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WHO-AFRO: OUTBREAKS AND EMERGENCIES

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 41 events, 33 infectious diseases outbreaks and 8 humanitarian crises.

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[http://www.afro.who.int/en/clusters-a-programmes/whe/outbreaks-and-other-emergencies-updates.html?
utm_source=Newsweaver&utm_medium=email&utm_term=sign+up&utm_content=Tag%
3AWHE%2FHIM+Outbreaks+Weekly&utm_campaign=WHO+AFRO+-
+Outbreaks+and+Emergencies+Bulletin+-+Week+15](http://www.afro.who.int/en/clusters-a-programmes/whe/outbreaks-and-other-emergencies-updates.html?utm_source=Newsweaver&utm_medium=email&utm_term=sign+up&utm_content=Tag%3AWHE%2FHIM+Outbreaks+Weekly&utm_campaign=WHO+AFRO+-+Outbreaks+and+Emergencies+Bulletin+-+Week+15)

1 VACCINE PREVENTABLE DISEASES

a Measles in Gauteng and Western Cape Provinces: an update

As of 19 April 2017, 52 measles cases have been detected in South Africa since the start of the year as part of an outbreak in Western Cape Province (n=31) and a cluster in Gauteng Province (n=16). In addition there have been three cases from North West Province, one from Eastern Cape Province and one from Mpumalanga Province (Figure 1). The measles strain detected is type D8, with slight differences between the Western Cape and Gauteng D8 strains, suggesting at least two separate importations.

In the Western Cape Province, the first case was detected on 16 January 2017 and the last measles case for the province was detected on 14 March 2017 (Figure 2). Most of the affected cases were aged 15-19 years, with unknown measles vaccination history. The outbreak in the Western Cape Province has been contained by a vigorous vaccination campaign, with more than 450 000 children vaccinated. The vaccination campaign targeted children under 15 years of age in the affected sub-districts and under 5 years of age in the rest of the province.

In Gauteng Province, the 16 measles cases were detected in the City of Johannesburg, Ekurhuleni

and City of Tshwane districts. The date of onset of disease for the first case was on 12 January 2017, and 07 April 2017 for the last reported case to date (Figure 3). Ten of the cases were linked to one family. Most cases were unvaccinated primary school children. Measles vaccination of contacts included schools in affected sub-districts. A provincial-wide measles campaign in Gauteng Province is planned to take place in May 2017.

Heightened awareness should be maintained for measles cases nationally. Any suspected case requires laboratory testing for confirmation. Children’s vaccination cards should be checked to ensure measles vaccinations are up to date. Measles is targeted for elimination and every suspected case requires notification and investigation.

Source: Division of Public Health Surveillance and Response; and Centre for Vaccines and Immunology, NICD-NHLS (melindas@nicd.ac.za); Western Cape Department of Health; Gauteng Department of Health; National Department of Health

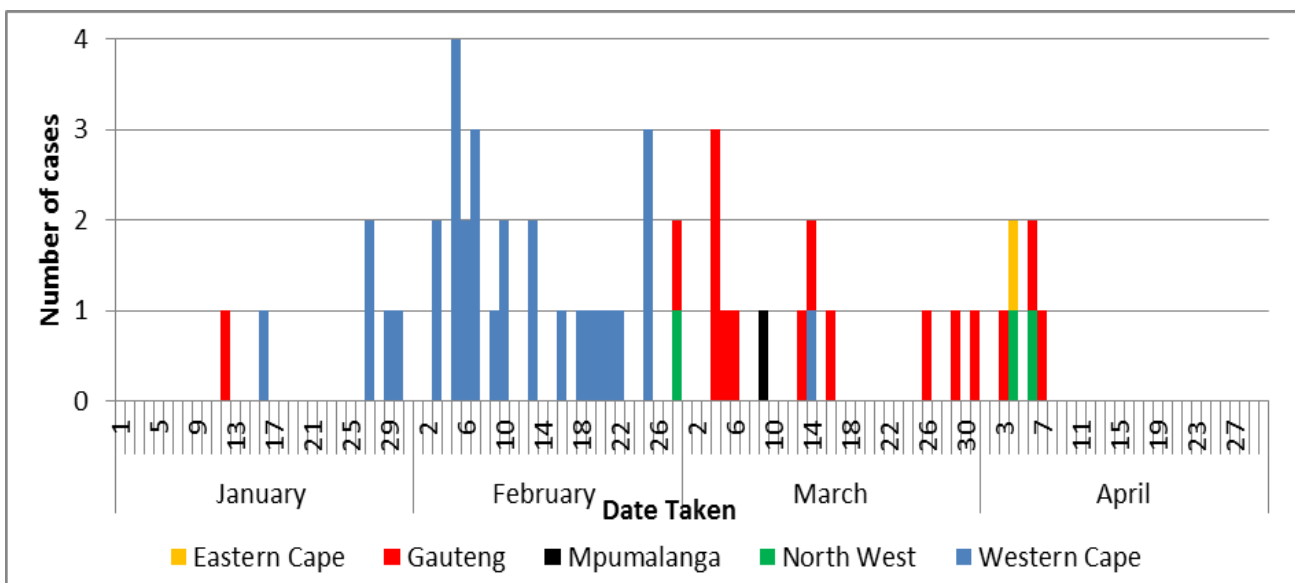


Fig 1. Laboratory confirmed measles cases in South Africa, 1 January–19 April 2017 (n=52).

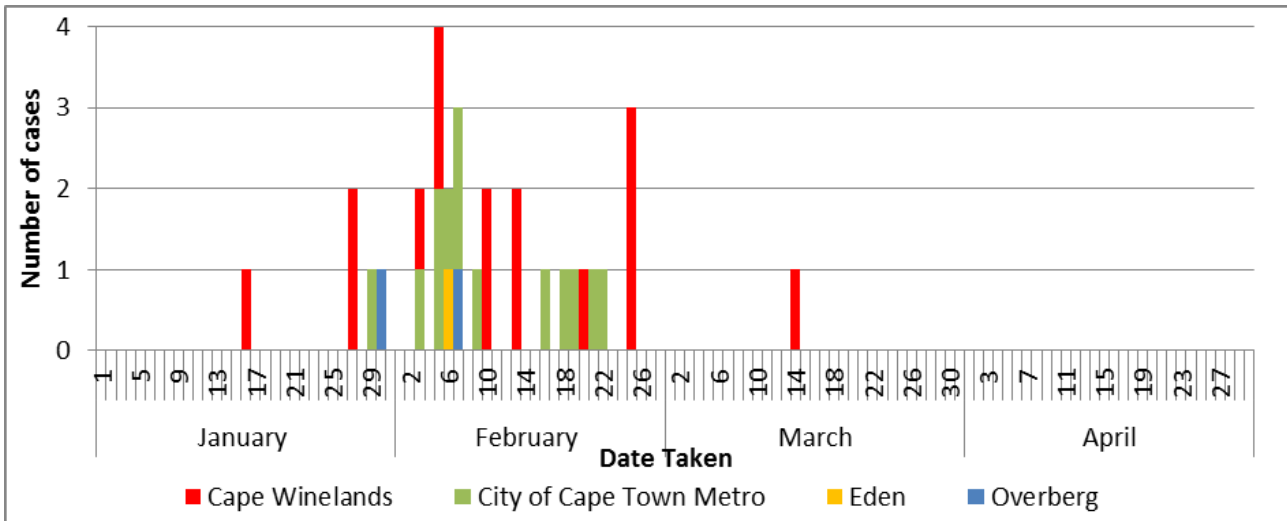


Fig 2. Laboratory confirmed measles cases in Western Cape Province, by district, 1 January–19 April 2017 (n=31).

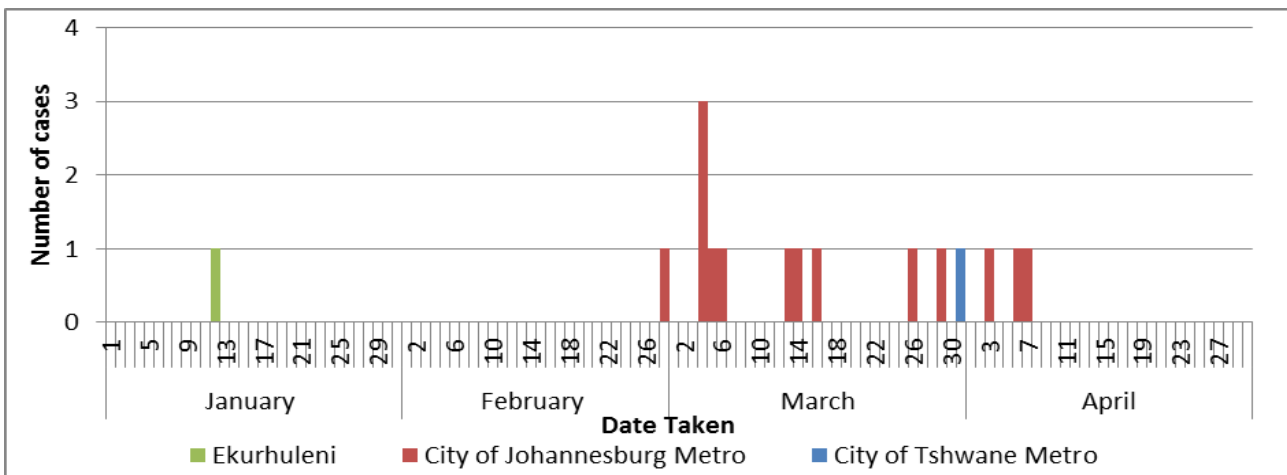


Fig 3. Laboratory confirmed measles cases in Gauteng Province, by district, 1 January–19 April 2017 (n=16).

2 SEASONAL DISEASES

a Malaria in South Africa, 2017

During the 2016/2017 malaria season in South Africa (SA), a total of 9478 malaria cases has been reported, of which 5150 were imported cases, with most originating from Mozambique. For the 2015/2016 corresponding period, there were 6375 malaria cases, of which 4742 were imported. The total number of deaths for 2016/2017 was 76, compared to 58 deaths last year. An increase in the

number of cases have been reported in southern Africa, including in Namibia and Botswana, probably as a result of the recent increase in rainfall, temperature and humidity.

In SA, for 2017, the majority of the cases have been confirmed in Limpopo Province, with 1648 cases and 3 deaths. An outbreak was reported in

Thabazimbi and Lephalale in the western Waterberg district of Limpopo Province (Communique, March 2017). No further cases have been reported due to local transmission in the Thabazimbi and Lephalale regions since 22 March 2017.

Malaria transmission is ongoing in SA and neighbouring countries. Travellers should take appropriate precautions and report promptly to their nearest health facility or doctor for early diagnosis and treatment if they suspect that they may have contracted malaria.

25 April 2017 is World Malaria Day



Source: Division of Public Health Surveillance and Response; Centre for Emerging, Zoonotic and Parasitic Diseases; NICD-NHLS (johnf@nicd.ac.za); Malaria Directorate, National Department of Health

b Influenza and respiratory syncytial virus, 2017

The 2017 influenza season has not yet started. In 2016, the season started in week 19 (week starting 9 May). However the 2017 respiratory syncytial virus (RSV) season started in week 7 (week starting

13 February) when detection rates in both the pneumonia and influenza-like-illness (ILI) surveillance programmes rose above 10%. Detection rates have continued to rise (Figure 4).

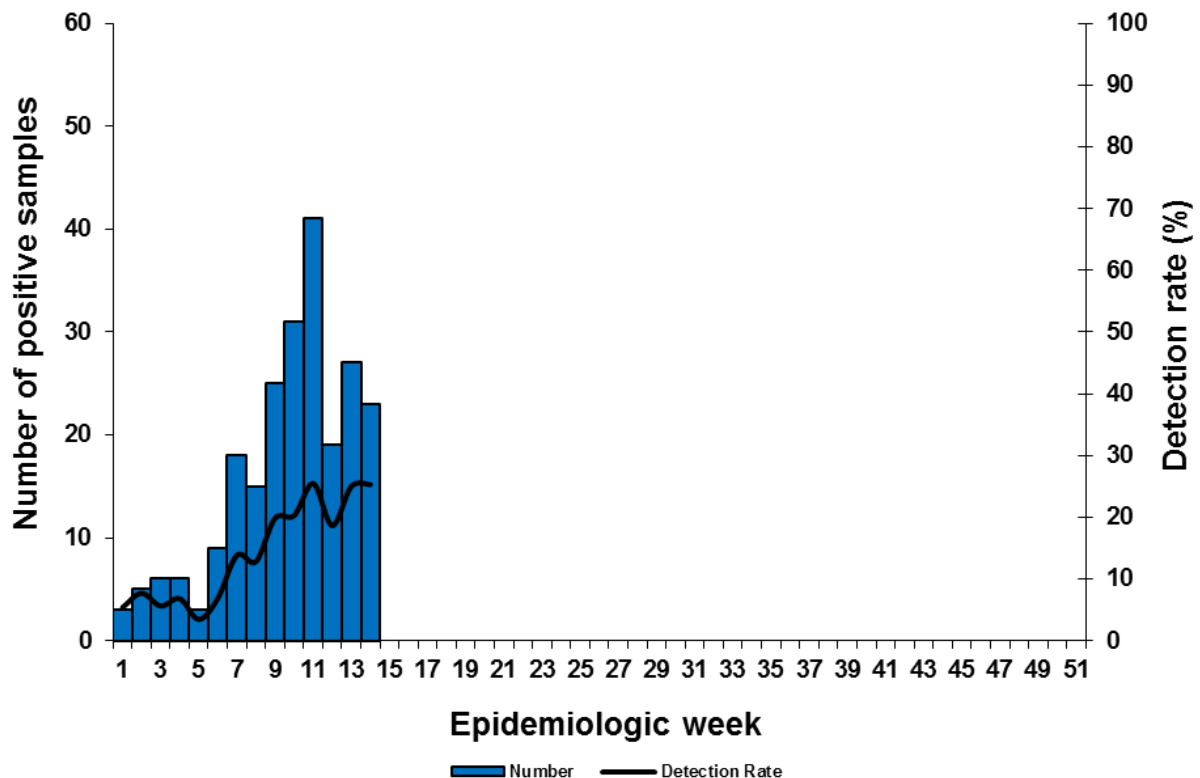


Fig 4. RSV detections and detection rates per week from pneumonia and ILI surveillance at public health clinics 2017.

Influenza vaccine is available. Influenza vaccination, which provides protection against at least three strains of influenza each season, remains the most effective measure to prevent influenza and influenza-related complications. Although the season has not started, individuals at risk of severe disease due to influenza and influenza-related complications, especially pregnant

women, HIV-infected individuals and those who are vulnerable due to pre-existing illnesses or risk factors, are advised to obtain vaccination as soon as possible.

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

3 ZOOBOTIC AND VECTOR-BORNE DISEASES

a Crimean-Congo haemorrhagic fever

A total of four cases of Crimean-Congo haemorrhagic fever (CCHF) was confirmed in South Africa for 2017 to date. The cases were reported from the Western Cape (n=1), Free State (n=2) and the Northern Cape (n=1) provinces. All of the cases involved farmers with known tick bite exposures. Three of the cases recovered, and there was one death reported.

The CCHF virus is a tick-borne disease, transmitted particularly by 'bontpoot' ticks (*Hyalomma* spp.). Historically human CCHF cases have been reported

from throughout the country, but the majority of cases were from the Northern Cape, Free State and North West Provinces.

Further more information on CCHF can be found at www.nicd.ac.za.

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

b Rabies

No further human rabies cases have been confirmed in South Africa to date. One human rabies case was diagnosed in a 5-year-old boy from the Eastern Cape Province, who did not present for rabies prophylaxis following a dog bite in January 2017. The patient died in early March 2017

(Communique, March 2017).

A total of 436 human rabies cases has been laboratory confirmed from SA since 1983, with an average of 9 to 10 cases reported annually in the past decade (Figure 5).

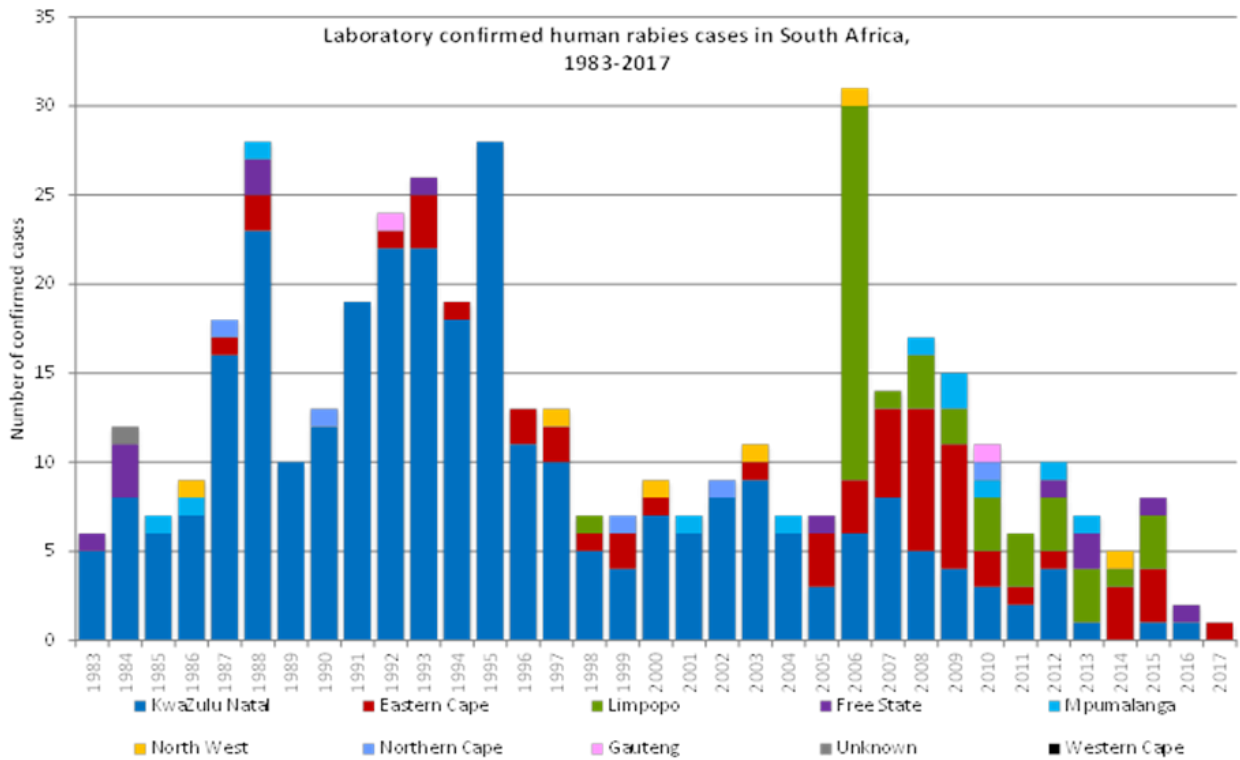


Fig 5. Laboratory confirmed human rabies cases in South Africa from 1983 to date, per province.

All provinces are affected by rabies but most dog rabies, which is associated with the public health burden of rabies, occurs in the Eastern Cape, Free State, KwaZulu-Natal, Limpopo and Mpumalanga Provinces. KwaZulu-Natal has effectively reduced the incidence of dog rabies in the past decade from approximately five hundred to under 50 cases (source: Allerton Provincial Veterinary Laboratory, APVL). From 10 March 2017 to 19 April 2017, animal rabies cases were reported from the North West, Northern Cape, Limpopo and Mpumalanga provinces (data source: Agriculture Research Council – Onderstepoort Veterinary Institute). These included cases of rabies in cattle (n=2),

jackal (n=4) and domestic dogs (n=2). Cases of dog and bovine rabies were also reported from KwaZulu-Natal and the Eastern Cape provinces during this period (source: APVL).

For more information on rabies post-exposure prophylaxis for humans, please visit www.nicd.ac.za

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

4 SURVEILLANCE FOR ANTIMICROBIAL RESISTANCE

a Carbapenemase-resistant Enterobacteriaceae—a monthly update

The Antimicrobial Resistance Laboratory and Culture Collection (AMRL-CC) of the Centre for Healthcare-associated Infections, Antimicrobial Resistance and Mycoses (CHARM) at the NICD has been testing referred isolates of suspected carbapenemase-producing Enterobacteriaceae (CPE) for the presence of selected carbapenemases. CPE have become a threat to healthcare and patient safety worldwide by compromising empiric antibiotic therapeutic choices and increasing morbidity, hospital costs and the risk of death. We are receiving clinically significant isolates from all specimen types based on antimicrobial susceptibility testing criteria for molecular confirmation. For March 2017, a total of 114 Enterobacteriaceae isolates was received. One hundred and two isolates were screened, 92 of which expressed the carbapenemases that were screened for. Five isolates expressed multiple carbapenemases (four isolates expressed two carbapenemases: NDM and OXA-48 & variants, n=2; VIM and OXA-48 and variants, n=2 and one isolate expressed three carbapenemases: NDM, VIM and OXA-48 and variants, n=1) (Table 1). The majority of the screened isolates were *Klebsiella pneumoniae* (81) followed by *Escherichia coli* (8).

It is important to note that these figures do not represent the current burden of CPEs in South Africa. However our data reveal the presence of carbapenemases in Enterobacteriaceae isolates from various specimen types, nationally. As a first step CPE surveillance is required to determine the extent of the problem in order to restrain the emergence and spread of resistance. The AMRL-CC is currently running a surveillance programme at national sentinel sites for CPE infections in patients with bacteraemia which provides representative data. This significant data will inform public health policy and highlight priorities for action. Controlling the spread and limiting the impact of CPEs in South Africa requires intensive efforts in both the public and private healthcare sectors going forward. NHLS and private laboratories are encouraged to submit suspected CPE isolates based on antimicrobial susceptibility testing (AST) criteria to AMRL-CC, NICD/NHLS. Please telephone (011) 555 0342/44 or email: olgap@nicd.ac.za; for queries or further information.

Source: Centre for Opportunistic, Tropical and Hospital Infections, NICD-NHLS; (olgap@nicd.ac.za)

Table 1. Enterobacteriaceae by CPE enzyme type for January-February 2017 and March 2017 at the AMRL-CC, CHARM, NICD.

Organism	NDM		OXA-48 & Variants		VIM		KPC	
	Jan-Feb 2017	Mar 2017	Jan-Feb 2017	Mar 2017	Jan-Feb 2017	Mar 2017	Jan-Feb 2017	Mar 2017
<i>Citrobacter freundii</i>	2	1	6	1	-	1	-	-
<i>Enterobacter aerogenes</i>	-	-	-	3	-	-	-	-
<i>Enterobacter cloacae</i>	3	1	23	2	-	-	-	2
<i>Escherichia coli</i>	4	2	12	4	-	-	-	-
<i>Klebsiella oxytoca</i>	-	-	1	1	-	-	-	-
<i>Klebsiella pneumoniae</i>	35	19	119	58	3	2	-	-
<i>Proteus mirabilis</i>	-	-	1	1	-	-	-	-
Total	44	23	162	70	3	3	0	2

NDM: New Delhi metallo-beta-lactamase; **OXA:** oxacillinase; **VIM:** Verona integron-encoded metallo-beta-lactamase; **KPC:** *Klebsiella pneumoniae* carbapenemase.

5 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 10.

1. Lassa Fever: Nigeria, Benin, Togo, Burkina Faso, Sierra Leone

Lassa fever is endemic in Nigeria and other West African countries. Outbreaks have occurred almost every year in different parts of the region, with yearly peaks observed between December and February.

The Lassa fever outbreak in Nigeria is still active in 13 states. Two hundred and eighty-three suspected cases have been reported since the onset of the outbreak in December 2016 with 93 confirmed and six probable cases. There have been 46 deaths (40 confirmed and six probable) and the case fatality rate for confirmed/probable cases is 46.5%. The Nigeria Centre for Disease Control (NCDC) is coordinating the response in affected states and has re-distributed ribavirin to affected states for management of confirmed cases.

In Benin, the outbreak of Lassa fever started on 12 February 2017 in Tchaourou district, Borgou Province, close to the border with Nigeria and with an established epidemiological link with the ongoing Lassa fever outbreak in Nigeria. On 23 February 2017, another suspected case from L'Atacora Province was reported. Both cases died, giving a case fatality rate of 100%.

In Togo, Lassa fever was confirmed on 23 February 2017, with the case having established epidemiological linkage to Benin. A total of 12 suspected cases was subsequently reported, seven confirmed. Four of the confirmed cases died (case fatality rate of 57%). The cases originated from Oti and Kpendjal districts.

In Burkina Faso, the Ministry of Health of Burkina Faso notified WHO of a confirmed Lassa fever case on 26 February 2017. The case originated from Ouargaye district, central eastern part of Burkina Faso. No other cases reported have been reported.

Sierra Leone began reporting of Lassa fever on 28 December 2016. The outbreak situation escalated in the months of February and March 2017 when a cluster of 24 cases was reported and investigated. All four confirmed cases died giving a case fatality rate of 100%. The outbreak has since subsided.

2. Yellow Fever: Brazil

Since 1 January 2017, Brazil, Colombia, Ecuador, Peru, Bolivia, and Suriname have reported suspected and confirmed yellow fever cases.

In Brazil, there have been 2210 reported cases (604 confirmed, 1054 discarded, and 552 suspected under investigation), including 302 deaths (202 confirmed, 52 discarded, and 48 under investigation). The case fatality rate (CFR) is 33% among confirmed cases.

Cases were reported in 342 municipalities, while the confirmed cases were distributed among 103 municipalities in 5 states (Espírito Santo, Minas Gerais, Pará, Rio de Janeiro and São Paulo).

With regard to the confirmed fatal cases and their probable site of infection, 148 were in Minas Gerais, 4 in São Paulo, 43 in Espírito Santo, 4 in Pará, and 3 in Rio de Janeiro. In descending order, the CFR among suspected and confirmed cases by state is 100% in Pará, 80% in São Paulo, 34% in Minas Gerais, 29% in Espírito Santo and 27% in Rio de Janeiro.

The newest fatal case in Rio de Janeiro was confirmed by Brazil Health Authorities on 20 April 2017 when a 61-year-old male from Marica, one of the municipalities in metropolitan Rio de Janeiro, died from yellow fever. After confirmation of the new death, the Regional Secretary of Health sent medical teams to Maricá to strengthen the vaccination campaign.

In the state of Minas Gerais, there is a downward trend with the date of symptom onset of the last reported case is 06 March 2017.

3. Malaria: Botswana and Namibia

The recent heavy rains in most parts of Botswana resulted in an increase of malaria. In February 2017, Botswana had recorded 7627 cases of malaria and seven deaths. About 60% of these cases are from Okavango District but the country has also recorded sporadic cases from non-endemic malaria districts in southern Botswana.

Malaria transmission in Botswana runs from October to early May. Annually, in preparation for this season, the Ministry of Health and Wellness conducts integrated vector control interventions, public education, community mobilisation and capacity building. Drug and commodity availability are also ensured. In addition, due to early warnings of above average rainfall, the ministry has intensified its efforts to prepare for a possible outbreak.

In Namibia, at least 6500 cases of malaria have been reported in the northern regions of the country, where an outbreak is ongoing since January 2017. Kavango East and Kavango West recorded 3881 cases, Zambezi recorded 546 and Ohangwena recorded 490 cases. In the two Kavango regions, 13 people died of malaria, while in Ohangwena nine people died.

Namibia has previously been hailed for doing relatively well in the fight against malaria. Less than 3000 cases and only 10 deaths were reported at the close of 2013 and the concerted scientific efforts by the Ministry of Health and Social Services led to a reduction in malaria cases by over 90% in 2012.

Regional teams supported by the national malaria programme's technical staff are currently deployed in the regions to perform active outbreak response and strategies involve teams being deployed at village level for early diagnosis and treatment as well as appropriate vector control to suppress the vector mosquito population.

4. Cholera: Mozambique, Zimbabwe, Malawi and Zambia

After heavy rains, the cholera outbreak in parts of Mozambique has infected more than 1200 people, killing two in March 2017. The disease has already spread from the capital Maputo to another three of Mozambique's 13 provinces since the start of 2017. One of the deaths this month occurred in Maputo, while the other fatality was recorded in the north-western province of Tete.

In Zimbabwe, the government is on high alert following the death of two people in Manicaland Province from suspected cholera. Manicaland borders the province of Manica in Mozambique, where cases of cholera have also been reported. There has also been a confirmed cholera case in Chiredzi, while three suspected cases were recorded in Chipinge in March 2017. Of the three

people suspected to have contracted the disease in Chipinge, two were contacts of the index case in Chiredzi and have since died.

In Malawi, the outbreak began on 11 March 2017, and a total of 14 cases with no deaths has been reported. The Nsanje district of Malawi shares borders with Mozambique and the initial cluster of cases have epidemiological linkages with Villa Nova, Tete Province in Mozambique. However, Malawi has been experiencing recurrent outbreaks of cholera, especially in the southern region, which is prone to both floods and droughts; both conditions favor propagation of cholera infection. In addition, the continuous cross-border activities between Malawi and Mozambique also contribute to the transmission of cholera.

In Zambia, cholera has broken out in two districts of northern Zambia, with 70 people hospitalized. No deaths have been recorded so far. A total of 23 new cases was reported in Chiengi district, mostly from an illegal fishing camp, bringing the cumulative total to 54, while a cumulative total of 16 cases has been recorded in Mpulungu district. Health promotion campaigns are currently underway in the two districts to alert residents on preventive measures.

5. Typhoid: Zimbabwe

The Zimbabwean health ministry says at least 10 people have died, and more than 1800 have been infected with the disease since the outbreak began in October 2016. Most of these suspected infections were in Harare, and 30% were pre-school age children. The disease is spreading quite rapidly with a recent report that almost 100 people contracted the disease in the space of one week.

6. Chikungunya: Nepal

Since December 2016 nearly a dozen chikungunya virus (CHIKV) positive cases have been found among suspected cases in Kathmandu. This shows that CHIKV may have been co-circulating with dengue virus (DENV) during the dengue outbreak in November 2016 in Nepal.

CHIKV was then perhaps vastly underestimated by physicians, because the *Aedes* mosquito, a vector for both DENV and CHIKV, is uncommon during the winter season and only one CHIKV case was then reported in Nepal.

7. Meningococcal meningitis: Nigeria

A total of 33 people (out of 116 suspected cases) have died from the cerebrospinal meningitis (CSM) in Niger state, Nigeria. Nine persons died from type C meningitis while the remaining 24 died of types A and B.

The disease is being contained in Magama, Agwara, Rijau, Kontagora local government areas and the suspected cases in Suleja and Paiko were persons in transit from Sokoto.

The state has embarked on a sensitisation and awareness campaign to educate the people on preventive measures and now has fewer cases reported daily as a result. Vaccination would commence immediately once the state receives the type C meningitis vaccines from international communities.

Source: Division of Public Health Surveillance and Response, NICD-NHLS, from Promed (www.promed.org) and the World Health Organization (www.who.int)



Fig 6. 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