submit ALL meningococcal isolates as soon as possible to the NICD for confirmation and serogrouping of the isolates; or to submit the actual CSF, blood and/or blood culture (for culture negative, but latex antigen positive and Gram-negative cocci seen on Gram stain) for PCR confirmation.

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



**Figure 7.** Number of *Neisseria meningitidis* cases reported to GERMS-SA by month, South Africa, 2017 and 2018 (until end week 34).

### c Revised malaria risk map for South Africa

South Africa’s malaria risk profile has changed since the last edition of the map was released in 2013. The draft revised map is made available here (Figure 8, below), as the local malaria season (September – May) has started. Please note that this draft map is awaiting final approval, and is subject to amendment. Major changes to the malaria risk areas, based on recent malaria transmission data from various sources, are as follows:

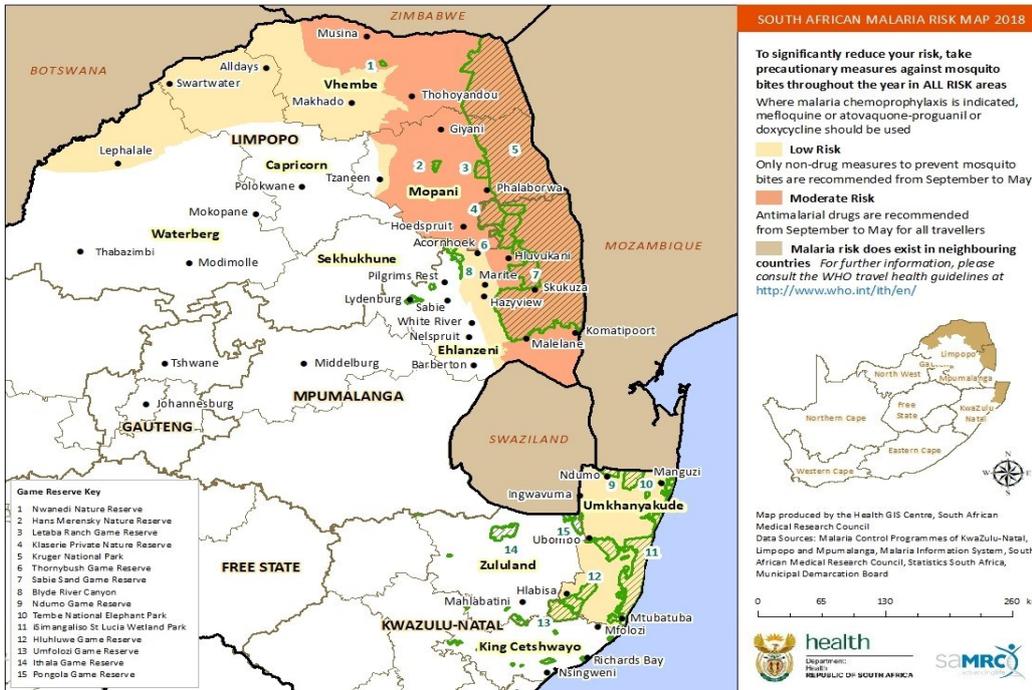
- The moderate risk areas (pink colour) in Vhembe and Mopani districts, Limpopo Province, have extended westwards, towards Tzaneen, and now include Musina, Thohoyandou and surrounds.

- The low risk areas (yellow colour) have likewise extended westwards to include the rest of Vhembe District, and the northern parts of Capricorn and Waterberg districts, including Makhado, Alldays, Swartwater and Lephalale.

The malaria situation in the Kruger National Park, Mpumalanga and KwaZulu-Natal provinces, and neighbouring countries, remains largely unchanged. The borders of risk areas should be regarded as approximate, and map users should understand that sporadic transmission may occur outside designated areas. Infected malaria mosquitoes are sometimes transported outside usual risk areas,

and may transmit the infection (so-called 'taxi malaria'). Visitors and residents should be aware of the 'flu-like' common symptoms of early malaria, and promptly seek healthcare advice if they think they may have malaria.

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



**Figure 8.** Revised malaria risk map for South Africa—Final technical draft September 2018 (subject to approval by Director General: National Department of Health).

## 6 JOINT EXTERNAL EVALUATION (JEE)

### a World Health Organization’s Joint External Evaluation, South Africa

A joint external evaluation (JEE) is a voluntary, collaborative, multisectoral process to assess country capacities to prevent, detect and rapidly respond to public health risks, whether occurring naturally or due to deliberate or accidental events. The JEE helps countries identify the most critical gaps within their human and animal health systems in order to prioritise opportunities for enhanced preparedness and response, by gauging how well the International Health Regulations (IHR) are being implemented in the country across nineteen core-competencies.

In November 2017, South Africa welcomed a WHO-convened multisectoral team to conduct the South African JEE following the country’s self-assessment earlier in 2017. The WHO team found that South Africa achieved fairly high scores for the majority of technical areas. Communication and advocacy, IHR coordination, zoonotic diseases, national laboratory system, linking public health and security authorities and points of entry were singled out for particular praise. The achievements in these technical areas were largely attributed to a high level of political will and technical commitment. However, the WHO team stated that it is imperative to continue investing in IHR capacity building to maintain and strengthen the level of capacity observed in South Africa. Technical areas identified as requiring

strengthening included national legislation, policy and financing, preparedness, emergency response operations, food safety, biosafety and biosecurity, and antimicrobial resistance. The evaluation also found that South Africa demonstrated a very high level of collaboration across the technical areas, with clear willingness among multisectoral partners (human, animal, port health and security sectors) to work together. It was recommended that this collaborative approach should be facilitated by a clear chain of command and decision-making structures to allow for scaling-up in times of emergency.

The next step in the JEE process will be unfolding in September 2018, where small working groups constituted by the relevant stakeholders for each technical area, will convene at a workshop to develop costed plans to sustainably address the gaps identified through the evaluation process.

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

## 7 FREQUENTLY-ASKED QUESTIONS ON THE NICD 24-HOUR HOTLINE

### What is 'Yamagata' on a viral watch result?

There are two types of influenza – influenza A and influenza B. Circulating influenza B viruses occur in two antigenically distinct lineages represented by B/Yamagata and B/Victoria. The relevance of this is that the Southern hemisphere formulation of inactivated trivalent influenza vaccine (TIV) includes only one of the two influenza B lineages each year, leading to a potential antigenic mismatch with the vaccine. There is also a quadrivalent formulation of influenza vaccine available since 2012, which includes both influenza B lineages, but this vaccine is not currently available in South Africa. The lineage in the 2018 influenza vaccine for South Africa is influenza B Yamagata.

### How does one get broth for environmental swabs for *Listeria*?

The process is as follows:

- All *Listeria*-related sampling must be planned with or directed by the National Department of Health, as material will not be provided for any other purpose;
- Requests for Fraser's broth and other sampling materials must be in writing to [nevashang@nicd.ac.za](mailto:nevashang@nicd.ac.za);
- At least 72-hour notice to allow for arrangement of courier;
- Request must include name of factory/facility to be sampled, number of samples to be taken, address and contact details for responsible person for drop-off and collection of samples, date of planned sampling and drop-off and collection;
- Telephonic requests or requests made via a third person cannot guarantee any sampling material.

### How does one collect postmortem specimens from a suspected rabies case?

The gold standard for rabies laboratory investigation is antigen detection on postmortem-collected brain samples. Different tests are available but at the NICD, the direct fluorescent antibody test is used. This test is very sensitive and specific and provides reliable results for the confirmation or exclusion of rabies as the cause of death of a patient.

It is recommended to sample from the different regions of the brain, at least the cerebrum and cerebellum. The samples should be preserved in 50% glycerol saline (i.e. half volume of glycerol and half volume of saline) and refrigerated before transport. When invasive necropsy is not possible, collection of a brain sample using a trucut biopsy needle through the supraorbital fissure provides an alternative approach. If glycerol saline is not available, the samples can be frozen before shipment. Samples should not be fixed in formalin as this will interfere with the rabies testing protocol and may relate to false-negative findings. Samples should be shipped on ice packs in accordance with the requirements for the shipping of dangerous biological material. More information on specific rabies tests and laboratory contact details are available from the NICD website: [www.nicd.ac.za](http://www.nicd.ac.za)

**Source:** Centre for Respiratory Diseases and Meningitis, Centre for Emerging Zoonotic and Parasitic Diseases, Division of Public Health Surveillance and Response, NICD-NHLS, [outbreak@nicd.ac.za](mailto:outbreak@nicd.ac.za)

## 8 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 9 on page 10.

### 1. Cholera: Zimbabwe

On 6 September 2018, a cholera outbreak in Harare was declared by the Ministry of Health and Child Care (MoHCC) of Zimbabwe and notified to WHO on the same day. The first case, a 25-year-old woman, presented to a hospital and died on 5 September. A sample from the woman tested positive for *Vibrio cholerae* serotype O1 Ogawa. There has been rapid increase in the number of suspected cases reported per day since 1 September; there was a peak with 473 suspected cases notified on 9 September. As of 15 September 2018, 3 621 cumulative suspected cases, including 71 confirmed cases, and 32 deaths have been reported (case fatality ratio: 0.8%). Of these, 98% (3 564 cases) were reported from the densely-populated capital, Harare. The most affected suburbs in Harare are Glen View and Budiro. WHO assessed the overall public health risk

to be high at the national level and moderate at the regional and low at global levels. WHO advises against any restrictions on travel or trade to or with Zimbabwe based on the information currently available in relation to this outbreak.

### 2. Middle East respiratory syndrome coronavirus (MERS-CoV) infection: Republic of Korea

On 8 September 2018, the International Health Regulations (IHR 2005) National Focal Point (NFP) of the Republic of Korea notified WHO of a laboratory-confirmed case of Middle East respiratory syndrome coronavirus (MERS-CoV). The case is a 61-year-old male Korean national, who visited Kuwait on business from 16 August to 6 September 2018. He returned to Korea via Dubai. The Ministry of Health in the Republic of Korea is closely monitoring 21 individuals who had close contact with the patient and

they have been placed in quarantine at home and are currently asymptomatic. In addition, up to 435 individuals, including the passengers on the flight, were or are under passive surveillance. To date, no cases have been associated with Hajj. WHO recommends that travellers to or from Middle East be informed on preventive measures to avoid exposure to MERS-CoV and when or where to seek medical attention in case of respiratory or gastrointestinal symptoms.

### 3. Plague: Madagascar

An outbreak of plague in Madagascar has killed two people. The WHO has warned that 2018's strain could be even more virulent than the 2017 strain that killed more than 200 people. As at 13 September 2018, eight suspected plague cases have been identified, six of whom recovered and two died in their villages. Madagascar has suffered bubonic plague outbreaks almost every year since 1980, often caused by rats fleeing forest fires. The plague bacterium, *Yersinia pestis*, is typically transmitted to humans from infected rats via fleas. Pneumonic plague can prove fatal between 24 to 72 hours while the bubonic form is less dangerous.

### 4. Anthrax: Uganda

Uganda's Ministry of Health, Agriculture, Animal Industry and Fisheries have dispatched teams of experts to contain the anthrax outbreak in the western, north-western, and eastern regions. The dis-

ease, caused by the bacterium *Bacillus anthracis*, has been reported to have left two people dead, 28 infected, and over 1 000 affected. Health and veterinary experts have been sent to the districts of Arua, Kween, and Kirihura to contain the outbreak following new cases of the disease.

### 5. *Escherichia coli* contamination: USA

Cargill Meat Solutions is recalling approximately 132 606 pounds of ground beef products made from the chuck portion of carcasses that may be contaminated with *Escherichia coli* O26. The United States of America (USA) Department of Agriculture's Food Safety and Inspection Service (FSIS) announced this on 19 September 2018. The ground beef items were produced and packaged on 21 June 2018. These items were shipped to retail locations nationwide. None were exported. Epidemiological investigation identified 17 illnesses and one death, with illness onset dates ranging from 5 to 25 July 2018.

Source: ([www.promed.org](http://www.promed.org)) and the World Health Organization ([www.who.int](http://www.who.int))



**Figure 9.**

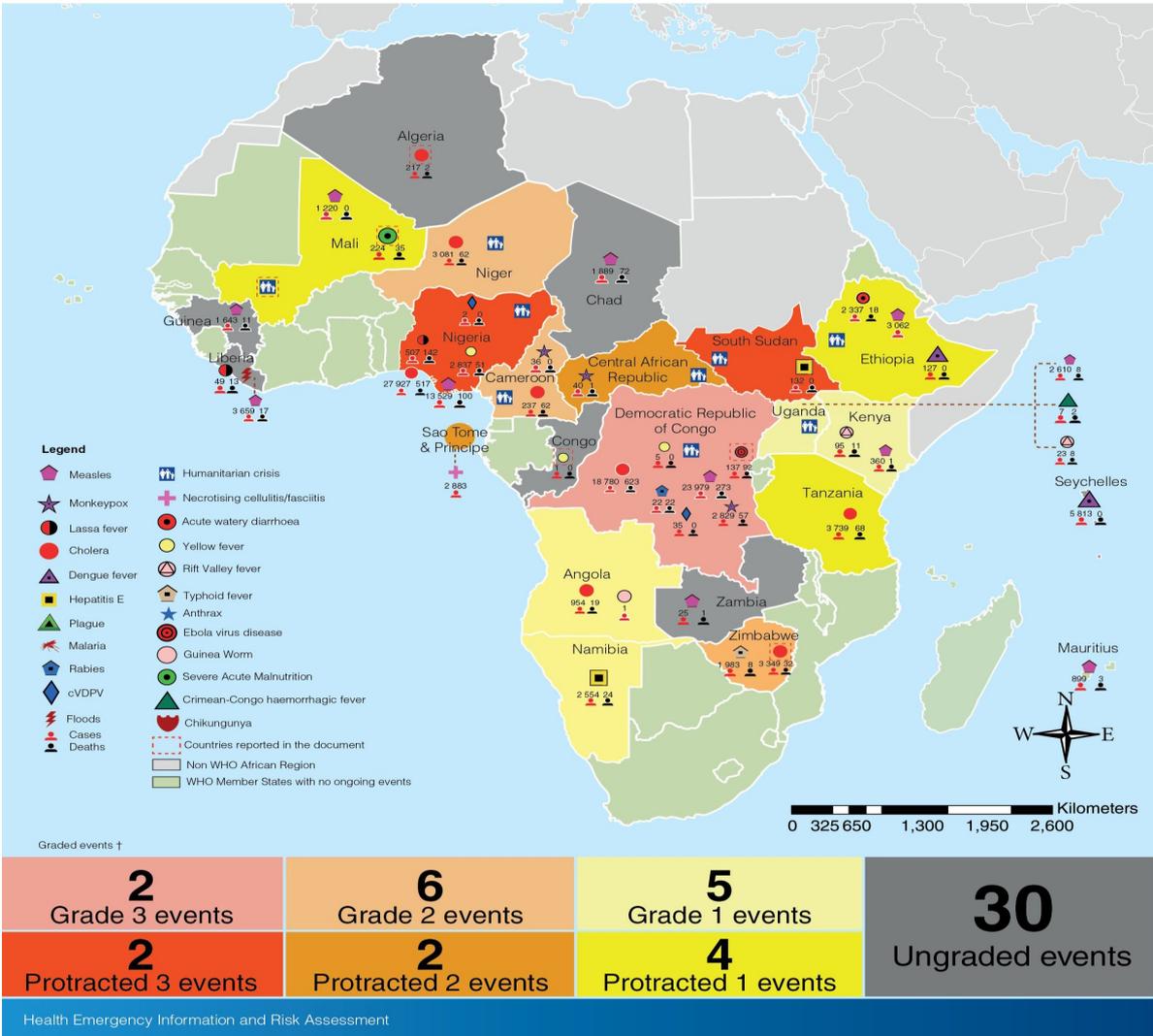
Current outbreaks that may have implications for travellers. Numbers correspond to text above. The red dot is the approximate location of the outbreak or event.

9 WHO-AFRO: OUTBREAKS AND EMERGENCIES

# WEEKLY BULLETIN ON OUTBREAKS AND OTHER EMERGENCIES

Week 37: 8 - 14 September 2018  
Data as reported by 17:00; 14 September 2018

**0** New events      **52** Ongoing events      **41** Outbreaks      **11** Humanitarian crises



**Figure 10.** 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 52 events, of which 41 are outbreaks and 11 humanitarian crises. For more information see link: <http://apps.who.int/iris/bitstream/handle/10665/274452/OEW37-0814092018.pdf>