

South African Measles and Rubella Monthly surveillance situational report Measles-Rubella rash surveillance data up to 12 October 2024

1. Summary

From epidemiological week 1 to week 41 of 2024, 339 laboratory-confirmed cases of measles and 5323 cases of rubella were reported by the Measles/Rubella Reference Laboratory at the Centre for Vaccines and Immunology, National Institute for Communicable Diseases, NICD/NHLS, Figure 1. Sporadic laboratory-confirmed measles cases were reported from week 1 to week 41 with Gauteng province reporting the highest number of measles with 150 cases. The challenge with some of the measles samples referred to NICD, from the private laboratories based in Gauteng, for testing from other provinces were allocated incorrectly to the City Of Tshwane or the City of Johannesburg due to lack of patient information. One hundred and fifty-six (156) laboratory-confirmed measles cases were reported from epidemiological week 34 to week 41 with Gauteng province and KwaZulu-Natal provinces reporting 63 and 33 cases respectively. The majority of the reported measles were also positive for rubella IgM antibodies which suggests that these are false-positive measles IgM results. Measles and rubella PCR results on these specimens are pending.

Rubella virus infections increased to 5323 nationally with all nine provinces affected. An additional 1579 rubella cases were detected by the National Health Laboratory Service diagnostics laboratories. Circulation of the rubella virus has decreased in the Western Cape Province and remained low in the Limpopo province. Other provinces in the country continue to have high rubella positivity rates, with Gauteng Province, KwaZulu-Natal and Northern Cape Province continuing to report a high number of cases, Table 1. Gauteng province reported the highest number of rubella cases to date with 1343 cases reported until samples tested in week 41.

Overall, increasing numbers of blood specimens with or without throat swabs from suspected measles and rubella cases are being submitted to the National Institute for Communicable Diseases for laboratory confirmation from all provinces in the country. As a consequence, measles-rubella testing is delayed, and clinicians are requested to submit specimens from cases **only where the rubella virus is not known to be present**. For example, in schools or creches where fever-rash cases have been identified, and laboratory confirmation indicates that rubella infection is present, no further laboratory testing should be done.

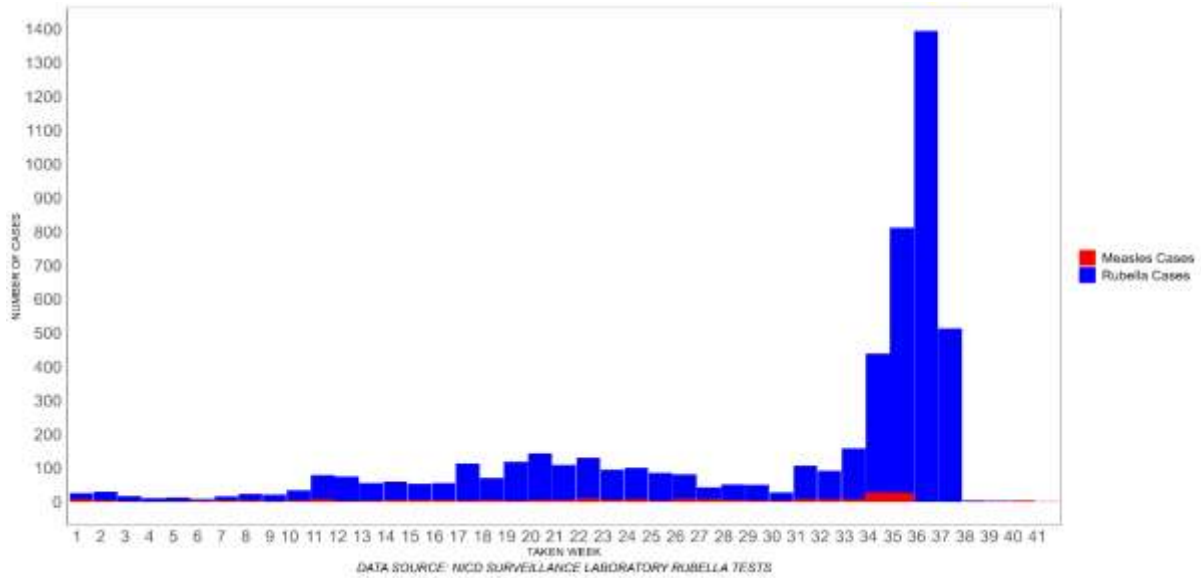


Figure 1 The epidemiological curve of the number of laboratory-confirmed measles and rubella in South Africa, from epidemiological week 1- 41, 2024 by specimen taken dates. Testing of specimens from epidemiological weeks 38-41 is lagging behind, on account of the number of samples being received each week.

Measles Surveillance

A total of 339 laboratory-confirmed measles cases were reported between epidemiological week 1 and week 41 of 2024 in South Africa, Figure 2. From epidemiological week 1 to week 41, the majority of laboratory-confirmed measles cases were reported in Gauteng provinces (Table 1). Gauteng province reported 150 laboratory-confirmed cases from epidemiological week 1 to week 40 of 2024. Laboratory-confirmed measles cases continue to be reported in Gauteng province in all districts except West Rand district which reported the last measles case in week 25 of 2024 (Figure 3).

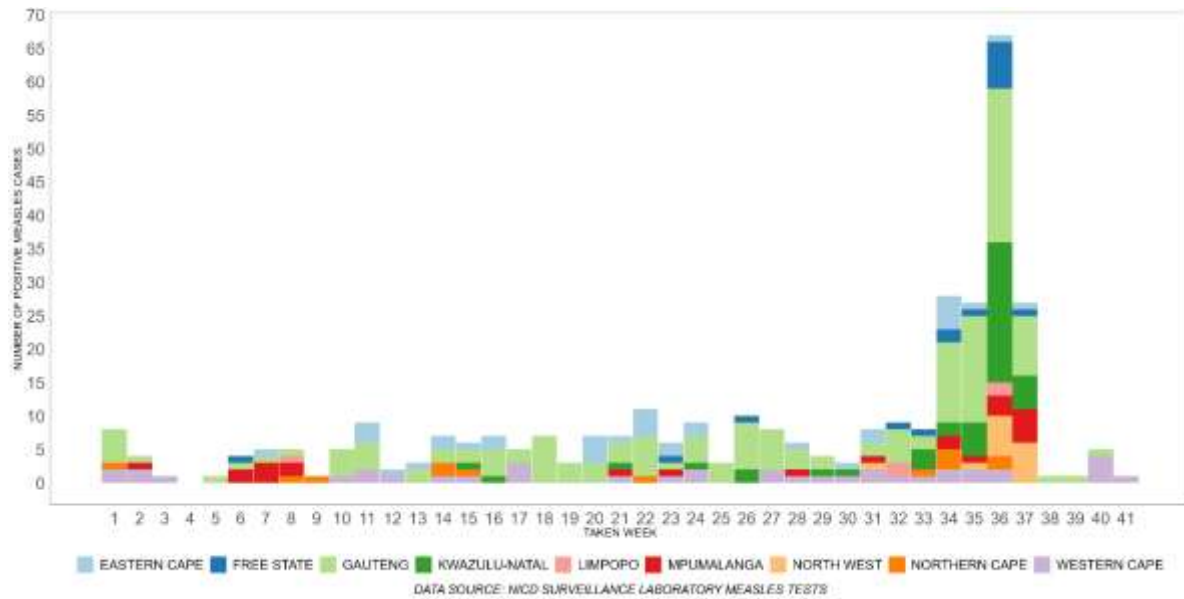


Figure 2. The epidemiological curve shows the number of laboratory-confirmed measles cases by Province in South Africa, from epidemiological week 1–41, 2024 by specimen taken dates. Testing of specimens from epidemiological weeks 38–41 is lagging behind, on account of the number of samples being received each week.

Table 1: Number of laboratory-confirmed measles and rubella cases by province in South Africa, 01 January to 18 October 2024

PROVINCE	Measles cases	Rubella cases
Eastern Cape	36	746
Free State	16	218
Gauteng	150	1343
KwaZulu-Natal	44	992
Limpopo	5	67
Mpumalanga	23	272
North West	14	283
Northern Cape	13	457
Western Cape	38	945
South Africa	339	5323

Measles cases affected mostly children in age groups 1-4 years and 5-9 years followed by 10-14 years (Table 2). Most children reported with measles infection were in the age groups that should have been vaccinated during the measles vaccination campaign in 2023. The increase in measles cases in Gauteng province is caused by clusters detected of siblings in families and an outbreak reported previously in Sedibeng district. Dual laboratory-confirmed measles and rubella cases

have increased in areas where rubella circulation has increased having an impact on the number of reported measles cases.

Table 2: Measles cases by age group in South Africa, 01 January to 12 October 2024

Province	0-6 months	7-11 months	1-4 years	5-9 years	10-14 years	15-49 Years	>= 50 Years	Unknown	Total
EASTERN CAPE	0	1	5	17	4	2	0	7	36
FREE STATE	1	0	2	8	1	0	0	4	16
GAUTENG	9	4	24	46	10	18	0	39	150
KWAZULU-NATAL	0	0	7	19	2	0	0	16	44
LIMPOPO	0	0	1	0	0	1	0	3	5
MPUMALANG A	0	0	6	8	4	1	0	4	23
NORTH WEST	0	0	2	8	0	0	0	4	14
NORTHERN CAPE	0	0	1	8	2	0	0	2	13
WESTERN CAPE	0	0	4	13	4	7	0	10	38
South Africa	10	5	52	127	27	29	0	89	339

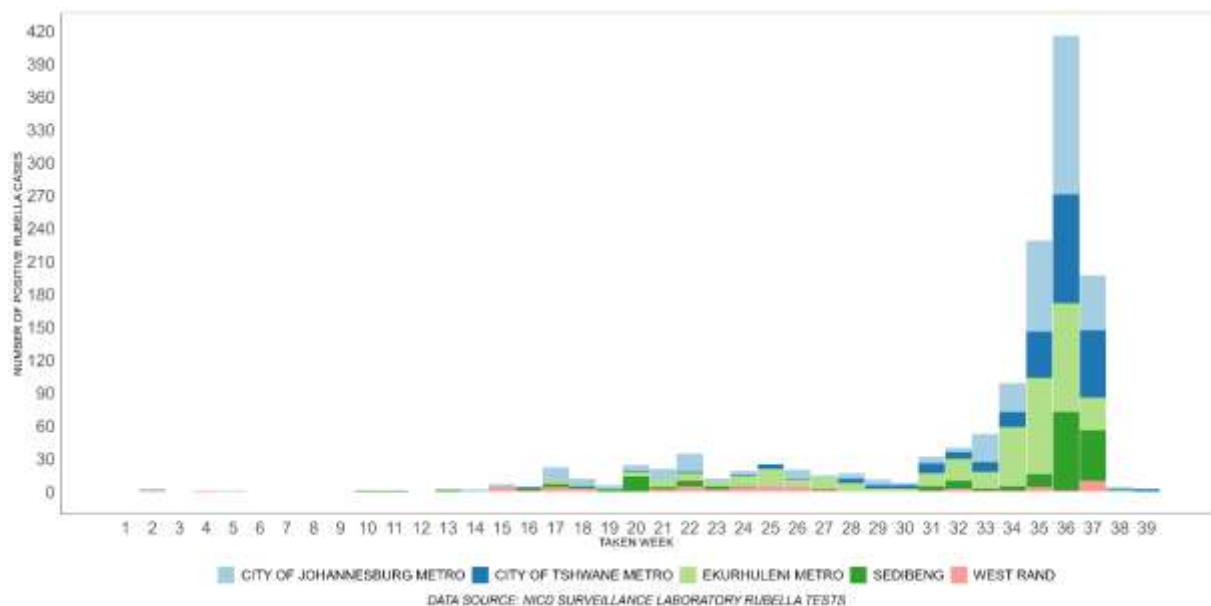


Figure 3. The epidemiological curve of the number of laboratory-confirmed measles in Gauteng province, from epidemiological week 1- 41, 2024 by specimen taken dates.

2. Rubella surveillance

Rubella serology testing is conducted at several NHLS laboratories and the NICD. Rubella testing at the NICD is done to differentiate the infection of rubella and measles from fever-rash surveillance samples from patients who meet the suspected measles/rubella case definition. Data reported in the situation report is for samples tested at NICD from measles and rubella rash surveillance and for rubella cases tested at NHLS as of 11 October 2024.

From week 1 to week 41 of 2024, 5323 laboratory-confirmed rubella cases were reported in South Africa through measles and rubella surveillance, Table 1, Figure 4. Rubella circulation had increased in Gauteng and Kwazulu-Natal in recent epidemiological weeks, with sustained circulation in Mpumalanga, Northern Cape Eastern Cape and North West provinces, Figure 4 and Figure 5. The Western Cape Province has shown a decrease in the number of reported rubella cases.

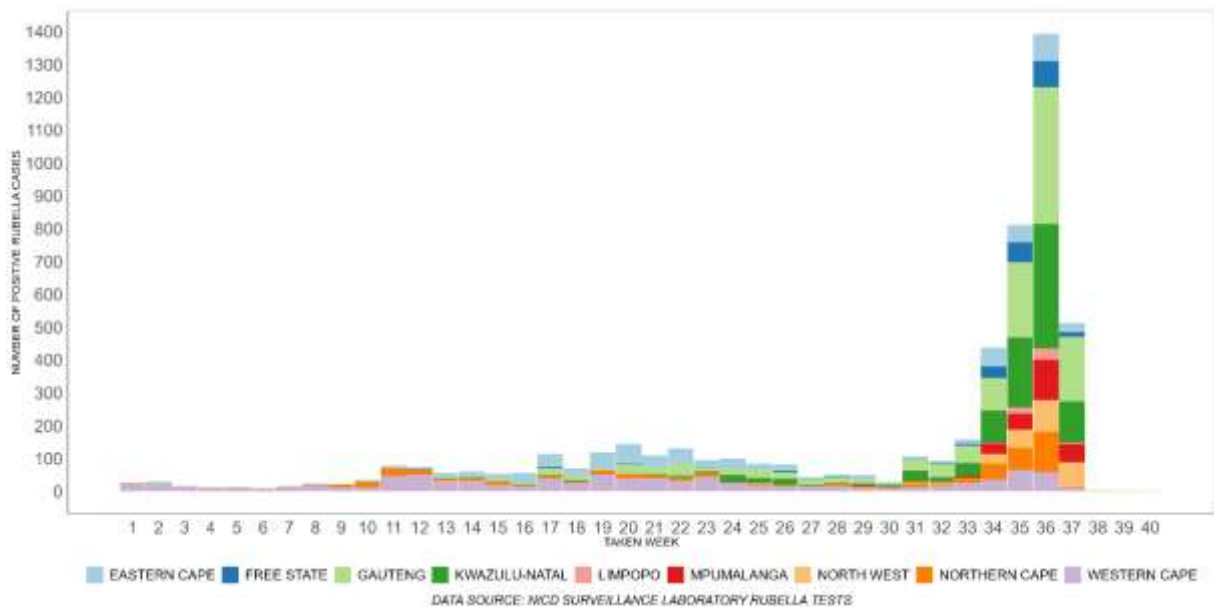


Figure 4 The epidemiological curves of the number of laboratory-confirmed rubella cases by Province in South Africa from NICD diagnostic data, from epidemiological week 1- 41, 2024 by specimen taken dates.

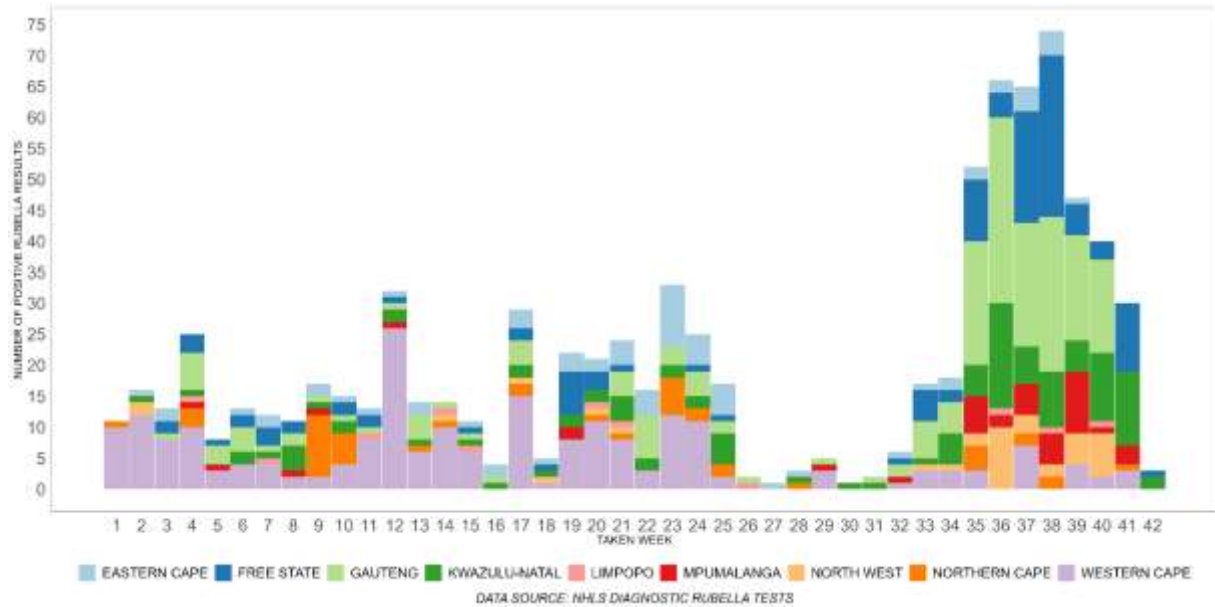


Figure 5 The epidemiological curves of the number of laboratory-confirmed rubella cases by Province in South Africa from NHLS diagnostic data, from epidemiological week 1- 41, 2024 by specimen taken dates.

Rubella infection affected mostly children from 1 year to 14 years. Fifty-seven (57) rubella cases were aged between 15 to 97 years (Table 3). Rubella infection poses a risk of congenital rubella syndrome if they are infected in the first trimester of the pregnancy. Rubella cases were mostly reported in children aged between 5 and 9.

Table 3: Number of rubella laboratory-confirmed cases by age group, epidemiological week 1-41, 2024

PROVINCE	0-6 Months	7-11 Months	1-4 Years	5-9 Years	10-14 Years	15-49 Years	>= 50 Years	UNKNOWN	Total
EASTERN CAPE	1	3	129	339	100	10	0	164	746
FREE STATE	0	0	33	85	24	1	0	75	218
GAUTENG	0	2	185	562	77	16	3	498	1343
KWAZULU-NATAL	0	1	88	480	75	5	1	342	992
LIMPOPO	0	0	4	18	3	2	0	40	67
MPUMALANGA	0	0	31	110	19	2	0	110	272
NORTH WEST	0	0	26	147	39	6	0	65	283
NORTHERN CAPE	0	0	37	210	72	21	0	117	457
WESTERN CAPE	1	4	235	389	97	34	0	185	945
SOUTH AFRICA	2	10	768	2340	506	97	4	1596	5323

Conclusion

South Africa is presently experiencing a seasonal rubella outbreak. As the non-pharmaceutical interventions that were implemented during the SARS-CoV-2 pandemic significantly curtailed seasonal rubella infections, many more children than usual are susceptible to rubella. Consequently, more rubella cases are being diagnosed this season than in the pre-2020 rubella season. Rubella cases have increased to the level above the pre-Covid number with 5323 cases this year compared to 1370 reported in 2019. The number of rubella cases reported nationally is similar to the number of cases reported during the last big rubella outbreak from 2009 to 2012 with more than 2000 rubella cases reported each year.

Previously, South Africa did not vaccinate against the rubella virus as one of the public health responses. Measles-rubella vaccine (MR) has been introduced into the South Africa EPI programme as a direct exchange, where MR is to be given at 6 and 12 months instead of the measles vaccine. However, most facilities are still providing the vaccine containing only measles antigen until their measles vaccine stocks are completed. A large supplementary immunisation activity (SIA) is planned for 2026 to eliminate rubella circulation and close immunity gaps amongst those who escape natural infection.

Health awareness is recommended in the areas where rubella cases are circulating. Although rubella infections cause mild disease in adults and children, women in their first trimester of pregnancy who acquire rubella for the first time are at risk of passing rubella onto their foetus, with consequential congenital rubella syndrome (CRS). Healthcare workers should collect urine, throat swabs, and blood sample specimens for diagnostic testing (serology and PCR detection) on infants with suspected CRS. A good clinical history should be obtained from their mothers regarding fever/rash illness during pregnancy. A completed case investigation form for congenital rubella syndrome should be completed along with the submission of clinical samples to the NICD for testing.

Measles circulation continues to be at a low level. As reported, many cases that are measles IgM positive are also positive for rubella IgM. Dual infection in this context is likely to be rubella, but measles infection may be ruled out following measles and rubella PCR, which is currently not done in real-time.



Routine measles vaccination should be strengthened and measles catch-up doses continue in healthcare facilities for the children who missed their scheduled doses. Vaccinating children with the measles vaccine protects them from severe illness caused by measles virus infection, including severe pneumonia, encephalitis, blindness, deafness, and death. For all measles-positive cases, the public health response should be done as per the EPI(SA) immunisation guideline.

Measles, acute rubella, and congenital rubella syndrome are notifiable medical conditions. Strengthening surveillance for measles and rubella is recommended to increase the chance of detecting outbreaks and monitoring the effectiveness of routine vaccination programs. Clinicians are encouraged to be on the lookout for measles and rubella cases. Samples should be collected from clinically suspected measles and rubella patients and sent to the NICD as part of the measles and rubella elimination surveillance for laboratory confirmation. Clinicians are urged to be mindful of the clinical context of febrile patients who present with a rash. If rubella is circulating in communities, or if the suspected case has a history of contact with a confirmed case of rubella, it is not necessary to submit samples for clinical testing. However, ALL cases should be notified as suspected fever-rash cases.

Diagnostic testing for fever-rash surveillance includes a completed measles-rubella case investigation form (found at <https://www.nicd.ac.za/wp-content/uploads/2023/10/Measles-Rubella-CIF.pdf>) and blood for serological testing together with a throat swab or urine for PCR testing. Measles and rubella suspected cases samples should be sent to the NICD for laboratory confirmation. Based on details in the case investigation form and results of serological testing, PCR for measles and/or rubella will be done.