



**INTERIM SITUATION REPORT, 23 June 2023**

**(Based on laboratory testing data up until 12 June 2023)**

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

**Highlights**

- The NICD has tested 6360 serum samples for measles since epidemiological week 40, 2022, of which 1081 (17%) were confirmed positive. In the past weeks (week 23 up until week 24, 12/06/2023) there have been 20 laboratory-confirmed measles cases detected across the country, of which the majority were from Limpopo (15).
- The percentage of samples testing positive (PTP) increased from 26 % (18/67) of samples tested in week 23 to 33% (2/6) of samples tested in week 24.
- In week 23 (week ending 17/06/2023), Limpopo province reported a total of 13 new measles cases, while sporadic cases were reported in Mpumalanga (1) Gauteng (2) and Eastern Cape (2). No new cases were reported in KwaZulu-Natal and Western Cape. North West and Free State reported cases in week 19.
- Owing to the absence of continuous measles transmission greater than 42 days (x2 the incubation period), The measles outbreak in the Northern Cape province is considered over.
- Measles virus transmission in the Waterberg district, Limpopo province continues in the 5-14-year group.
- At the district level, the reproduction number as of 2023-06-06 was estimated to be 1.1 (0.82 – 1.4) in Waterberg and 1.1 (0.69 – 1.7) in Greater Sekhukhune, suggesting that infection incidence may be increasing; however, the small number of cases overall leads to substantial uncertainty in these estimates. Greater Sekhukhune has had no new reported cases since the last report.

### Outbreak overview

From epidemiological week 40 2022 to week 24 2022, the NICD has tested 6360 serum samples for measles of which 1081 (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 24 of 2023, 1073 laboratory-confirmed cases were reported from eight provinces with declared measles outbreaks; Limpopo (495 cases), Mpumalanga (110 cases), North West (217 cases), Gauteng (176 cases), Free State (32 cases), Western Cape (15), 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 decreased from 61 in week 23 to six tests in 24

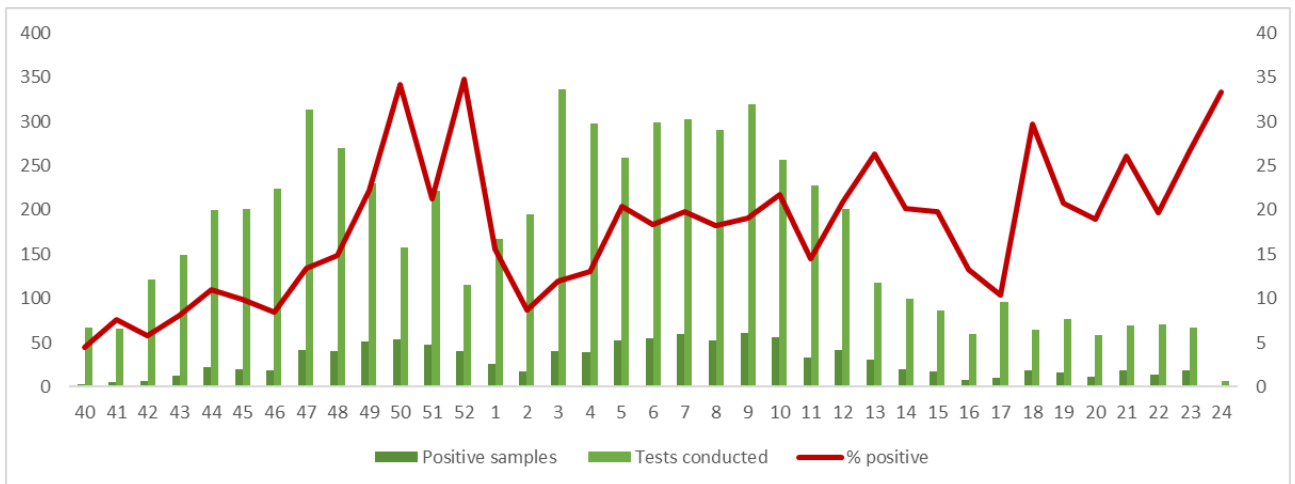
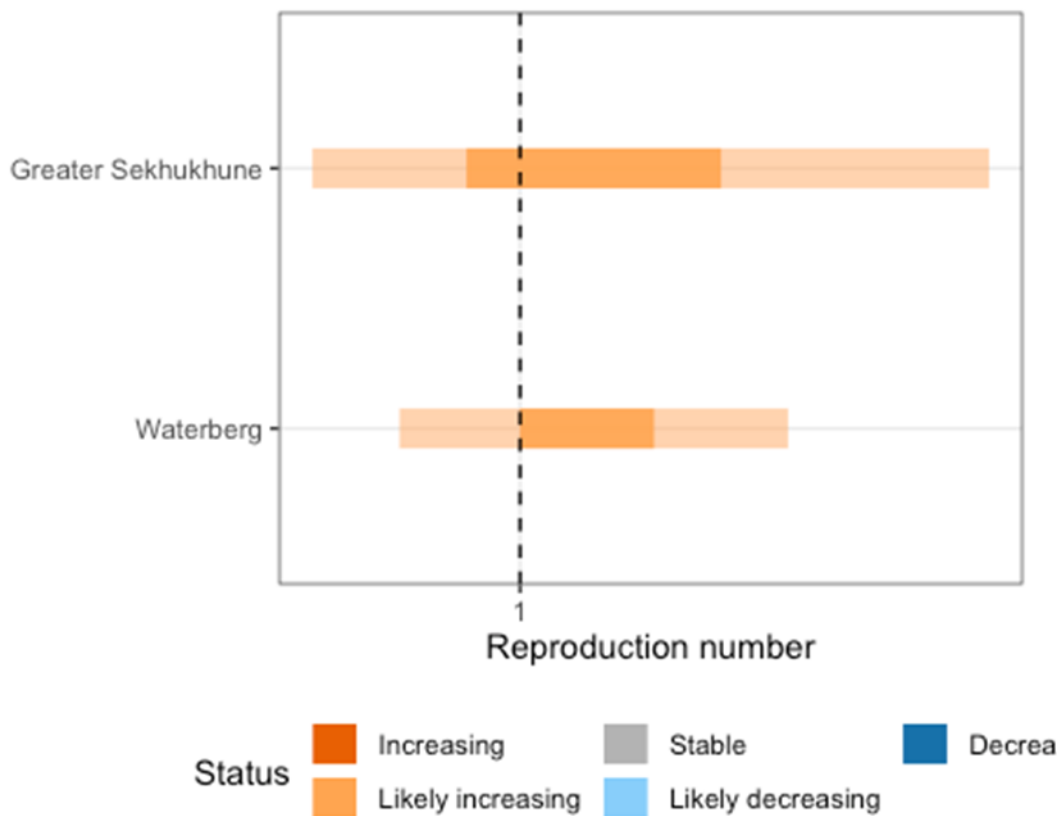


Figure 1. Number of serum samples submitted to the NICD for measles, week 40 2022, until week 24, 2023, and the number (dark green) and % tested positive (red line), by epidemiological week using the date the specimen was collected. \*Data from week 24 represent partial data and will be updated in next week's situation report when complete data from samples collected that week becomes available.

## Reproduction Number



The figure below shows the latest reproduction number estimates, for districts with a minimum of 40 detected cases since week 40 of 2022 and at least 7 days with cases in the past 60 days. For Limpopo province, At the district level, the reproduction number as of 2023-06-06 was estimated to be 1.1 (0.82 – 1.4) in Waterberg and 1.1 (0.69 – 1.7) in Greater Sekhukhune, suggesting that infection incidence may be increasing; however, the small number of cases overall leads to substantial uncertainty in these estimates. Greater Sekhukhune has had no new reported cases since the last report.



**Figure 2.** Limpopo district time-varying reproductive estimate from week 40, 2022 to 2023-06-06

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 24, 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 24 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	18	1				18
22, 2023			2		14					14
23, 2023	2		2		13	1				18
24, 2023					2					2
<b>Total</b>	<b>8</b>	<b>32</b>	<b>176</b>	<b>21</b>	<b>495</b>	<b>110</b>	<b>217</b>	<b>7</b>	<b>15</b>	<b>1081</b>

**Table 2.** Vaccination status for laboratory-confirmed measles cases from epidemiological week 40, 2022 to week 24, 2023 in provinces with a declared measles outbreak.

Vaccination status	FS	GP	LP	MP	NW	WC	NC	KZN	Total
Vaccinated	9	14	41	15	18	7	3	8	115 (10.7%)
Unvaccinated	3	13	84	18	30	0	0	1	149 (13.5%)
Unknown	20	149	370	77	169	8	4	12	809 (75.6%)
<b>Total</b>	<b>32</b>	<b>176</b>	<b>495</b>	<b>110</b>	<b>217</b>	<b>15</b>	<b>7</b>	<b>21</b>	<b>1073</b>

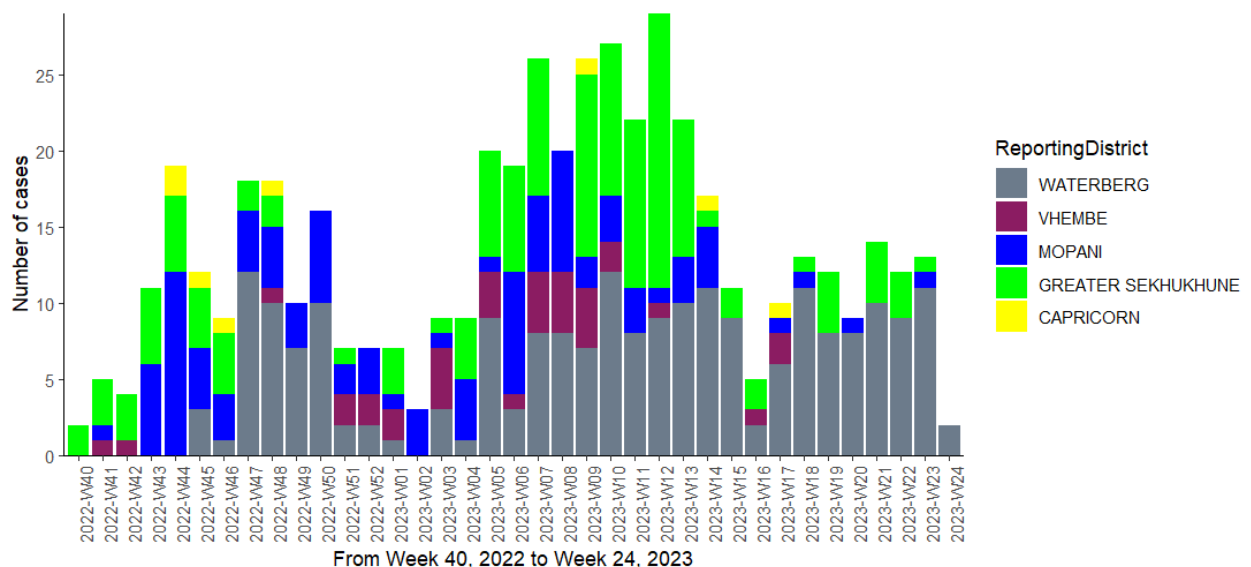
**Table 3:** Age distribution of vaccinated persons from epidemiological week 40, 2022 to week 24, 2023 in provinces with a declared measles outbreak

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	32
5 – 9 years	2	7	19	9	12	1	2	5	57
10 – 14 years	3	0	7	4	1	0	1	0	16
≥15 years	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>14</b>	<b>41</b>	<b>15</b>	<b>18</b>	<b>7</b>	<b>3</b>	<b>8</b>	<b>115</b>

### An Overview of the Outbreak in the Limpopo Province

In total, 495 cases of laboratory-confirmed measles were reported between epidemiological week 40, 2022 to week 24, 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 24 of 2023 in Limpopo province. Waterberg district reported the highest (213) number of measles cases, Mopani district reported 99 cases, Greater Sekhukhune district reported 140 cases, Vhembe district reported 35 cases and Capricorn district reported eight cases. Dilokong Hospital reported 57 and Mahubahube Clinic reported 35 cases in Greater Sekhukhune. In the Waterberg district, 60 cases have been reported from Witpoort Hospital in Lephalale municipality. The age of measles cases across Limpopo ranged from 4 months to 45 years.

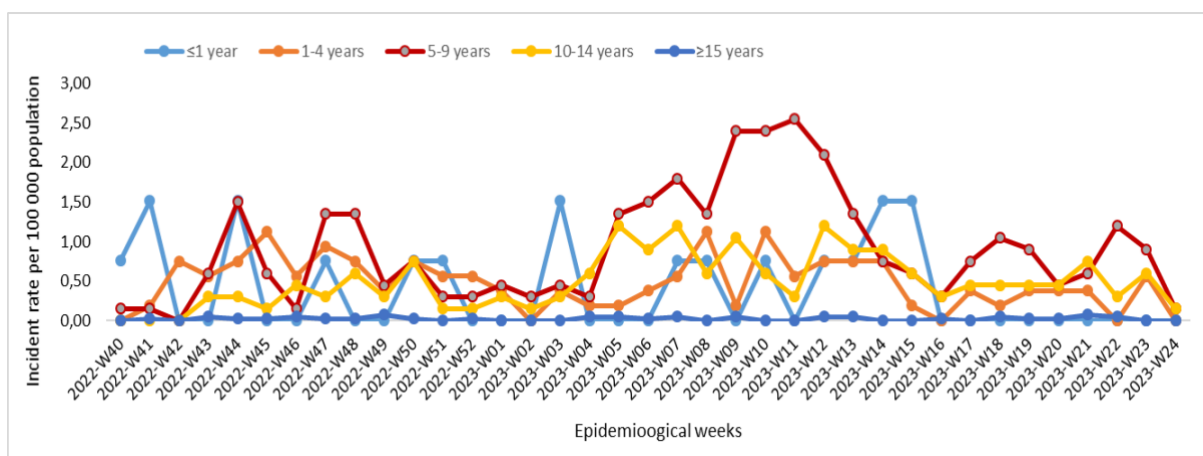
Measles virus infection affected mostly the age group 5-9 years, with an attack rate of 33,6 per 100,000 persons. This was followed by the 10-14 years age group with an attack rate of 18.1 per 100,000 persons. Of the 495 measles cases in Limpopo province, 41 were vaccinated, 370 had an unknown vaccination status and 84 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 24, 2023 by specimen collection dates.

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

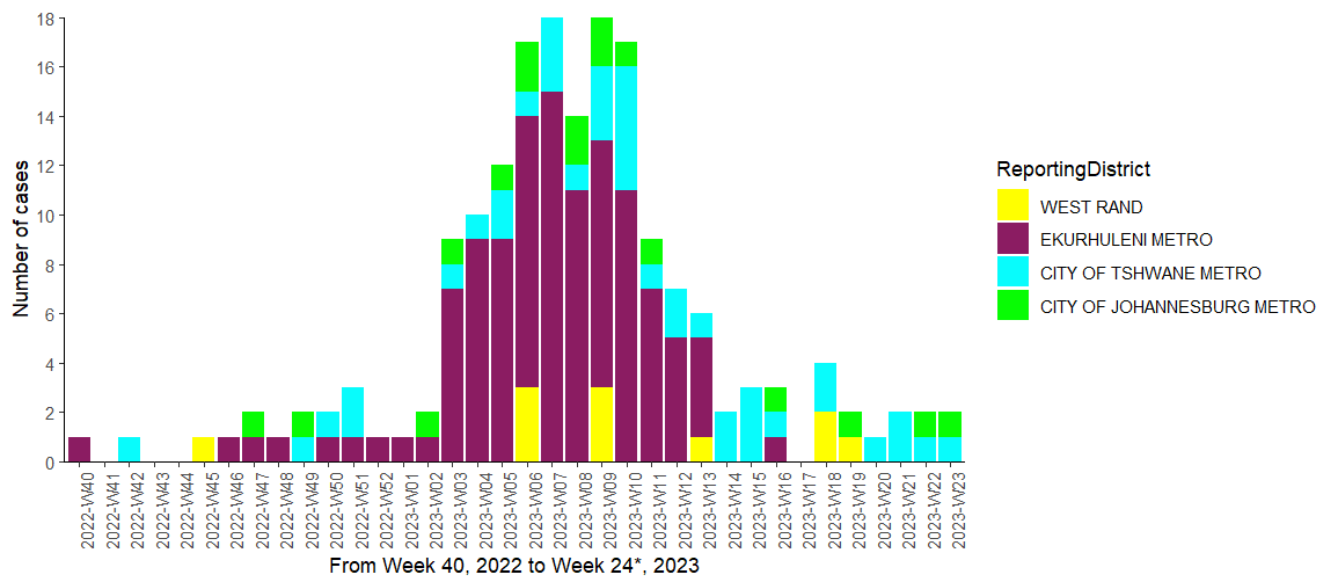
Measles transmission continues in the Limpopo province in the 5-9-years age group until week 23. Waterberg district remains the district reporting a high number of measles cases, the incidence of measles by age group in Limpopo province is shown in Figure 4. Since early 2023, the age groups 5-9 years and 10-14 years have had the highest incidence rates of infection. It is advised that the supplementary measles vaccination campaign continue 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 24, 2023 by specimen collection dates.

## Gauteng

A total of 176 laboratory-confirmed measles cases have been reported from epidemiological week 40, 2022 to week 24, 2023 in Gauteng Province displayed in Figure 5. An outbreak was declared on 06 December 2022 (epidemiological week 49, 2022). The majority of cases, 109, have been reported from the City of Ekurhuleni, 39 from the City of Tshwane, 17 from the City of Johannesburg, and 11 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 24, Gauteng province has been reporting less than 2 cases per week (week 19-week 24, n=9), of the cases reported 5/9 are from the city of Tshwane metro. 4 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 24, 2023 by specimen collection dates.

### Conclusion

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