

INTERIM SITUATION REPORT, 10 FEBRUARY 2023 (Based on laboratory testing data up until 04 February 2023)

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

Highlights

- The NICD has tested 3279 serum samples for measles since epidemiological week 40, 2022, of which 506 (15.4%) were confirmed positive. In outbreak-affected provinces, 484 cases have been reported since week 40, 2022. In the past weeks (week 04 up until mid-week 05, 2023), there have been 58 laboratory-confirmed measles cases detected across the country of which 56 are from outbreak-affected provinces.
- In week 04, the percentage of samples testing positive (PTP) increased to 25% of the 330 samples tested, compared with a lower PTP (under 10%) in week 03, 2023. Whilst the PTP for week 05 looks lower, the data for epidemiological week 05 will be reviewed in the next situation report when all samples collected during week 05 have been tested.
- All Gauteng cases, except two, originate from Ekurhuleni (Daveyton and Germiston). The two cases not from Ekurhuleni are from Tshwane (Hammankraal) and Johannesburg (Olievenhoutbosch).
- In provinces where an outbreak has been declared, the most affected age groups are still the 5–9-year-olds (40%) with a considerable proportion of cases reported among the 1–4 (28%) and 10–14 age groups (17%). Vaccination campaigns should therefore also include children aged 10 to 14
- The majority of cases (73%) were reported from primary healthcare facilities, and the highest proportion of cases reported from hospitals (52%) was reported in children under the age of one.
- Members of the public are urged to ensure their children are vaccinated against measles

Outbreak overview

From epidemiological week 40, 2022 (ending 8 October 2022) to week 05, 2023 (ending 4 February 2023) the NICD has tested 3289 serum samples for measles of which 506 (15.4%) 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 05 of 2023, 484 laboratory-confirmed cases were reported from five provinces with declared measles outbreaks; Limpopo (167 cases), Mpumalanga (91 cases), North West (157 cases), Gauteng (46 cases), and Free State (23 cases) (Table 2). The geographical distribution of cases across South Africa from week 40 of 2022 until week 05 of 2023 is shown in Figure 2. The number of measles cases continues to increase daily as blood and throat swabs are submitted to the NICD for measles serology and PCR testing.

*Note: Data is subject to change as new results are added or updated. Please contact Mr Tshepo Motsamai (tshepom@nicd.ac.za) to update data element

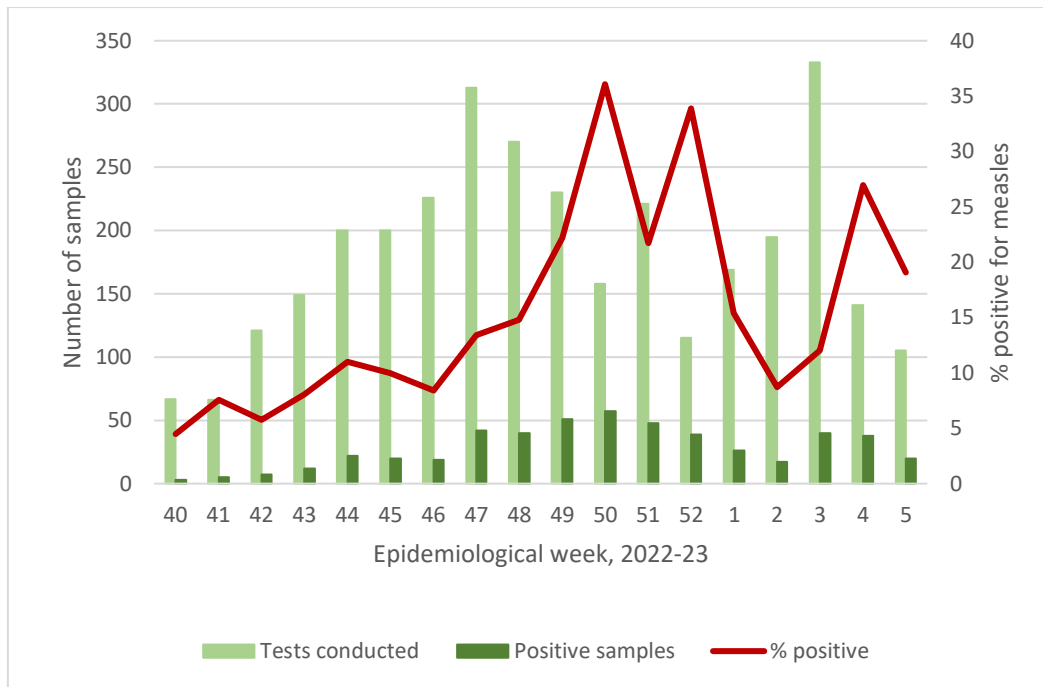


Figure 1. The number of serum samples submitted to the NICD for measles, week 40 2022, until week 05, 2023 and the number (dark green) and % tested positive (red line), by epidemiological week using the date the specimen was collected. *Data from week 05 represent partial data and will be updated in next week’s situation report when complete data from samples collected that week becomes available.

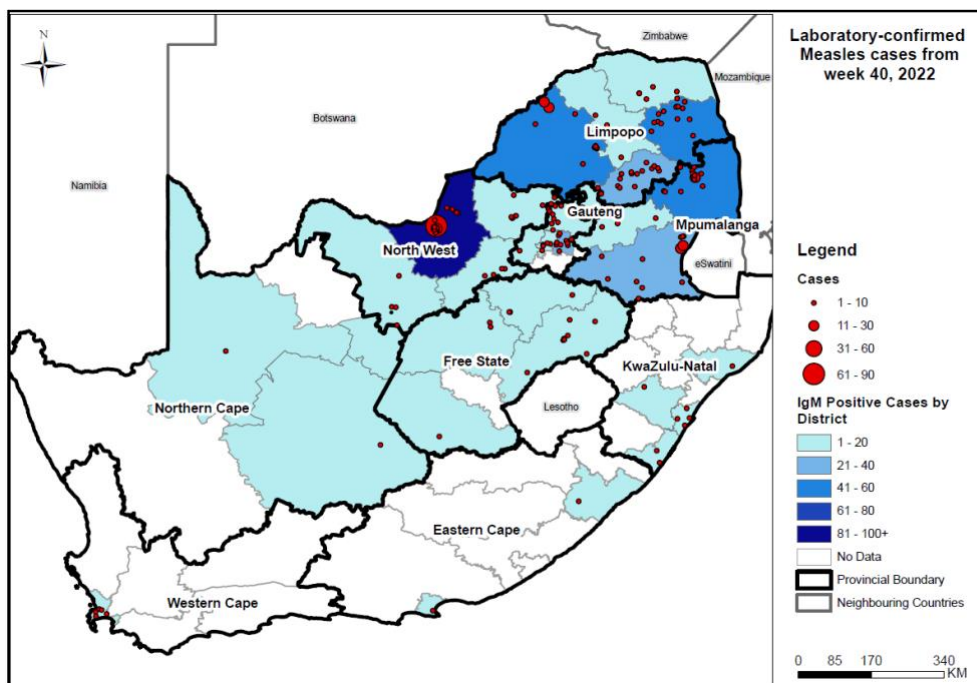


Figure 2. Distribution of laboratory-confirmed measles cases by the testing site (red dots – the size of the dot indicates the number of cases from that facility) and district of South Africa (deepening colour of blue indicates the total number of cases by sub-district), from week 40 to week 05, 2023.

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Table 1. Cases of laboratory-confirmed measles tested by the NICD from all provinces in South Africa from epidemiological week 40, 2022 to week 05, 2023. Outbreak-associated cases are contained within the red bordered cells* (EC=Eastern Cape; FS=Free State; GP=Gauteng; KZN=KwaZulu-Natal; LP=Limpopo; MP=Mpumalanga NW=North West; NC=Northern Cape). * A measles outbreak is classified as three or more confirmed laboratory measles cases reported within 30 days of the onset of disease, in a district. *Data from week 05 represent 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 | 32 | | | 57 |
| 51, 2022 | | 4 | 3 | 1 | 7 | 5 | 28 | | | 48 |
| 52, 2022 | | 2 | 1 | | 6 | 5 | 24 | 1 | | 39 |
| 01, 2023 | | 3 | 1 | | 7 | 1 | 13 | | 1 | 26 |
| 02, 2023 | | 1 | 2 | | 3 | 4 | 7 | | 0 | 17 |
| 03, 2023 | 1 | 4 | 9 | | 9 | 5 | 11 | | 1 | 40 |
| 04, 2023 | | 2 | 10 | 2 | 9 | 5 | 9 | | 1 | 38 |
| 05, 2023 | | 2 | 8 | 1 | 2 | 1 | 5 | | 1 | 20 |
| Total | 2 | 23 | 46 | 8 | 167 | 91 | 157 | 4 | 8 | 506 |

*Inclusive of samples submitted up until week 05

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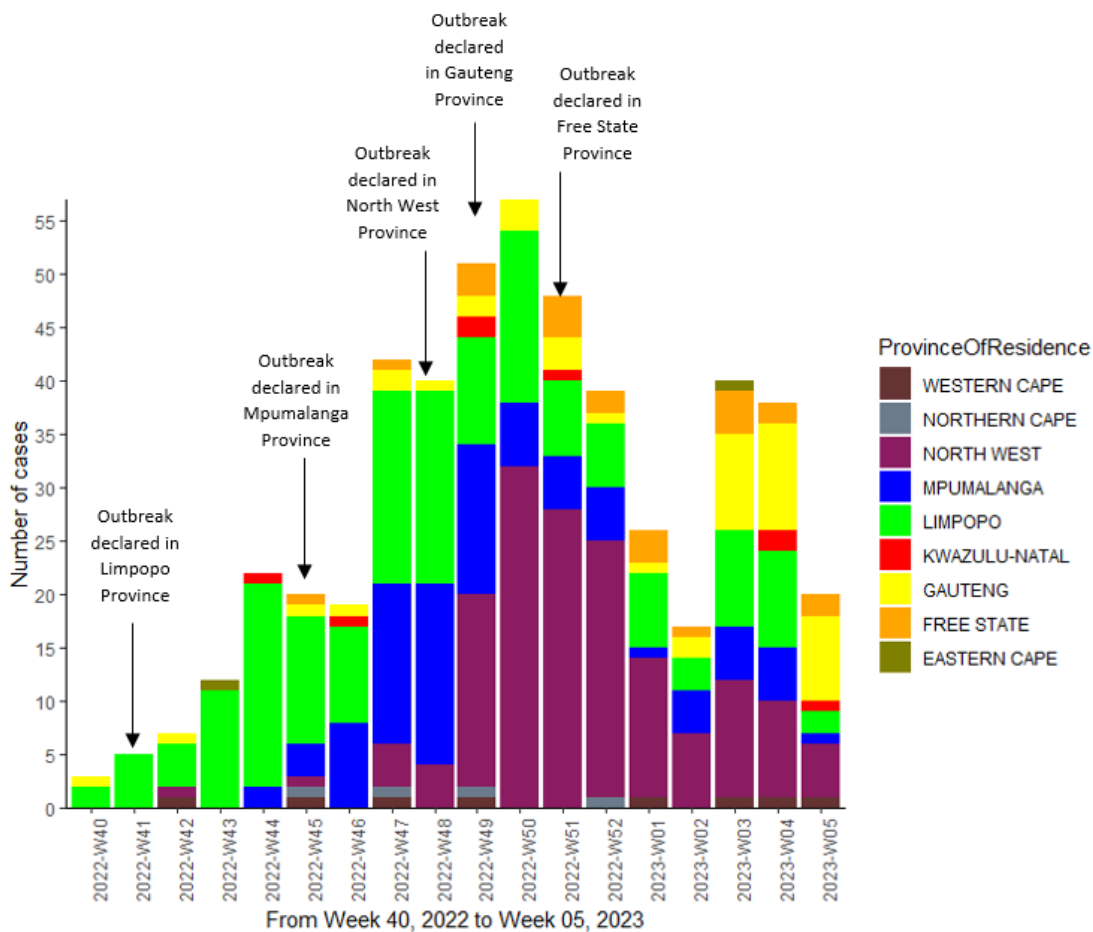


Figure 3. The epidemiological curve showing the number of laboratory-confirmed measles cases in South Africa from week 40, 2022 to week 05, 2023 (ending 08 October 2022 – ending 4 February 2023) by specimen collection dates and by province, indicating the weeks in which outbreaks were declared in Limpopo, Mpumalanga, North West, Gauteng and Free State provinces. *Data from week 05 represent partial data and will be updated in next week’s situation report when complete data from samples collected that week becomes available.

The age of laboratory-confirmed cases across the five provinces ranges from two months to 60 years (Table 2). The majority of cases 196, (40%) were in the 5-9-year age group, followed by 134 (28%) in the 1-4-year age group and 81 (17%) in the 10-14-year age group. The attack rates are highest among age groups 1-4 and 5-9 (Table 2). Of the 484 cases in the provinces where the measles outbreak has been declared, the vaccination status of 93 (19%) was known, of whom 41 (44%) were vaccinated (Table 3). Whilst the NICD is presently not able to provide data on hospital admission rates nor measles mortality rates, Table 4 reflects the number and proportion of laboratory-confirmed measles cases that originate from hospitals as opposed to primary healthcare facilities. Whilst cases that are seen at hospitals may not necessarily be admitted, this proportion gives us an indication of the severity of illness, as patients consulted tertiary care facilities. Admitted patients will be a subset of these cases. Presently it is not possible to determine measles admission rates and mortality. The NICD is working on data systems to collect this information.

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Table 2. Age distribution of laboratory-confirmed measles cases from epidemiological week 40, 2022 to week 05, 2023, in provinces with a declared measles outbreak with age-specific attack rates.

| Age group | FS | | GP | | LP | | MP | | NW | | Total | |
|--------------|-----------|-------------|-----------|-------------|------------|-------------|-----------|-------------|------------|-------------|------------|-------------|
| | # Cases | AR | # Cases | AR | # Cases | AR | # Cases | AR | # Cases | AR | # Cases | AR |
| <1 year | 2 | 3.76 | 7 | 2.65 | 10 | 7.58 | 5 | 5.52 | 7 | 8.66 | 31 | 5.00 |
| 1-4 years | 9 | 4.29 | 9 | 0.87 | 47 | 8.81 | 26 | 7.45 | 43 | 13.66 | 134 | 5.48 |
| 5-9 years | 10 | 3.74 | 19 | 1.51 | 62 | 9.30 | 31 | 7.25 | 74 | 18.90 | 196 | 6.52 |
| 10-14 years | 2 | 0.69 | 4 | 0.33 | 32 | 4.79 | 19 | 4.11 | 24 | 5.88 | 81 | 2.65 |
| ≥15 years | 0 | 0.00 | 7 | 0.06 | 16 | 0.41 | 10 | 0.29 | 9 | 0.30 | 42 | 0.17 |
| Total | 23 | 0.79 | 46 | 0.29 | 167 | 2.81 | 91 | 1.93 | 157 | 3.75 | 484 | 1.43 |

FS= Free State; GP= Gauteng; KZN=KwaZulu-Natal; LP=Limpopo; NW=North West; AR = attack rate per 100,000 children within the age-band, denominators from mid-year population estimates, 2022, StatsSA

Table 3. Vaccination status for laboratory-confirmed measles cases from epidemiological week 40, 2022 to week 05, 2023 in provinces with a declared measles outbreak.

| Vaccination status | FS | GP | LP | MP | NW | Total | |
|--|-------------|-----------|------------|-----------|------------|------------|----|
| Vaccination status known | 9 | 7 | 28 | 26 | 23 | 93 | |
| Vaccination status unknown | 14 | 39 | 139 | 65 | 134 | 391 | |
| Vaccinated cases (% of known status) | 6 | 4 | 14 | 9 | 8 | 41 (44%) | |
| Age distribution of vaccinated persons | <1 year | 1 | 2 | 1 | 0 | 0 | 4 |
| | 1-4 years | 2 | 0 | 7 | 1 | 3 | 13 |
| | 5-9 years | 1 | 2 | 5 | 5 | 5 | 18 |
| | 10-14 years | 2 | 0 | 1 | 3 | 0 | 6 |
| | ≥15 years | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 23 | 46 | 167 | 91 | 157 | 484 | |

Table 4. The facility type where laboratory-confirmed measles cases have been identified, for epidemiological week 40, 2022 to week 05, 2023, South Africa. Submission of a specimen from a hospital may suggest (but is not firm evidence) that the patient was admitted. The number of admissions will be lower than the number of cases reported from hospitals.

| Reporting Health Facility | <1 year | 1-4 years | 5-9 years | 10-14 years | ≥15 years | Total |
|---------------------------|-----------|------------|------------|-------------|-----------|------------|
| From PHC/CHC/other | 15 | 96 | 150 | 62 | 30 | 353 |
| From a hospital (%) | 16 (52) | 38 (28) | 46 (23) | 19 (24) | 12 (29) | 131 (27) |
| Total | 31 | 134 | 196 | 81 | 42 | 484 |

An overview of the outbreak in the Limpopo Province

*Note: Data is subject to change as new results are added or updated. Please contact Mr Tshepo Motsamai (tshepom@nicd.ac.za) to update data element

In total, 167 cases of laboratory-confirmed measles were reported between epidemiological week 40, 2022 to week 05, 2023 with the majority of the measles cases reported in the Greater Sekhukhune, Mopani and Waterberg districts. Figure 4 displays an epidemiological curve from week 40, 2022 to week 05 of 2023 in Limpopo province. The district with the highest number of reported cases was Mopani, which reported 58 cases. Waterberg district has reported 53 cases, Greater Sekhukhune district has reported 39 cases, Vhembe district has reported 12 cases while Capricorn district reported five cases. Amongst the 12 cases reported from the Vhembe district, nine cases originated from Makhado (Louis Trichardt Hospital and Clinic). The age of measles cases across Limpopo ranged from 4 months to 42 years. Measles virus infection affected mostly the age group 5-9 years (Table 2), with an attack rate of 9.30 per 100,000 persons. The 1-4 age group had a similar attack rate of 8.81 per 100,000 persons. Of the 167 measles cases in Limpopo province, 139 (83%) had an unknown vaccination status, 14 (8%) were vaccinated, and 14 (8%) were unvaccinated (Table 3). In the Waterberg district, 27 cases of 53 have been reported from Witpoort Hospital in Lephalale.

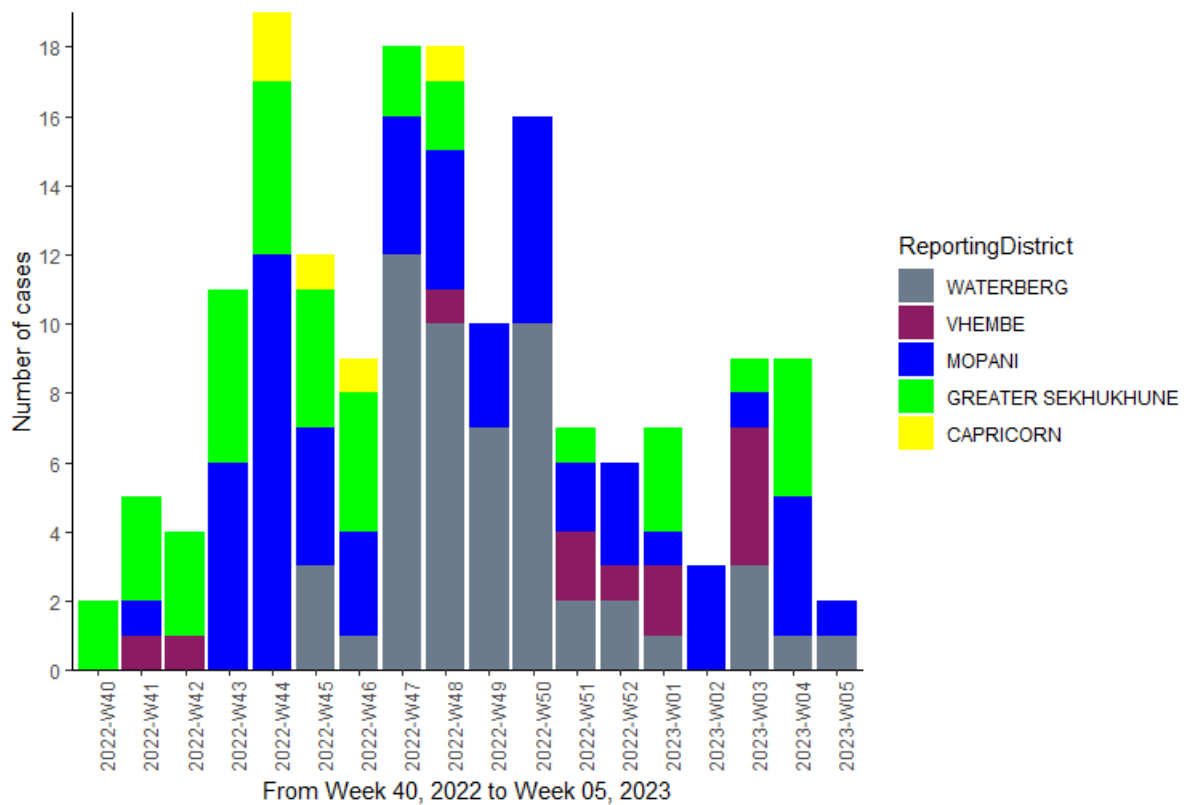


Figure 4. The epidemiological curve showing the number of measles cases by districts of Limpopo Province from epidemiological week 40, 2022 to week 05, 2023 by specimen collection dates

Mpumalanga

In total, 91 cases of laboratory-confirmed measles have been reported since epidemiological week 40, 2022. The measles outbreak was declared in Mpumalanga province on 11 November 2022 (epidemiological week 45, 2022). Figure 5 shows an epidemiological curve for Mpumalanga province from week 44, 2022 to week 05, 2023, with Ehlanzeni and Gert Sibande districts reporting the majority of cases, 45 and 41, respectively. Dwarloop clinic reported 16 of the 45 cases from the Ehlanzeni district, while Dundonald clinic reported 12 out of the 41 cases from the Gert Sibande district.

The age of cases across Mpumalanga ranged from 4 months to 60 years. The most affected age group by the measles outbreak is 1-4 years (Table 2), with an attack rate of 7.45 per 100,000 persons.

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Of the 91 cases, 65 had an unknown vaccination status, nine were vaccinated and 17 were unvaccinated (Table 3).

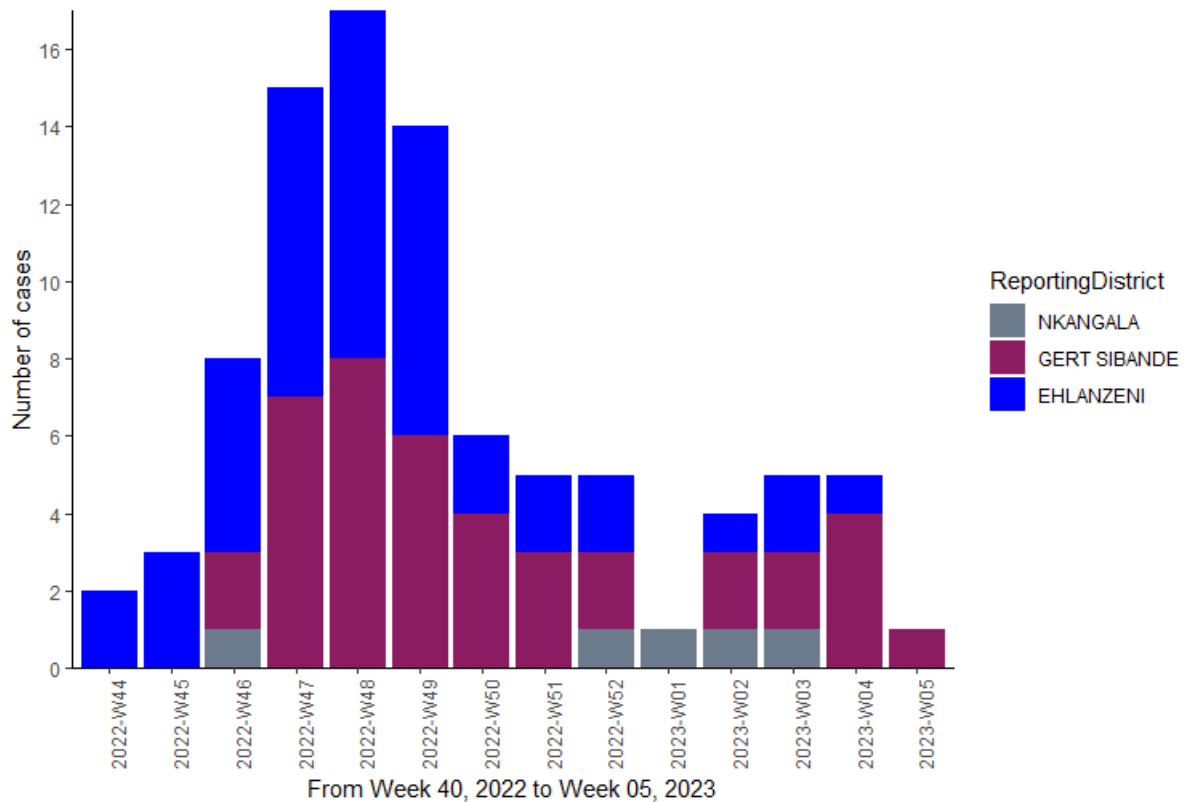


Figure 5. The epidemiological curve shows the number of measles cases in districts of Mpumalanga Province from epidemiological week 44, 2022 to week 05, 2023 by specimen collection dates.

North West

A total of 157 cases have been reported in North West Province since epidemiological week 40, 2022 (Figure 6). An outbreak was declared in North West province on 02 December 2022 after three laboratory-confirmed cases were reported in Ngaka Modiri Molema district. Most of the laboratory-confirmed cases are among children aged 5-9 years, with 74 cases and an attack rate of 18.90 per 100,000 persons, followed by those aged 1-4 years with 43 cases, with an attack rate of 13.66 per 100,000 persons (Table 2). Eight of the 157 cases were vaccinated and 134 had unknown vaccination status (Table 3). Of these 157 cases, majority-129 were reported from the Ngaka Modiri Molema district, with 68 cases reported from a single clinic, Lonely Park Clinic in Mahikeng.

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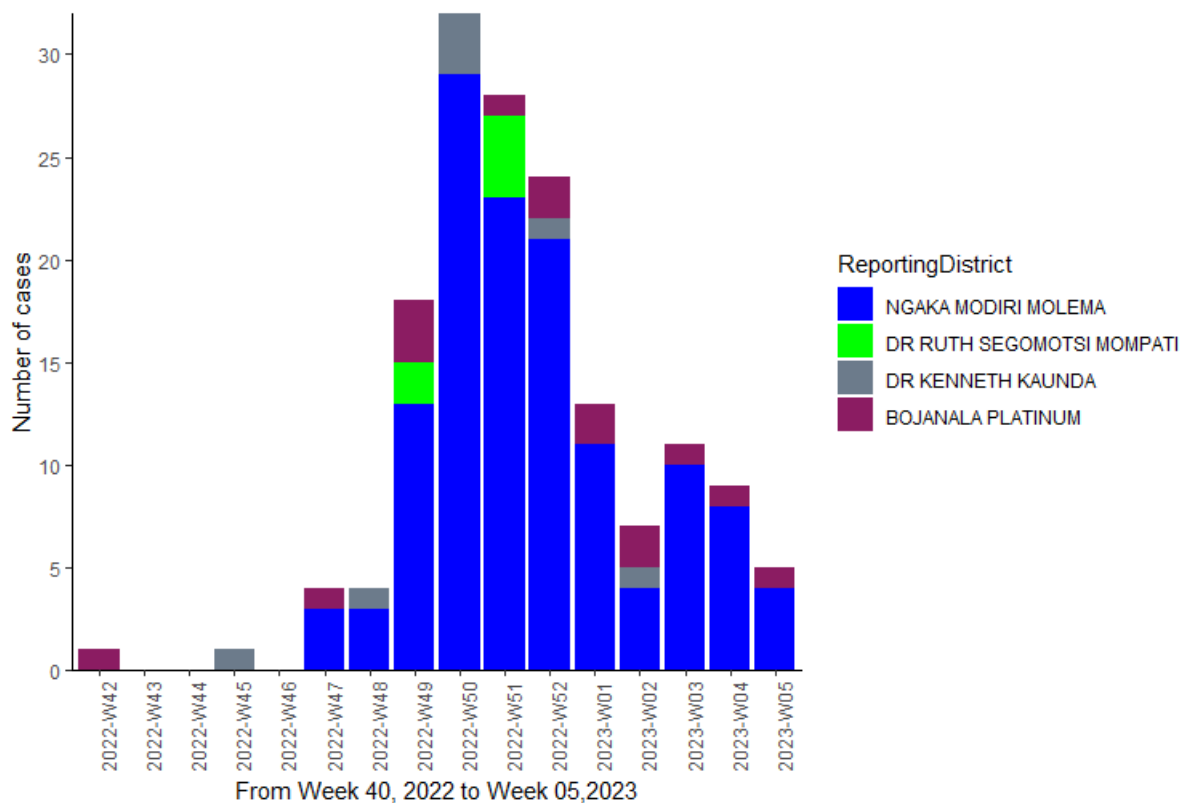


Figure 6. The epidemiological curve showing the number of measles cases in districts of North West Province from epidemiological week 42, 2022 to week 05, 2023 by specimen collection dates

Gauteng

A total of 46 laboratory-confirmed cases have been reported from epidemiological week 40, 2022 to week 05, 2023 in Gauteng Province displayed in Figure 7. An outbreak was declared on 06 December 2022 after three laboratory-confirmed cases were reported at a single health facility, Ethafeni clinic in the City of Ekurhuleni Metropolitan Municipality. To date, the majority of cases, 31, have been reported from the City of Ekurhuleni, eight from the City of Tshwane and six cases from the City of Johannesburg. Amongst these cases, 39 have unknown vaccination status while four cases were vaccinated (Table 3). Of the 46 cases, six were identified at Daveyton's main clinic in Ekurhuleni.

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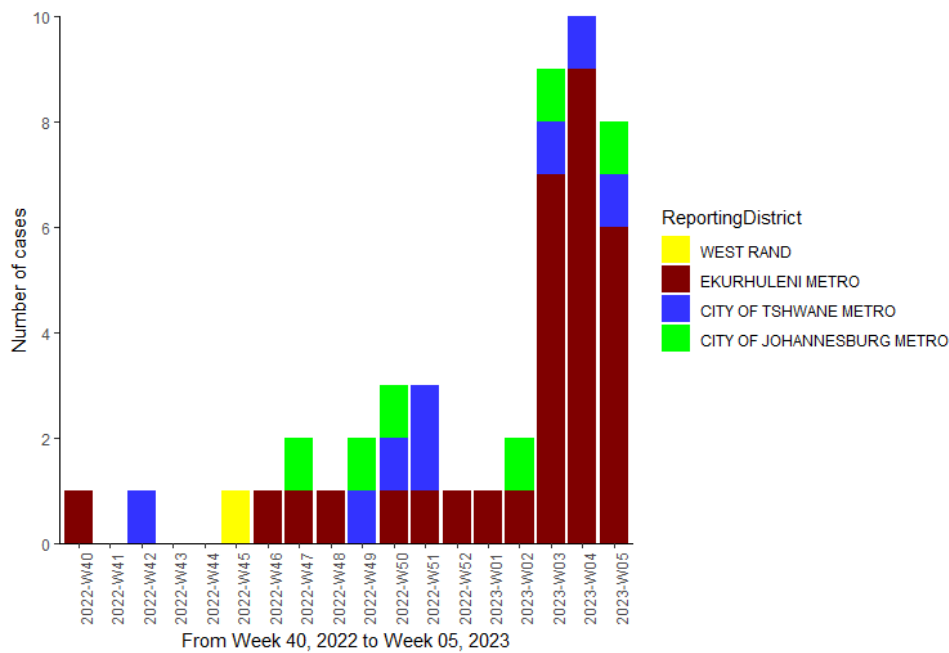


Figure 7. The epidemiological curve showing the number of measles cases in districts of Gauteng Province from epidemiological week 40, 2022 to week 05, 2023 by specimen collection dates

Free State

There are currently 23 laboratory-confirmed cases in this province since epidemiological week 40, 2022. An outbreak was declared on 20 December 2022 in Free State province after three laboratory-confirmed cases were reported in the Thabo Mofutsanyana district. Of the 23 cases, 15 have been reported from the Thabo Mofutsanyana district, four from the Fezile Dabi district, and one each from the Lejweleputswa and Xhariep districts. Six of these 15 cases were reported from Thabo Mafutsanyana district, and six were reported by Bethlehem clinic. The vaccination status of 14 cases is unknown, whereas three cases were not vaccinated, and six were (Table 3).

Conclusion

The total number of laboratory-confirmed measles cases continues to increase. The number of specimens submitted for testing has also increased. Continuous surveillance for measles cases is recommended. The NICD continues to support the planned vaccination campaigns as these are the only way to prevent measles transmission and further morbidity and mortality. Prevention and control of measles outbreaks can only be achieved through vaccination. Caregivers and parents are advised to review their child's vaccination records and confirm that they have received the measles vaccine. It is never too late to vaccinate – children who have not been vaccinated may receive the measles vaccine at any age over 6 months, and free of charge at primary health services. Clinicians across the country are urged to be on the lookout for measles cases. It is understood that the health departments in the respective provinces have commenced with or are planning immunisation campaigns. 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/>.

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