



INTERIM SITUATION REPORT, 9 June 2023

(Based on laboratory testing data up until 31 May 2023)

Issued by the National Institute for Communicable Diseases based on laboratory testing data

Highlights

- The NICD has tested 6264 serum samples for measles since epidemiological week 40, 2022, of which 1060 (17%) were confirmed positive. In the past weeks (week 21 up until week 22, 24/05/2023) there have been 28 laboratory-confirmed measles cases detected across the country, of which the majority were from Limpopo (22).
- The percentage of samples testing positive (PTP) increased from 19% (11/58) of samples tested in week 20 to 28% (19/69) of samples tested in week 21.
- In week 22 (week ending 03/06/2023), Limpopo province reported a total of eight (8) new measles cases, while a sporadic case (1) was reported in Gauteng. Sporadic cases continue to be seen in Mpumalanga, KwaZulu-Natal, and the Western Cape. North West and Free State province last reported cases in week 19 and week 20 respectively.
- Nationally, the reproduction number as of 2023-05-25 was estimated to be 0.84 (0.36 – 1.6), suggesting that infection incidence is likely decreasing. There is a 68% chance that the reproduction number was below 1 as of 2023-05-25.

Outbreak overview

From epidemiological week 40 2022 to week 22 2023, the NICD has tested 6264 serum samples for measles of which 1060 (17%) were confirmed measles cases. The number of samples submitted and the percentage of laboratory-confirmed measles-positive cases are shown in Figure 1. From epidemiological week 40 of 2022 to week 22 of 2023, 1054 laboratory-confirmed cases were reported from eight provinces with declared measles outbreaks; Limpopo (476 cases), Mpumalanga (109 cases), North West (217 cases), Gauteng (176 cases), Free State (32 cases), Western Cape (16), KwaZulu-Natal (21) and Northern Cape (7) (Table 1). The number of blood samples and throat swabs submitted to the NICD for measles serology and PCR testing increased from 58 in week 20 to 69 in week 21.

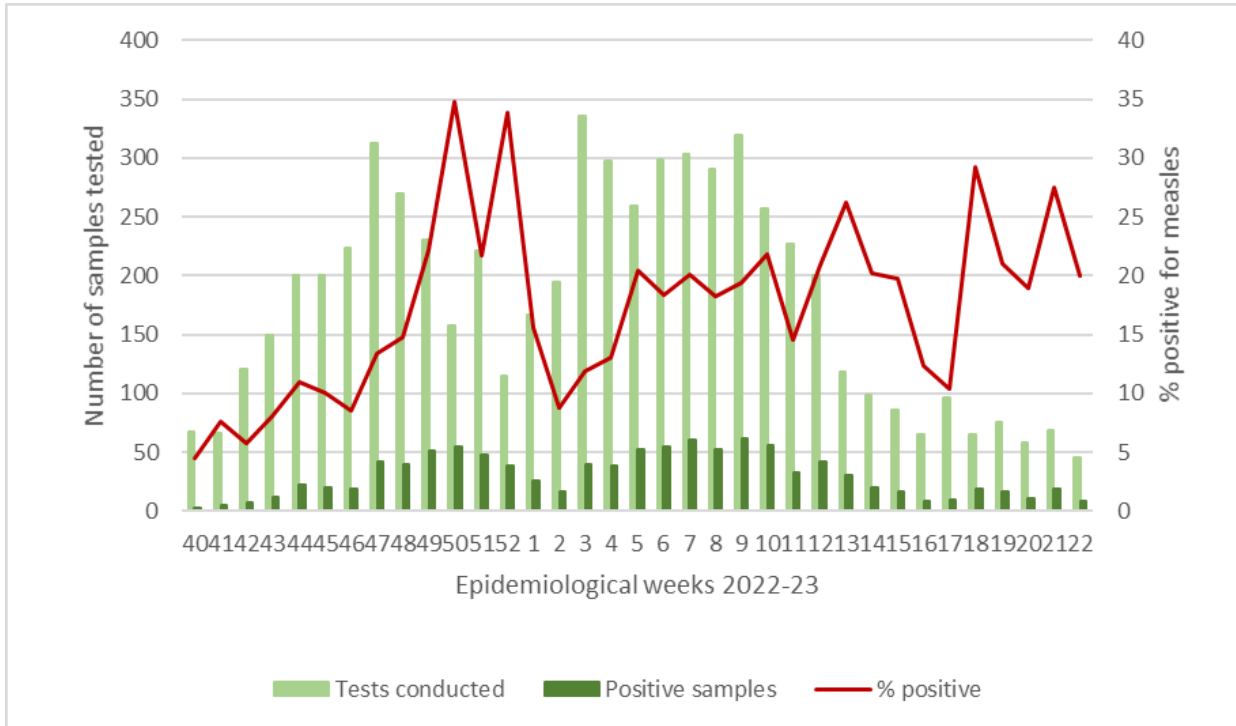


Figure 1. Number of serum samples submitted to the NICD for measles, week 40 2022, until week 22, 2023, and the number (dark green) and % tested positive (red line), by epidemiological week using the date the specimen was collected. *Data from week 22 will be updated in next week’s situation report when complete data from samples collected that week becomes available.

Reproduction Number

The figures below show the latest reproduction number estimates at the province and district levels, for regions with a minimum of 40 detected cases since week 40 of 2022 and at least 7 days with cases in the past 60 days.

At the provincial level, the reproduction number as of 2023-05-25 was estimated to be 0.89 (0.62 – 1.5) in Limpopo and 0.9 (0.63 – 1.4) in Gauteng, suggesting that infection incidence is likely decreasing. Other provinces had too few recent cases for robust reproduction number estimation, suggesting limited ongoing transmission, if any. At the district level, the reproduction number as of 2023-05-25 was estimated to be 1 (0.74 – 1.5) in Waterberg, suggesting that infection incidence is stable. In contrast, the reproduction number was estimated to be 0.65 (0.37 – 1.1) in Greater Sekhukhune, and 0.57 (0.3 – 0.93) in Mopani, suggesting that infection incidence is likely decreasing. Neither of these districts had cases reported since the previous report. Other districts had too few recent cases for robust reproduction number estimation, suggesting limited ongoing transmission, if any.

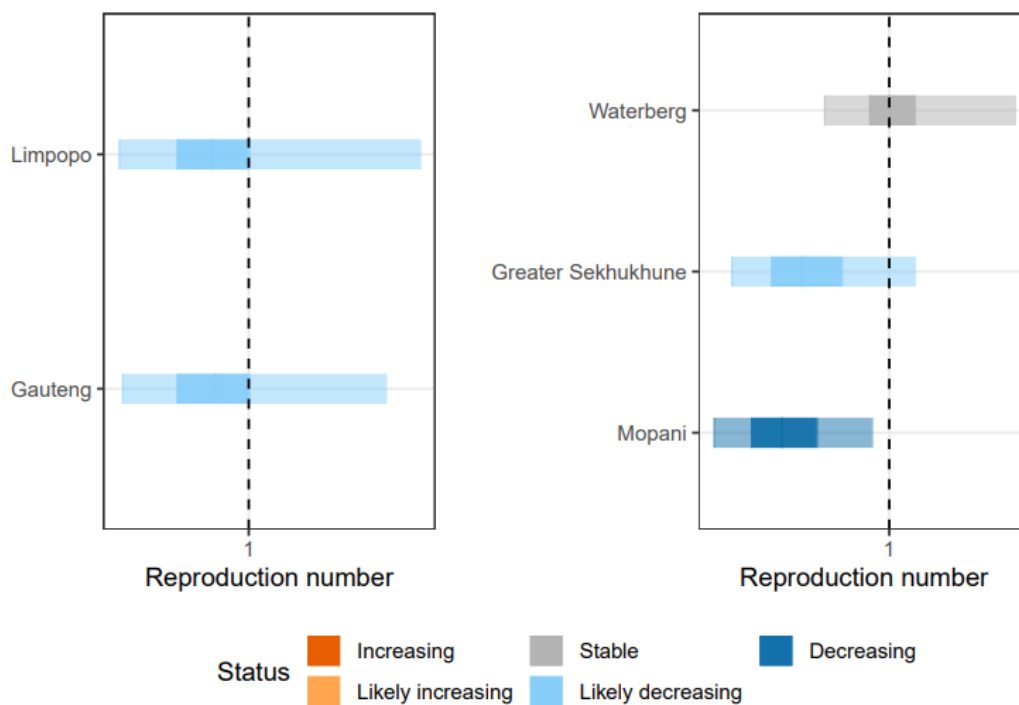


Figure 2. Provincial and district time-varying reproductive estimate from week 40, 2022 to late May 2023

The weekly report on nowcasts and forecasts for measles in South Africa is available at <https://www.sacema.org/sacema-nicd-measles-forecast/>

Table 1. Cases of laboratory-confirmed measles tested by the NICD from all provinces in South Africa from epidemiological week 40, 2022 to week 22, 2023. Outbreak-associated cases are contained within the red bordered cells* (FS=Free State; GP=Gauteng; KZN=KwaZulu-Natal; LP=Limpopo; MP=Mpumalanga NW=North West; NC=Northern Cape, WC = Western Cape). * A measles outbreak is classified as three or more confirmed laboratory measles cases reported within 30 days of onset of disease, in a district. *Data from week 22 represents partial data, and will be updated in next week's situation report, when complete data from samples collected that week becomes available.

Epi Week	EC	FS	GP	KZN	LP	MP	NW	NC	WC	Total
40, 2022			1		2					3
41, 2022					5					5
42, 2022			1		4		1		1	7
43, 2022	1				11					12
44, 2022				1	19	2				22
45, 2022		1	1		12	3	1	1	1	20
46, 2022			1	1	9	8				19
47, 2022		1	2		18	15	4	1	1	42
48, 2022			1		18	17	4			40
49, 2022		3	2	2	10	14	18	1	1	51
50, 2022			3		16	6	30			55
51, 2022		3	3	1	7	5	28			47
52, 2022		2	1		7	5	24	1		40
01, 2023		3	1		7	1	13		1	26
02, 2023		1	2		3	4	7			17
03, 2023	1	4	9		9	5	11		1	40
04, 2023	1	2	10	2	9	5	9		1	39
05, 2023		2	12	2	20	2	14		1	53
06, 2023	1	1	17	3	19	3	10		1	55
07, 2023			19	3	26	2	9	1	1	61
08, 2023	2	1	14	1	20	5	8	2		53
09, 2023		3	19	1	26	4	8		1	62
10, 2023		1	17		27		11			56
11, 2023		1	9	1	22					33
12, 2023			7		29	1	4		1	42
13, 2023			6	1	22		2			31
14, 2023			2	1	17					20
15, 2023			3		11	1			2	17
16, 2023			3		5					8
17, 2023					10					10
18, 2023		1	4		13		1			19
19, 2023		2	2		12					16
20, 2023			1		9				1	11
21, 2023			2	1	14	1			1	19
22, 2023			1		8					9
Total	6	32	176	21	476	109	217	7	16	1060

Table 2. Vaccination status for laboratory-confirmed measles cases from epidemiological week 40, 2022 to week 21, 2023 in provinces with a declared measles outbreak.

Vaccination status	FS	GP	LP	MP	NW	WC	NC	KZN	Total
Vaccinated	9	14	40	15	18	7	3	8	114 (10.8%)
Unvaccinated	3	13	77	18	30	0	0	1	142 (13.4%)
Unknown	20	149	359	76	169	9	4	12	789 (74.8%)
Total	32	176	476	109	217	16	7	21	1054

Table 3: Age distribution of vaccinated persons from epidemiological week 40, 2022 to week 22, 2023 in provinces with a declared measles outbreak.

Age group	FS	GP	LP	MP	NW	WC	NC	KZN	Total
< 1 year	2	2	3	0	0	3	0	0	10
1 – 4 years	2	5	12	2	5	3	0	3	31
5 – 9 years	2	7	19	9	12	1	2	5	55
10 – 14 years	3	0	6	4	1	0	1	0	15
≥15 years	0	0	0	0	0	0	0	0	0
Total	9	14	40	15	18	7	3	8	111

An Overview of the Outbreak in the Limpopo Province

In total, 476 cases of laboratory-confirmed measles were reported between epidemiological week 40, 2022 to week 22, 2023 with the majority of the measles cases reported in the Waterberg, Greater Sekhukhune, and Mopani districts. Figure 3 shows an epidemiological curve from week 40, 2022 to week 22 of 2023 in Limpopo province. Waterberg district reported the highest (196) number of measles cases, Mopani district reported 98 cases, Greater Sekhukhune district reported 139 cases, Vhembe district reported 35 cases and Capricorn district reported eight cases. Dilokong Hospital reported 56 and Mahubahube Clinic reported 35 cases in Greater Sekhukhune. In the Waterberg district, 56 cases have been reported from Witpoort Hospital in Lephalale municipality. The age of measles cases across Limpopo ranged from 4 months to 45 years.

Measles virus infection affected mostly the age group 5-9 years, with an attack rate of 28.9 per 100,000 persons. This was followed by the 1-4 years age group with an attack rate of 15.9 per 100,000 persons. Of the 476 measles cases in Limpopo province, 40 were vaccinated, 59 had an unknown vaccination status and 77 were unvaccinated (Table 2).

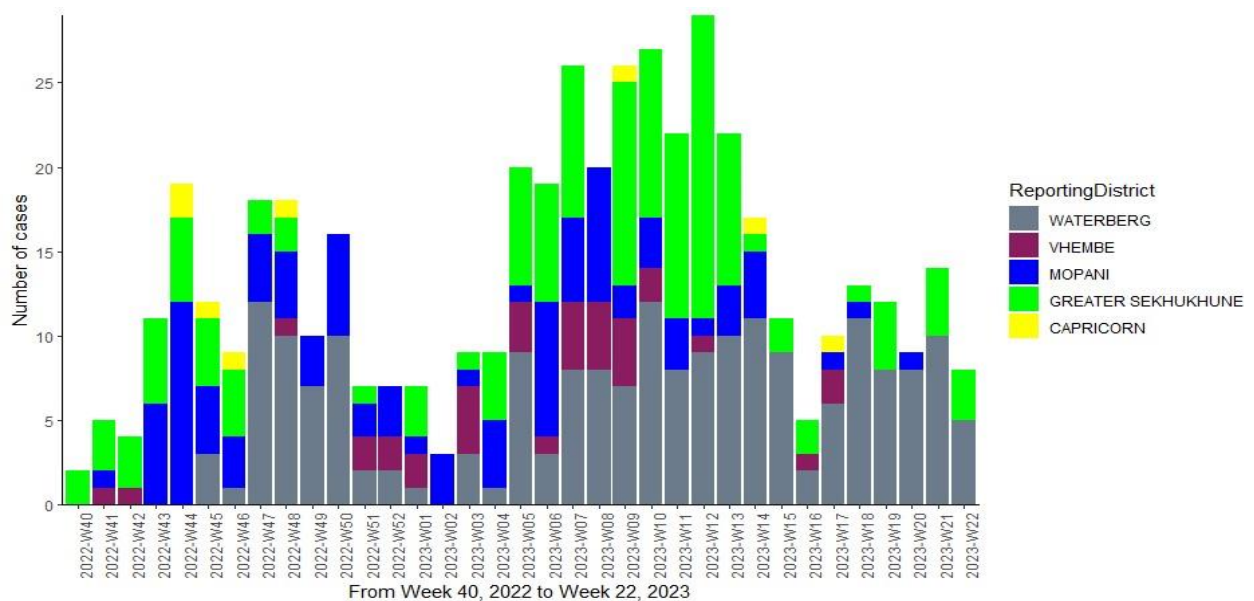


Figure 3. The epidemiological curve of the number of laboratory-confirmed measles cases by districts of Limpopo Province from epidemiological week 40, 2022 to week 22, 2023 by specimen collection dates.

Incidence rate of laboratory-confirmed measles cases by age group in Limpopo province

Measles transmission continues in the Limpopo province in the 5-9-years age group until week 20 ending 03 June 2023. Waterberg district remains the district reporting a high number of measles cases, the incidence of measles by age group in Limpopo province is shown in Figure 4. Since early 2023, the age groups 5-9 years and 10-14 years have had the highest incidence rates of infection and it is advised that the supplementary measles vaccination campaign continue, as it is recommended to increase measles immunity in the age group 5-14 years.

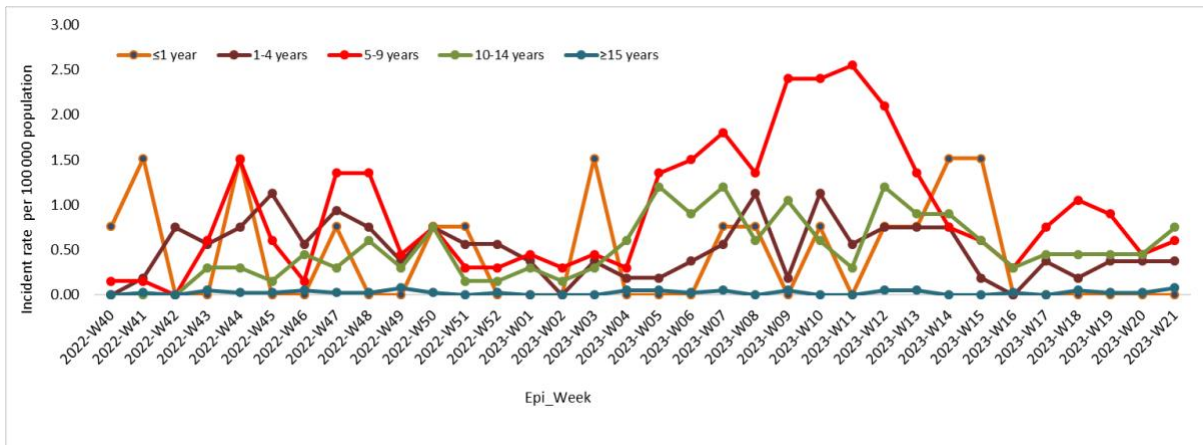


Figure 4: Incidence rate of laboratory-confirmed measles cases by age group in Limpopo Province from epidemiological week 40, 2022 to week 21, 2023 by specimen collection dates.

Gauteng

A total of 176 laboratory-confirmed measles cases have been reported from epidemiological week 40, 2022 to week 22, 2023 in Gauteng Province displayed in Figure 5. An outbreak was declared on 06 December 2022 (epidemiological week 49, 2022) after three laboratory-confirmed measles cases were reported at a single health facility, Ethafeni Clinic in the City of Ekurhuleni Metropolitan Municipality. To date, the majority of cases, 109, have been reported from the City of Ekurhuleni, 38 from the City of Tshwane, 18 cases from the City of Johannesburg, and 11 cases from West Rand. Amongst the lab-confirmed cases, 14 cases were vaccinated, 13 were not vaccinated and 149 have unknown vaccination status. Of the 109 cases in Ekurhuleni, 14 were identified at Daveyton's main clinic in Ekurhuleni. As of week 19, to week 22, Gauteng province has been reporting less than 2 cases per week (week 19-week 22, n=6), of the cases reported 4/6 are from the city of Tshwane metro. 3 cases reported are aged between 1-4 years old.

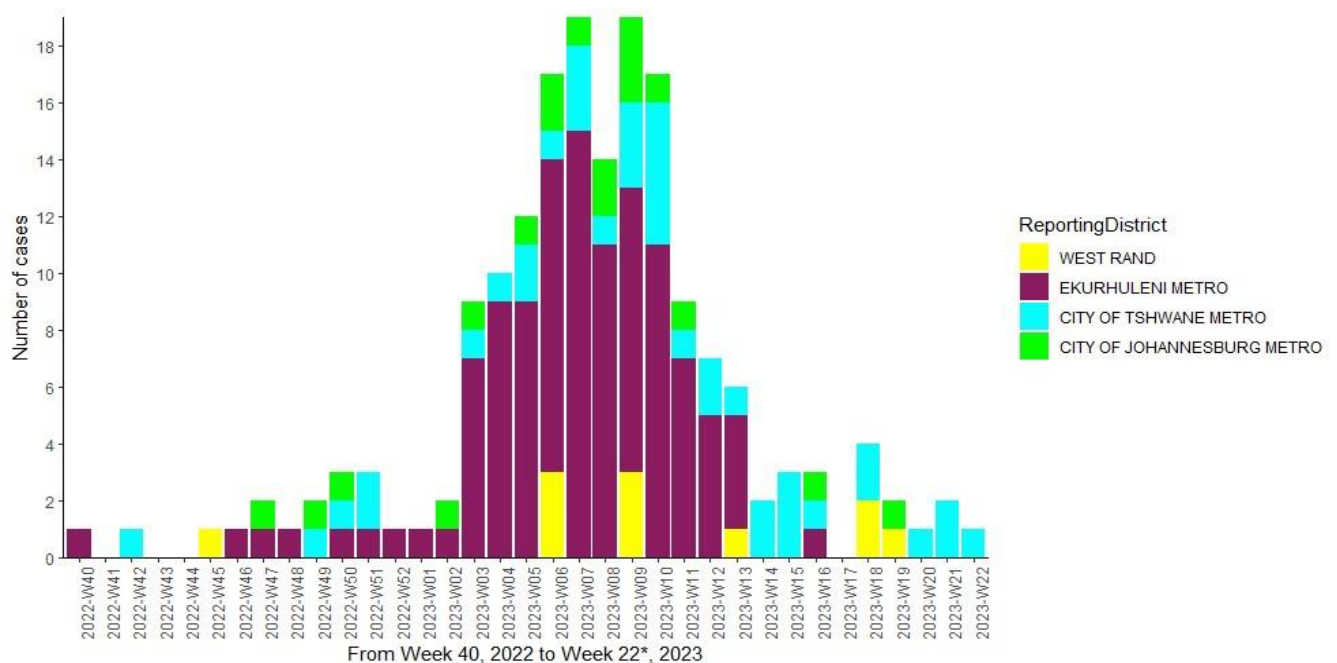


Figure 5. The epidemiological curve of the number of laboratory-confirmed measles cases in districts of Gauteng Province from epidemiological week 40, 2022 to week 22, 2023 by specimen collection dates.

Conclusion

The incidence of measles appears to be decreasing across the country, with reproduction numbers for all provinces <1. However, as observed in the previous week, the Limpopo province continues to contribute a significant number of cases, primarily within the 5-9 years age group. Strengthening surveillance for measles cases is recommended not to miss sporadic cases in the areas where measles cases are not reported after the measles vaccination campaign. Prevention and control of measles outbreaks can only be achieved through vaccination. The national measles vaccination coverage remains low in the population at risk. It is never too late to vaccinate – children over the age of 6 months to 15 years were targeted in the National supplemental immunization campaign rolled out in all provinces on 06 Feb 2023. The NICD continues to report on a large number of cases with unknown vaccination status. We urge the district and province to complete the vaccine status on the investigation

forms for the completeness of data. Clinicians across the country are urged to be on the lookout for measles cases. For more information about measles, case definition, notification, investigation, and guidelines for measles management including vaccination, please refer to our website: <https://www.nicd.ac.za/diseases-a-z-index/measles/>. Healthcare workers are encouraged to submit reports on any adverse events following immunization (AEFI) through the Med Safety application (<https://medsafety.sahpra.org.za/>) or through submitting a case reporting form to their district surveillance office.