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# COMMUNICABLE **DISEASES** COMMUNIQUÉ



# NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

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# EDITORIAL

## Editors' note – Dr Michelle Groome

This year is flying past and we almost at the halfway mark. South Africa has already seen a number of outbreaks in 2023, including measles, mumps and cholera. The winter months have seen an increase in circulation of influenza, with the peak occurring in the last week of May. The vast majority of the typed cases were A(H3N2). This month, we provide updates on rabies, measles in Limpopo province, Hepatitis E, influenza and pertussis.

Beyond our borders, Tanzania declared the end of the outbreak of Marburg virus disease whilst cholera outbreaks continue in several African countries.

I hope that you have enjoyed the series of "Reflections" over the past few months. The NICD Communiqué will be continuing in its current format for a few more months as we finalise the launch of Public Health Bulletin South Africa, which is undergoing a makeover. We will keep you up to date on all the changes to ensure a smooth transition. Remember that you can also access information on alerts, clinical and laboratory guidelines, as well as frequently-asked questions, for communicable diseases on the NICD website.

On a sad note, I will be leaving the NICD at the end of June to pursue my research career. It has been a pleasure to serve as Head of the Division of Public Health Surveillance and Response over the past two and half years and to bring you all the latest communicable disease updates.

Enjoy this issue of the Communiqué.

# QUICK UPDATES

## Measles, South Africa

The ongoing measles outbreak which began in October 2022, has resulted in a cumulative total of 1067 laboratory-confirmed cases (as of 19 June 2023). All provinces, apart from Eastern Cape Province, have declared measles outbreaks.

For update case numbers and more information on the outbreak, please visit the NICD alerts page (<https://www.nicd.ac.za/media/alerts/>).

Source: <https://www.nicd.ac.za/south-african-measles-outbreak-update-2023-19-may-2023/>

## Cholera, South Africa

Gauteng Province declared a cholera outbreak on 05 February 2023, following confirmation of two epidemiologically-linked cases. As of 25 June 2023, the country has recorded a total cumulative number of 1045 suspected cases of cholera in 15 out of 52 districts across 5 provinces, of which 197 were laboratory-confirmed. Gauteng Province accounts for most of the cases at 89% with 176 cases reported from 3 districts. Free State Province accounts for 6% with 11 cases reported from Fezile Dabi district. Other provinces which recorded positive cases include North West (n=5), Limpopo (n=4) and Mpumalanga (n=1). The cumulative number of deaths related to the cholera outbreak (both suspected and confirmed) stands at 43 deaths as of 23 June 2023, with Gauteng accounting for 35 deaths, followed by Limpopo (n=4), Free State (n=2) and Mpumalanga (n=2). As per the department of health, the case fatality rate stands at 3.5%.

Healthcare workers are urged to maintain a high index of suspicion for cholera in anyone presenting with acute

diarrhoeal disease. All suspected cases should be notified immediately using the Notifiable Medical Conditions (NMC) mobile application or website (<https://mstrmobile.nicd.ac.za/nmc/>), and samples should be submitted to local laboratories for testing. Healthcare workers attending to persons with suspected or confirmed cholera should observe strict contact precautions and hand hygiene, including isolation where possible.

Comprehensive guidelines on management can be accessed using the following link: <https://www.nicd.ac.za/assets/files/2014%20SA%20Cholera%20Guidelines.pdf>.

For additional information please visit the NICD website (<https://www.nicd.ac.za/diseases-a-z->

Sources: <https://www.health.gov.za/wp-content/uploads/2023/06/Update-on-Cholera-outbreak-in-South-Africa.pdf>; <https://www.nicd.ac.za/assets/files/2014%20SA%20Cholera%20Guidelines.pdf>; <https://www.nicd.ac.za/diseases-a-z-index/cholera/>.

# ZOONOTIC AND VECTOR-BORNE DISEASES

## Human rabies update South Africa 20 June 2023

Rabies was diagnosed in a 37-year-old male from Ginyintsimbi Village, Mbhashe Municipality, Amathole District of the Eastern Cape province during June 2023. It was reported that he was bitten on the lip by his own dog approximately three weeks prior to the onset of illness. The dog died about a week after

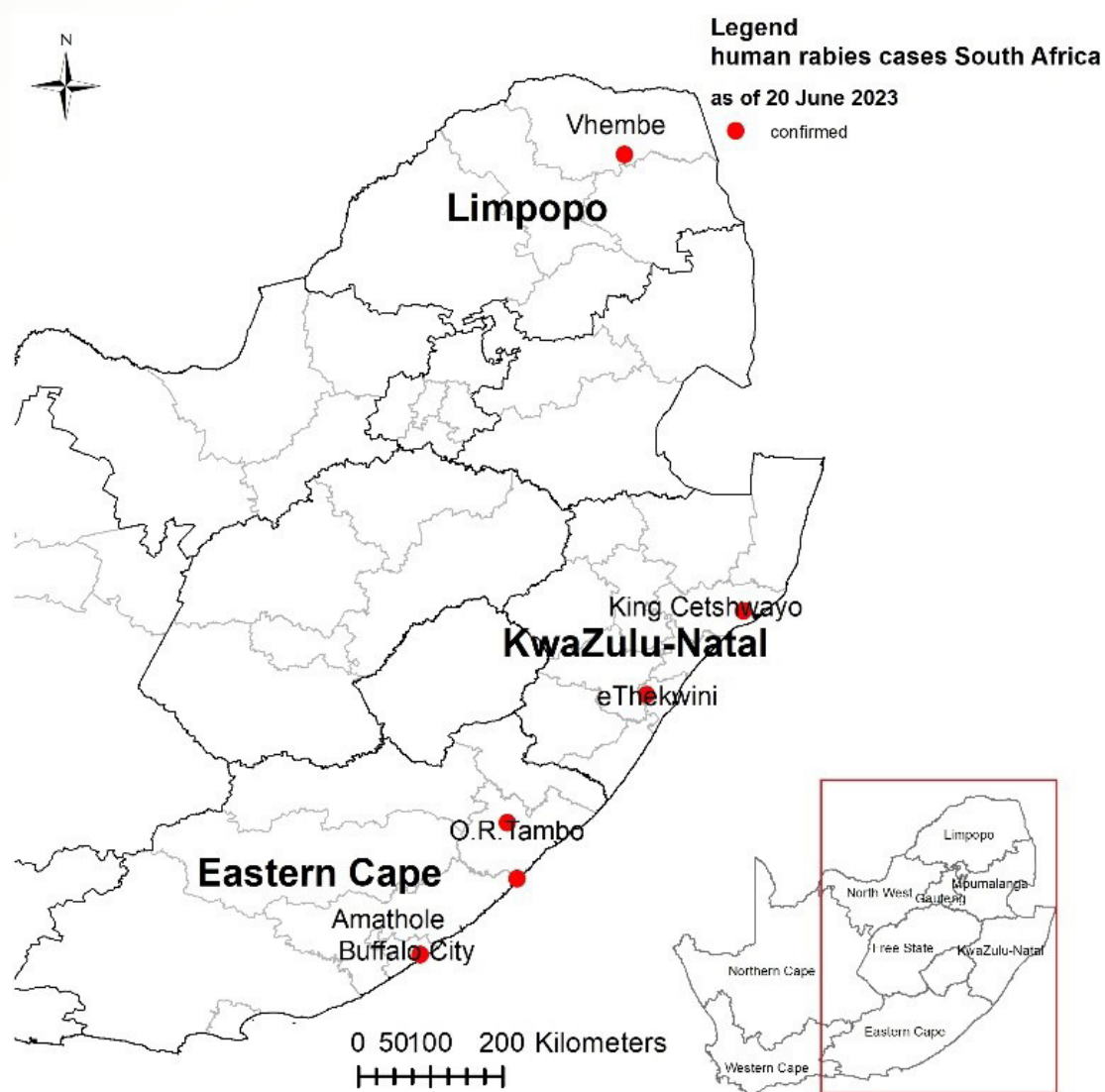
the instance but it was reported that there was no attempt to confirm the cause of death. Reportedly, the man self-treated the wound at home and did not attempt to access medical advice and therefore also did not receive rabies post-exposure prophylaxis (PEP).



The diagnosis was confirmed through testing of ante-mortem collected saliva samples and RT-PCR testing at the NICD.

Between 1 January 2023 until 20 June 2023, a total of six laboratory confirmed human rabies cases were reported in South Africa. These cases culminated from the Eastern Cape (n=3), KwaZulu-Natal (n=2), and Limpopo (n=1). See Figure 1.

The spread of the rabies virus to people can be prevented by vaccination of domestic dogs (and other pets). Exposure to rabies virus most often occurs through a dog bite. When such exposures occur, rabies virus infection can be prevented through PEP. When administered in accordance with the guidelines, rabies PEP is considered safe and effective in the prevention of human rabies. For more information on rabies and how to prevent the disease, visit [www.nicd.ac.za](http://www.nicd.ac.za).



**Figure 1.** Geographic distribution of the laboratory confirmed human rabies cases for South Africa (1 January 2023 – 20 June 2023)

Source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS; [veerlem@nicd.ac.za](mailto:veerlem@nicd.ac.za), [jacquelinew@nicd.ac.za](mailto:jacquelinew@nicd.ac.za)

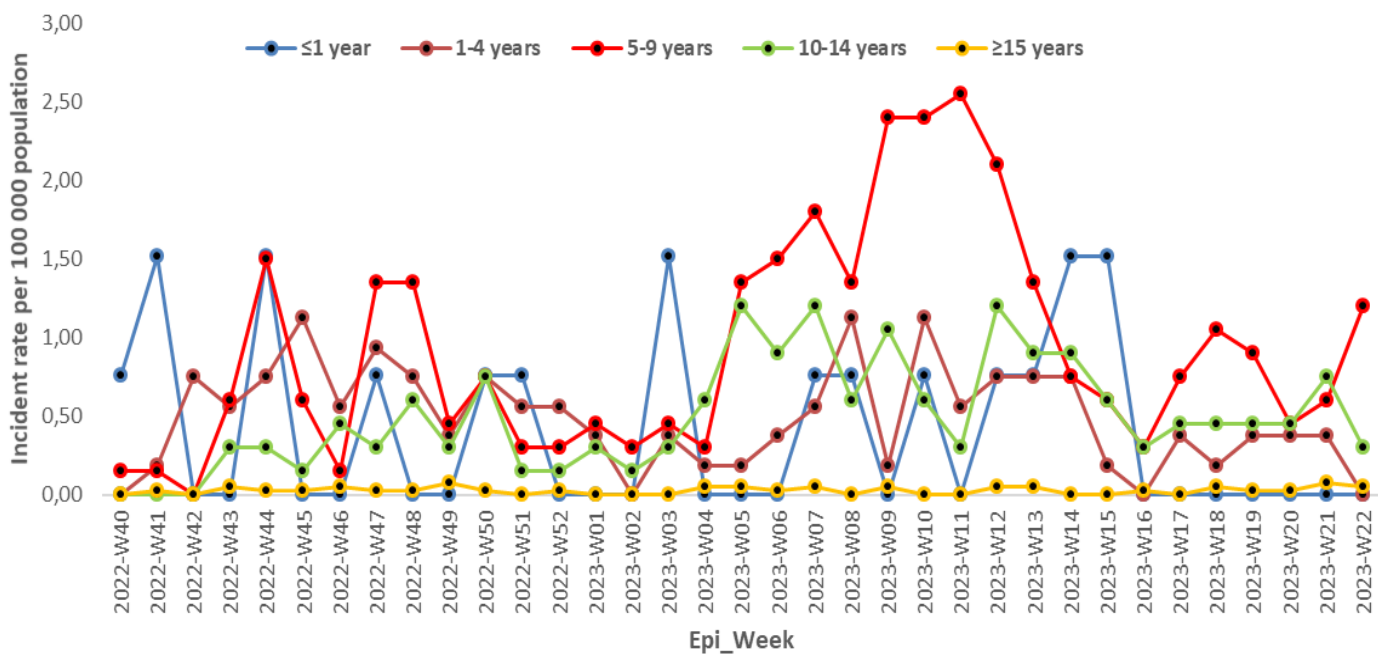
# VACCINES AND IMMUNOLOGY

## Measles – Limpopo

From week 40, 2022, to week 22, 2023 a total of (N=1040) measles cases have been reported in the provinces affected by the outbreak with Limpopo province reporting 482 measles cases. The measles vaccination campaign was initiated to interrupt measles transmission and reduce the number of measles cases and deaths. As of 14 June 2023, the national incidence rate is decreasing with the reproduction number estimated to be below 1 in all affected provinces. Continual transmission in recent weeks is contributed by the consistent daily reporting of cases in the Limpopo province, particularly in the Waterberg district. The average incident rate of 1.2 per 100 000 population suggests an ongoing transmission, particularly among the age group of 5-15 years (Fig.2). The measles vaccination coverage was 37.1% (550770/ 1481217) lower than the required 95% coverage to achieve herd immunity. The measles vaccination coverage may be attributed to delays in the vaccination campaign initiation and data cleaning challenges encountered during the measles vaccination campaign.

Achieving control and prevention of the measles outbreak is possible through vaccination. However, the national measles coverage remains below the required- 95% among the population at risk. It is recommended that immunisation plans continue to target the age group 5-15 years which is the most affected group to increase measles immunity to prevent and stop transmission in the communities. The supplementary vaccination campaigns should be targeted at the day-care centres and children who are in primary school and early entry in secondary schools.

For updated case numbers and more information on the outbreak, please visit the NICD alerts page (<https://www.nicd.ac.za/media/alerts/>).



**Figure 2.** Incidence rate of laboratory-confirmed measles cases by age-group in Limpopo Province from epidemiological week 40, 2022 to week 22, 2023 by specimen collection date

Source: Centre for Vaccine and Immunology, NICD-NHLS; [jackm@nicd.ac.za](mailto:jackm@nicd.ac.za)

# VACCINES AND IMMUNOLOGY

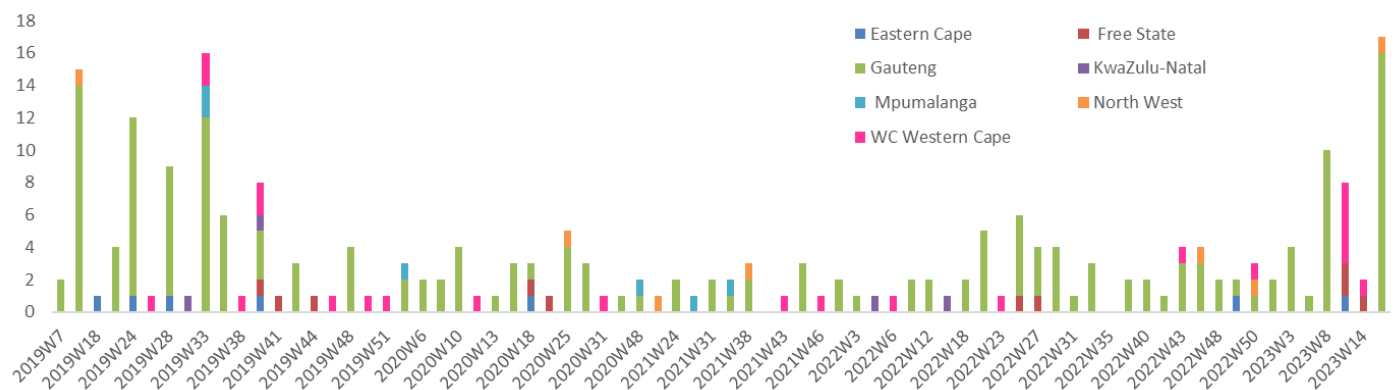
## Hepatitis E

Hepatitis E is a liver disease caused by the Hepatitis E virus (HEV). It is spread by faecal-oral routes, commonly caused by faecal contamination in drinking water, it can also be transmitted from infected animals. Pigs are the main reservoir of the virus, hence consumption of undercooked pork or contact with infected pigs is a risk factor for HEV.

HEV infection usually results in an acute self-limiting illness, infections are common in developing countries with inadequate clean water and environmental sanitation. HEV is endemic in South Africa (SA) with seroprevalence rates ranging between 2% and 29%. The co-infection with HIV exacerbates the burden of liver disease. Due to inadequate testing and access to care, little epidemiological data is available and outbreaks were not detected.

A hepatitis E case is defined as any person with a positive anti-hepatitis E IgM or hepatitis E PCR test. A total of 247 HEV cases were reported in SA from June 2018 to May 2023 on the NMC system. Gauteng and Western Cape provinces reported the highest hepatitis E cases at 72.4% and 9.3%, respectively. HEV cases were distributed evenly among females, 49.7% and males, 50.2%. The most affected age groups were 30-39 years at 19% and children under 10 years at 8%.

Viral hepatitis remains a significant cause of morbidity and mortality in SA. HEV elimination requires a multi-sectoral collaboration to ensure access to safe water, food supplies, and adequate sanitation as well as strengthening surveillance among the at-risk population.



**Figure 3.** Hepatitis E cases, South Africa: 01 June 2019 to 31 May 2023

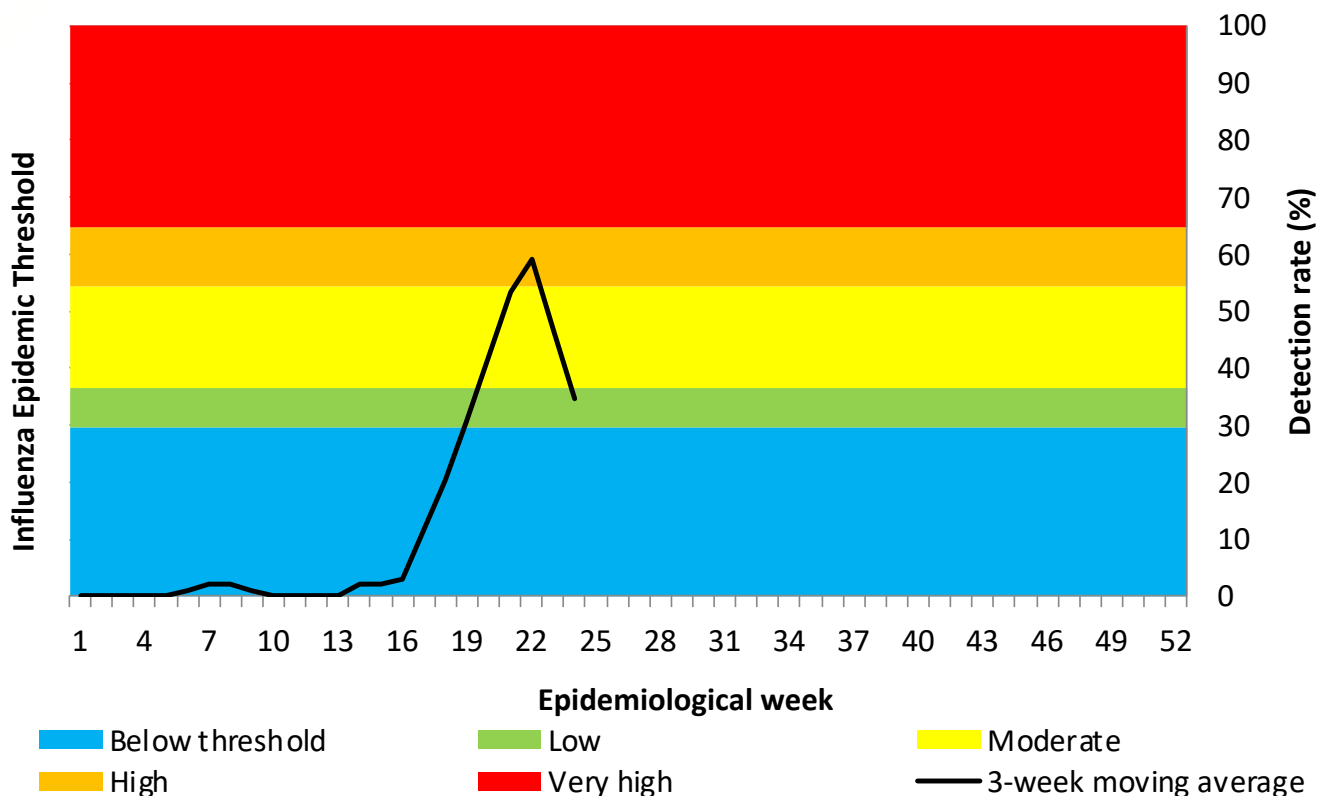
Source: Centre for Vaccine and Immunology, NICD-NHLS; jackm@nicd.ac.za

# RESPIRATORY DISEASES

## Influenza activity 2023

The circulation of influenza appears to have peaked in week 22 of 2023 (starting 29 May 2023) in both the influenza-like illness (ILI) and pneumonia programmes, with activity declining since then, reaching low and moderate thresholds, respectively (Figures 4-5). However, influenza detection in the Viral Watch programme continues to increase, although it has remained within the low threshold (Figure 6). As of week 24 of 2023 (week ending 18 June 2023), the total number of influenza cases detected through the three syndromic sentinel surveillance programmes conducted by the NICD has risen to 828. Out of these cases, 731 have been typed and assigned a subtype or lineage. Among the typed cases, 98% (716/731) were A(H3N2), 1.5% (11/731) were A(H1N1)pdm09, and 0.5% (4/731) were B Victoria. There were 12 cases that were lineage inconclusive,

and 85 cases with pending subtype results. The majority of cases were reported from Western Cape (n=280), followed by Gauteng (n=225), North West (n=127), KwaZulu-Natal (n=90), Mpumalanga (n=65), Eastern Cape (n=37), Limpopo (n=2) and Free State (n=2) sentinel surveillance sites. Clinicians are encouraged to continue to consider influenza as part of a differential diagnosis when managing patients presenting with respiratory illness. Furthermore, it is crucial to emphasize the significance of influenza vaccination, particularly for individuals at high risk of developing severe influenza illness and complications. Encouraging patients to receive the influenza vaccine can help mitigate the impact of the virus and reduce the risk of severe illness.

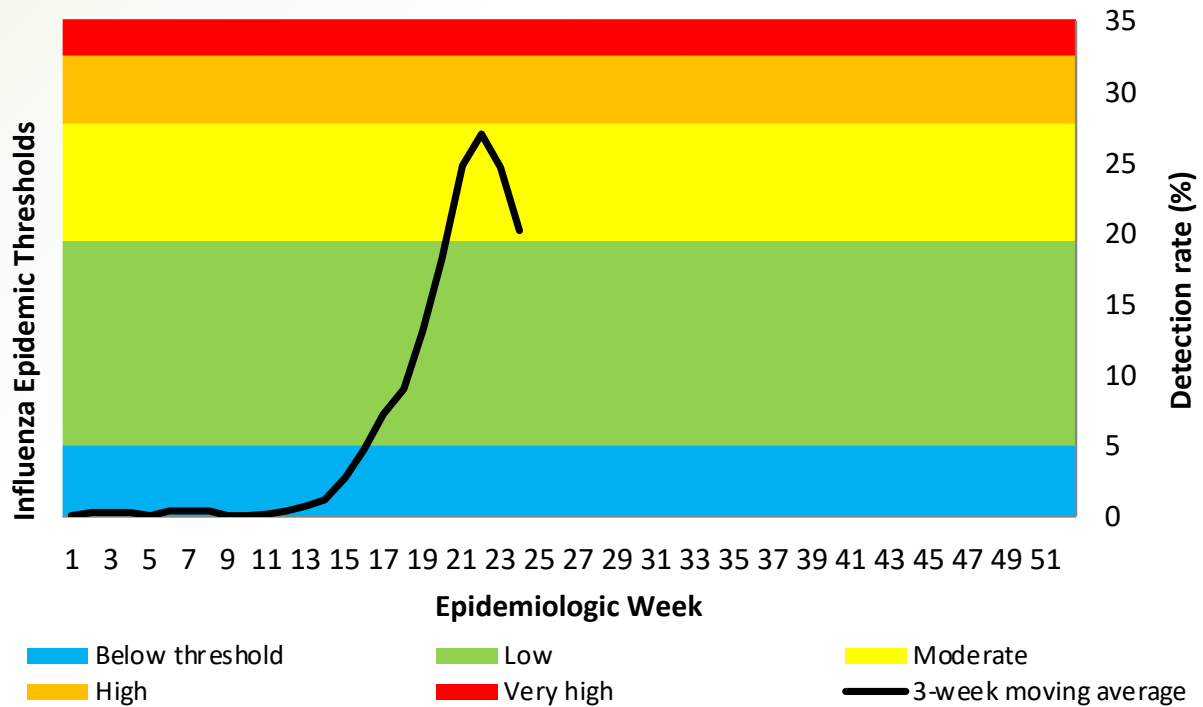


**Figure 4.** Influenza percentage detections and epidemic thresholds\* among cases of all ages, influenza-like illness (ILI) surveillance in primary health care clinics, 01/01/2023 – 18/06/2023

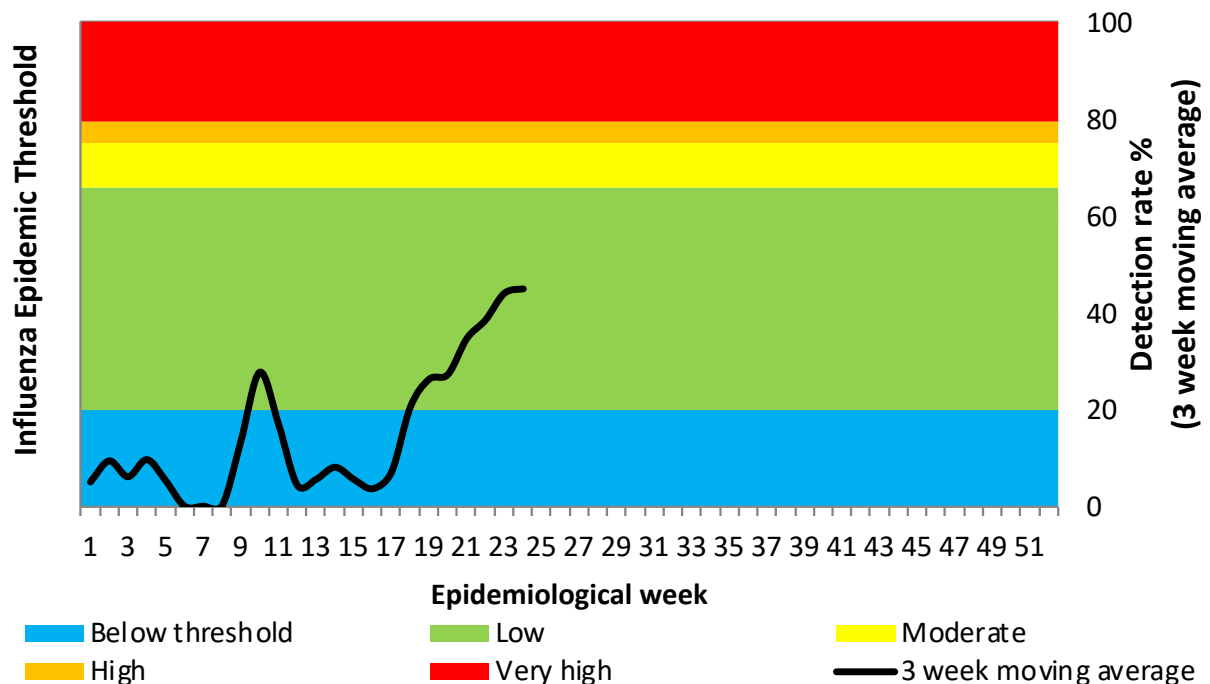
\*Thresholds based on 2012-2019 data



# RESPIRATORY DISEASES



**Figure 5.** Influenza percentage detections and epidemic thresholds\* among cases of all ages, pneumonia surveillance public hospitals, 01/01/2023-18/06/2023 \*Thresholds based on 2010-2019 data



**Figure 6.** Influenza percentage detections and epidemic thresholds\* among cases of all ages, ILI surveillance - Viral Watch, 01/01/2023-18/06/2023 \*Thresholds based on 2015-2019 data

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

# RESPIRATORY DISEASES

## Update on increase in pertussis cases in South Africa – June 2023

There has been a significant increase in *Bordetella pertussis* (pertussis) cases detected in the pneumonia surveillance program (PSP) in 2022 and 2023 compared to the COVID-19 pandemic years (2020/2021). Overall 0.1% (2/3778) of patients enrolled into pneumonia surveillance tested positive for pertussis from 1 January to 30 June 2022. The increase in detection of pertussis cases started from 1 July 2022, with the detection rate at (3.0%, 239/8053) for the period through 17 June 2023 (Figure 7).

Initially most cases were reported in the Western Cape and cases from Western Cape still account for the majority overall (47.7%, 114/239). However, since the beginning of 2023, cases have been reported more widely across the provinces with Gauteng and North West provinces, both reporting the highest number of cases in 2023 (21.6%, 27/125) followed by Mpumalanga (18.4%, 23/125) and Western Cape (17.6%, 22/125).

The majority of cases were in children aged <5 years (69.0%, 165/239). Of these, 72.2% (120/165) were children aged <3 months. During the reporting period there were 5 deaths reported (case fatality ratio (CFR) 2.1%, 5/239). There was one death in children, a child <3 months of age from Mpumalanga. There were four deaths in adults (all male), a 49-year-old from Gauteng, a 16-year-old from North West, a 34-year-old from Western Cape and a 44-year-old from Western Cape. All individuals aged >5 years who died had significant underlying conditions. Of the 165 pertussis positive cases aged <5 years, 82.4%, (136/165) had a documented vaccination status available and 60.3% (82/136) were vaccinated up-to-date for age.

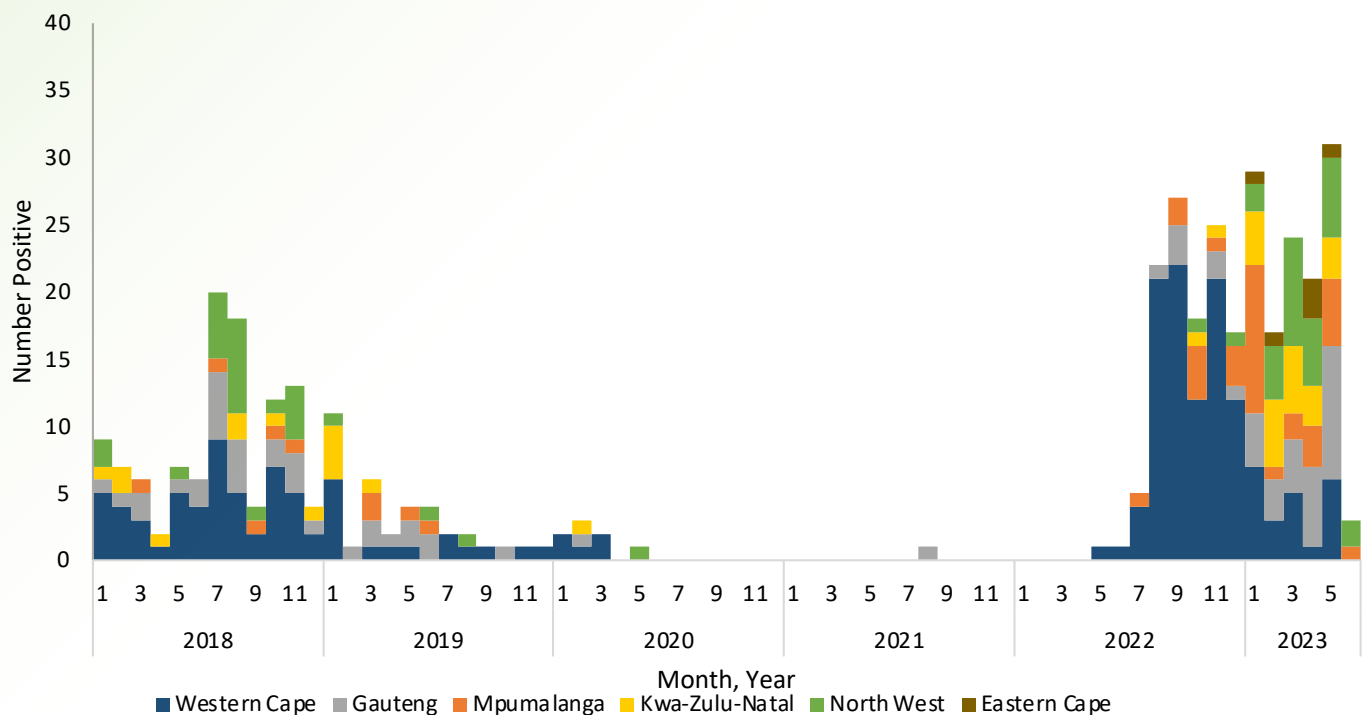
From 1 January to 30 June 2022, there were 33 pertussis positive cases notified on Notifiable Medical Conditions Surveillance System (NMC-SS). Similar to the PSP, an increase in reported cases started from 1 July 2022 through 17 June 2023, with peak case numbers reported in May 2023 and data incomplete for June 2023. There were 2212 pertussis cases reported on from 1 July 2022 through 17 June 2023 NMC-SS (Figure 8). The Western Cape Province reported the highest number of cases initially and overall (34.4%, 761/2212), similar to cases in the PSP. From 2023, cases are spread across the provinces, specifically Gauteng

(29.3%, 442/1509), Western Cape (22.1, 334/1509) and KwaZulu-Natal (15.5%, 234/1509) (Figure 8). The majority of cases in 2023 (49.5%, 747/1509) were in children aged <5 years and of those (71.3%, 533/747) were children aged <3 months. Among the 1097 pertussis positive cases in the NMC-SS database with data available on outcome, in 2023, 18 deaths were reported, CFR (1.6%, 18/1097). Of the 18 people who died, all were children aged <5 years of whom 17 were children aged <3 months.

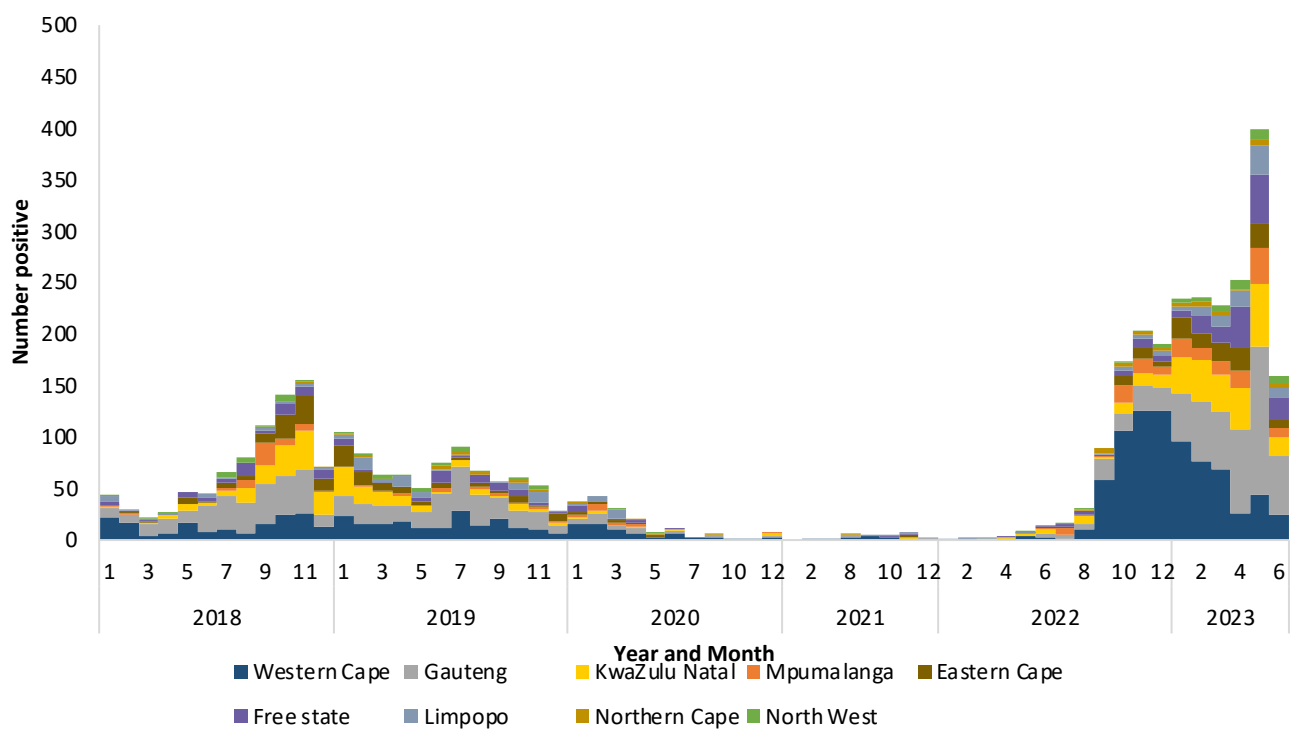
Pertussis, commonly known as 'whooping cough' is a vaccine-preventable disease caused by *Bordetella pertussis* and is a category 1 notifiable medical condition. Clinicians are advised to be vigilant for cases, especially in very young children who may not present with typical symptoms of pertussis (cough and whoop). Immunity following vaccination lasts for approximately 5-6 years. Episodic increases in pertussis cases occur in vaccinated populations every 3-5 years. Completion of childhood primary series, Diphtheria, Tetanus and acellular Pertussis (DTaP) and boosters is important for prevention. Healthcare workers should confirm the vaccination status of children and encourage vaccination. Clinicians are advised to be on the alert for cases, to conduct diagnostic testing where appropriate, to notify cases on the NMC-SS app, prescribe post-exposure prophylaxis to close and high-risk contacts of suspected or confirmed cases, to vaccinate healthcare workers, and encourage pregnant woman to vaccinate where possible. Vaccination of healthcare workers against pertussis reduces transmission to vulnerable patients (e.g., neonates) and is recommended where resources are available. Maternal immunisation with acellular pertussis-containing vaccines (DTaP) is effective in preventing severe disease and mortality among young infants, before they receive their infant vaccines. 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-SS/>. An alert for increased pertussis cases was released on 13th of December 2022 (<https://www.nicd.ac.za/an-increase-in-pertussis-cases-13-dec-2022/>)

Source: <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---15-february-2023> | <https://covid19.who.int/table>

# RESPIRATORY DISEASES



**Figure 7.** Number of laboratory-confirmed pertussis cases from pneumonia surveillance programme by year, month and province, South Africa 2018-2023



**Figure 8.** Number of notified pertussis cases from Notifiable Medical Conditions Surveillance System (NMC-SS) by year, month and province, South Africa, 2018-2023x

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

# BEYOND OUR BORDERS

The 'Beyond our Borders' column focuses on selected and current regional and international diseases that may affect South Africans travelling outside the country.

## Marburg virus disease – African Region update

**Tanzania:** The Ministry of Health of Tanzania, following the World Health Organization (WHO) recommendations, declared the end of the outbreak 42 days after the last potential exposure to an MVD case. Between 21 March and 31 May, a total of nine cases (eight laboratory-confirmed and one probable) were reported. All cases were reported from Bukoba district, Kagera

region. A total of six deaths (CFR=67%) were reported during the outbreak.

The WHO advises countries to maintain response activities for three months after an outbreak ends to ensure early detection and prevention of any potential re-emergence of the disease

Source: <https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON471>

## Cholera – African Region

Since mid-2021, globally, there has been an ongoing upsurge of the seventh cholera pandemic. A significant increase in regional outbreaks has posed a threat to more than 1.1 billion people. Particularly, young children under the age of five are at a heightened risk during this upsurge. The outbreaks have been attributed to two specific strains of *Vibrio cholerae* bacteria, serotypes O1 and O139 Ogawa, which generate harmful toxins.

As of 19 June 2023, there have been ongoing reports of cholera cases in over 24 countries worldwide, of these, 15 are African countries, namely; Burundi, Cameroon, the Democratic Republic of the Congo (DRC), Ethiopia, Eswatini, Kenya, Malawi, Mozambique, Nigeria, Somalia, South Africa, South Sudan, Tanzania, Zambia, and Zimbabwe.

The World Health Organization (WHO) continues to work alongside partners to reinforce surveillance, laboratory capacity, case management, infection prevention and control, WASH, health messaging and vaccination.

Given the ongoing cholera outbreaks in the Southern African Region, there is a high possibility of continued importation of cases to South Africa. Collaborative cross-border surveillance measures should be strengthened to enable early detection of cases. More information on cholera is available here: <https://www.nicd.ac.za/diseases-a-z-index/cholera/>



# BEYOND OUR BORDERS

**Table 1. Cholera cases and deaths in African Region, 1 January 2022 to 11 June 2023**

Country	Cumulative Cases	Cumulative Deaths	CFR (%)	Date outbreak started	Last update
Malawi	58 915	1 762	3.0	Mar 2022	11 June 2023
Democratic Republic of Congo	41 816	431	1.0	Jan 2022	4 June 2023
Mozambique	32 265	141	0.4	Sep 2022	11 June 2023
Nigeria	25 678	662	2.6	Jan 2023	12 June 2023
Cameroon	*18 265	420	2.3	Jan 2023	11 June 2023
Kenya	11 286	184	1.6	Oct 2023	11 June 2023
Ethiopia	10 303	152	1.5	Aug 2023	9 June 2023
Zimbabwe	2 371	58	2.4	Feb 2023	11 June 2023
South Sudan	1 471	2	0.1	Feb 2023	16 June 2023
Zambia	756	13	1.7	Jan 2023	8 June 2023
Burundi	518	9	1.8	Jan 2023	11 June 2023
United Republic of Tanzania	82	3	3.7	Feb 2023	24 April 2023
The Kingdom of Eswatini	2	0	0	Mar 2023	18 April 2023

**NB\*** Earlier cases stated for Cameroon were from 2021, current number from 1 Jan 2022

Sources: <https://apps.who.int/iris/bitstream/handle/10665/369059/OEW23-290504062023.pdf?epidemiological-week-18-1-7-may-2023>;

