NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

South African Measles and Rubella Monthly surveillance situational report

Measles-Rubella rash surveillance data up to 01 January 2024 to 01 February 2025

1. Summary

From epidemiological week 1 to week 52 of 2024, 931 laboratory-confirmed cases of measles and 15 100 cases of rubella were reported by the Measles Reference Laboratory at the National Institute for Communicable Diseases in South Africa, Figures 1 & 4. From epidemiological week 1 to week 5 of 2025, 40 laboratory-confirmed cases of measles and 117 cases of rubella were reported by the Measles Reference Laboratory, Figures 2 & 5.

Of the 40 laboratory-confirmed measles cases since the beginning of the year, Gauteng had 30 cases, with 19 cases in the City of Johannesburg, Figure 3. In 2024, with the increased circulation of rubella, the laboratory had seen a number of cases positive for measles IgM and rubella IgM antibodies which suggested that these were false-positive measles IgM results. With the decrease in rubella infections, in the past month, there has been a marked decrease in dual positive results.

Rubella virus infections have decreased significantly in all provinces in South Africa with 117 cases reported in January 2025, with 67 being in North West Province, Figure 5. The back-log of measles and rubella samples has been cleared and results are being sent out in real time as of the beginning of 2025.

Measles Surveillance

A total of 931 laboratory-confirmed measles cases were reported between epidemiological week 1 and week 52 of 2024 in South Africa, Figure 1. From epidemiological week 1 to week 52, the majority of laboratory-confirmed measles cases (372) were reported in Gauteng province (Table 1).

A total of 40 laboratory-confirmed measles cases were reported between epidemiological week 1 and week 5 of 2025 in South Africa, Figure 2. with the majority of laboratory-confirmed measles cases (19) reported in Gauteng province, with 19 cases in City of Johannesburg, 6 in Tshwane and 5 in Ekurhuleni (Table 2 & Figure 3).

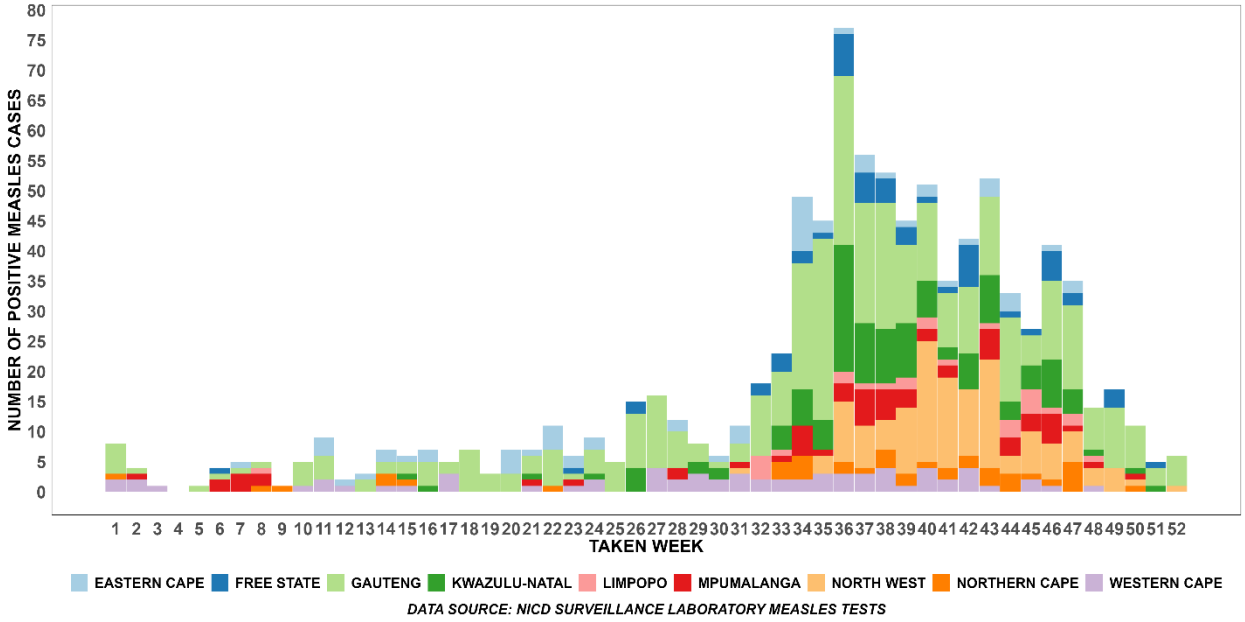

***Figure 1**. The epidemiological curve shows the number of laboratory-confirmed measles cases by Province in South Africa, from epidemiological week 1–52, 2024 by specimen taken dates.*

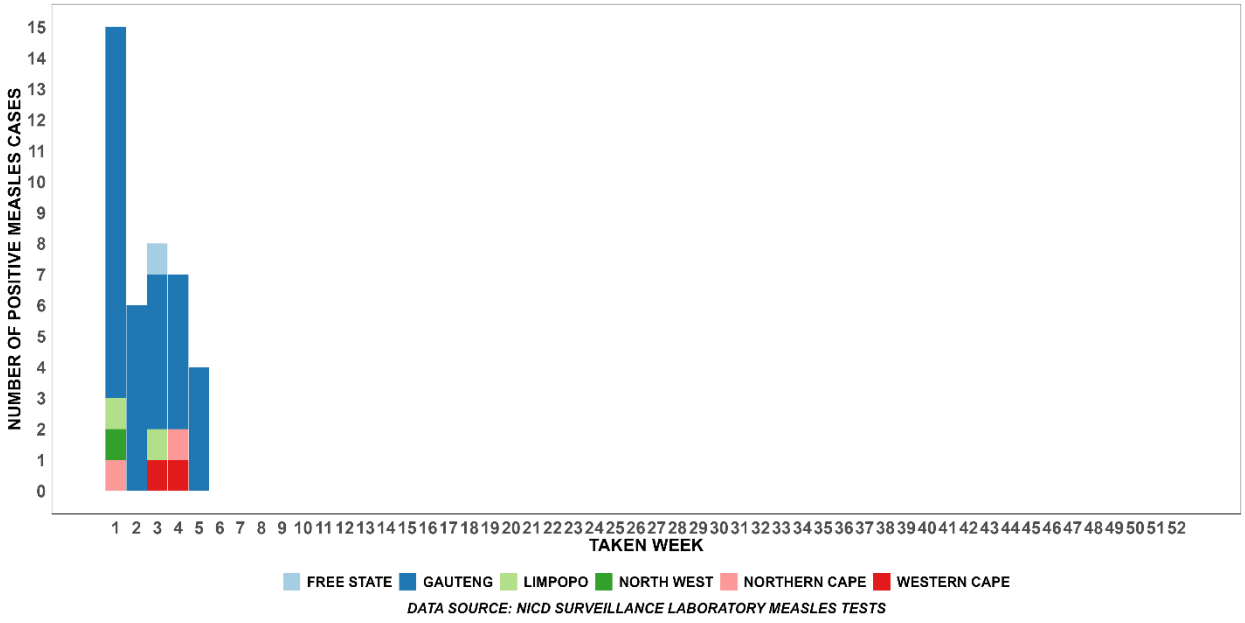

***Figure 2**. The epidemiological curve shows the number of laboratory-confirmed measles cases by Province in South Africa, from epidemiological week 1–5, 2025 by specimen taken dates.*

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Table 1: Number of laboratory-confirmed measles and rubella cases by province in South Africa, 01 January to 31 December 2024

PROVINCE	Measles cases	Rubella cases
Eastern Cape	60	1333
Free State	53	734
Gauteng	372	3220
KwaZulu-Natal	120	2844
Limpopo	27	436
Mpumalanga	60	1171
North West	131	2472
Northern Cape	41	1349
Western Cape	67	1539
South Africa	**931**	**15 100**

Table 2: Number of laboratory-confirmed measles and rubella cases by province in South Africa, 01 January to 01 February 2025

PROVINCE	Measles cases	Rubella cases
Eastern Cape	0	1
Free State	1	4
Gauteng	32	14
KwaZulu-Natal	0	1
Limpopo	2	6
Mpumalanga	0	11
North West	1	62
Northern Cape	2	14
Western Cape	2	4
South Africa	**40**	**117**

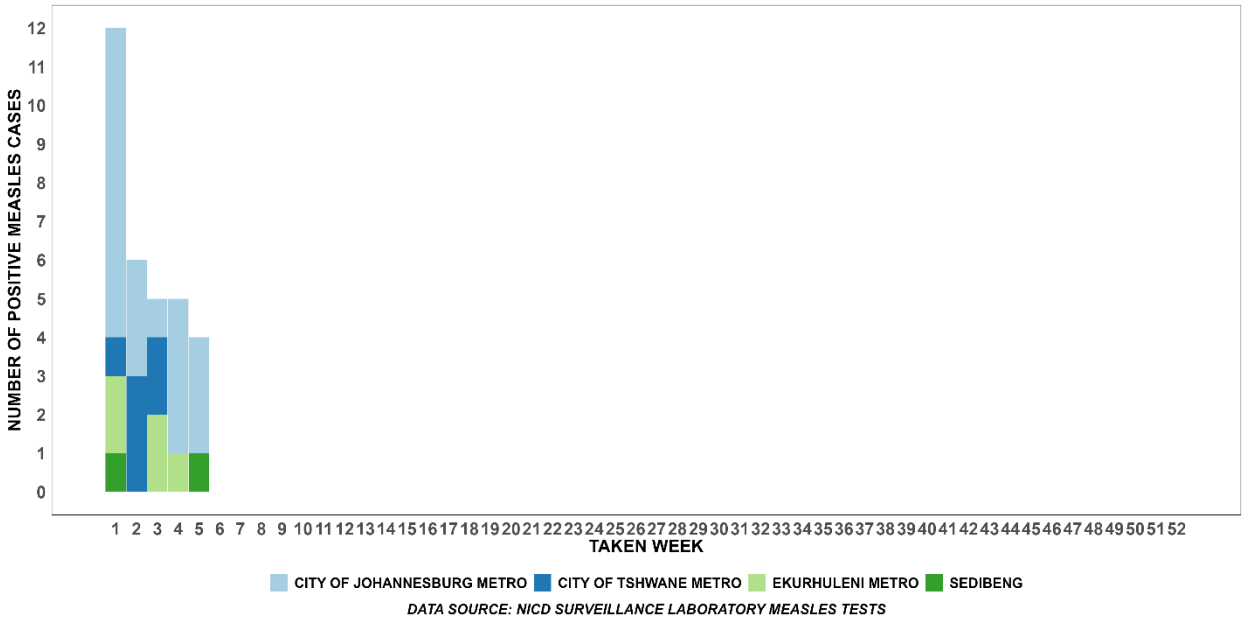

Figure 3. *The epidemiological curve of the number of laboratory-confirmed measles in Gauteng province, from epidemiological week 1-5, 2025 by specimen taken dates.*

Measles cases affected mostly children in age groups 1-4 years and 5-9 years followed by 10-14 years in 2024 (Table 3). Most children reported with measles infection were among age groups that should have been vaccinated during the measles vaccination campaign in 2023. Dual laboratory-confirmed measles and rubella cases had increased in areas where rubella circulation had increased, having an impact on the number of reported measles cases.

Table 3: Measles cases by age group in South Africa, 01 January to 31 December 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	8	1	11	29	9	2	0	0	60
FREE STATE	7	1	8	32	4	1	0	0	53
GAUTENG	79	9	66	116	27	67	8	0	32
KWAZULU-NATAL	16	0	24	72	7	1	0	0	120
LIMPOPO	4	0	6	9	4	4	0	0	27
MPUMALANGA	5	0	12	28	11	4	0	0	60
NORTH WEST	5	0	16	94	14	2	0	0	131
NORTHERN CAPE	2	1	3	25	9	1	0	0	41
WESTERN CAPE	11	0	8	25	9	14	0	0	67
South Africa	137	12	154	432	94	96	8	0	931

Table 4: Measles cases by age group in South Africa, 01 January to 01 February 2025

Province	0-6 months	7-11 months	1-4 years	5-9 years	10-14 years	15-49 Years	>= 50 Years	Unknown	Total
FREE STATE	0	0	0	0	0	0	0	1	1
GAUTENG	3	4	9	7	0	0	0	9	32
LIMPOPO	0	0	1	1	0	0	0	0	2
NORTH WEST	0	0	1	0	0	0	0	0	1
NORTHERN CAPE	1	0	1	0	0	0	0	0	2
WESTERN CAPE	0	0	0	0	0	0	0	2	2
South Africa	4	4	12	8	0	0	0	12	40

2. Rubella surveillance

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

susceptibility amongst pregnant women at ante-natal clinics. As the group of patients undergoing testing is different, these results are not analysed together with fever-rash surveillance data.

From week 1 to week 52 of 2024, 15 100 laboratory-confirmed rubella cases were reported in South Africa through measles and rubella surveillance, Table 1 & Figure 4. . Rubella cases continue to be detected in Gauteng, Kwazulu-Natal, North West, Mpumalanga, Northern Cape and Eastern Cape, but at much lower levels than 2024, Figure 4.

From week 1 to week 5 of 2025, 117 laboratory-confirmed rubella cases were reported in South Africa through measles and rubella surveillance, Table 2 & Figure 5.

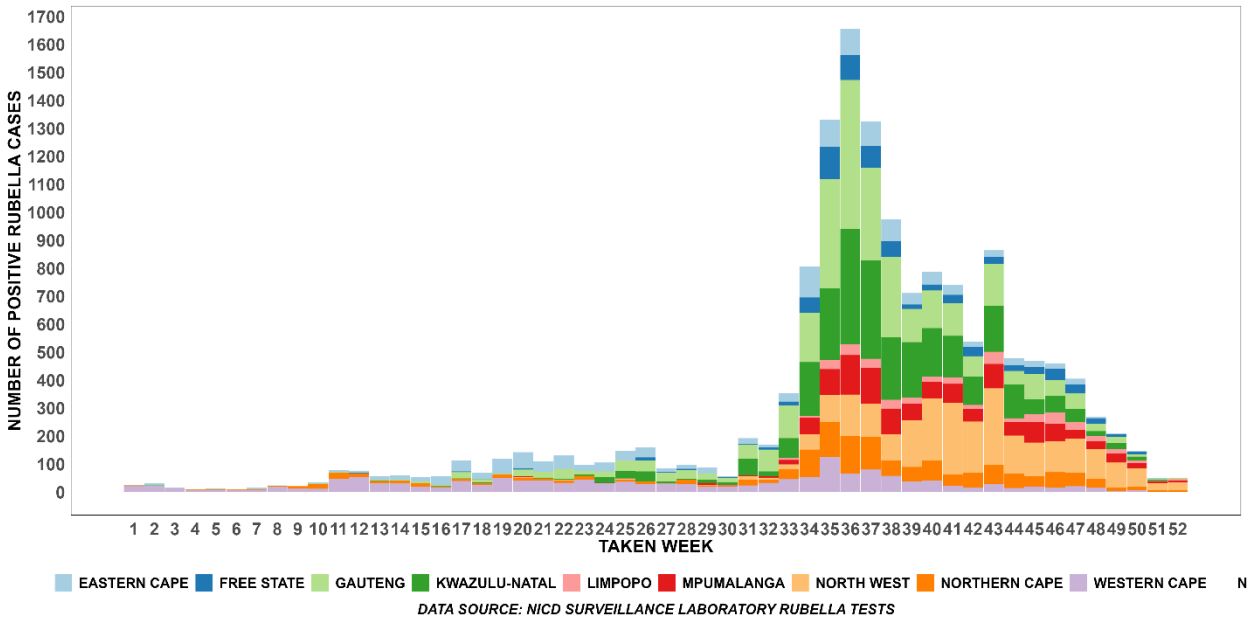

Figure 4. *The epidemiological curves of the number of laboratory-confirmed rubella cases by Province in South Africa from NICD diagnostic data, from epidemiological week 1-52, 2024 by specimen taken dates.*

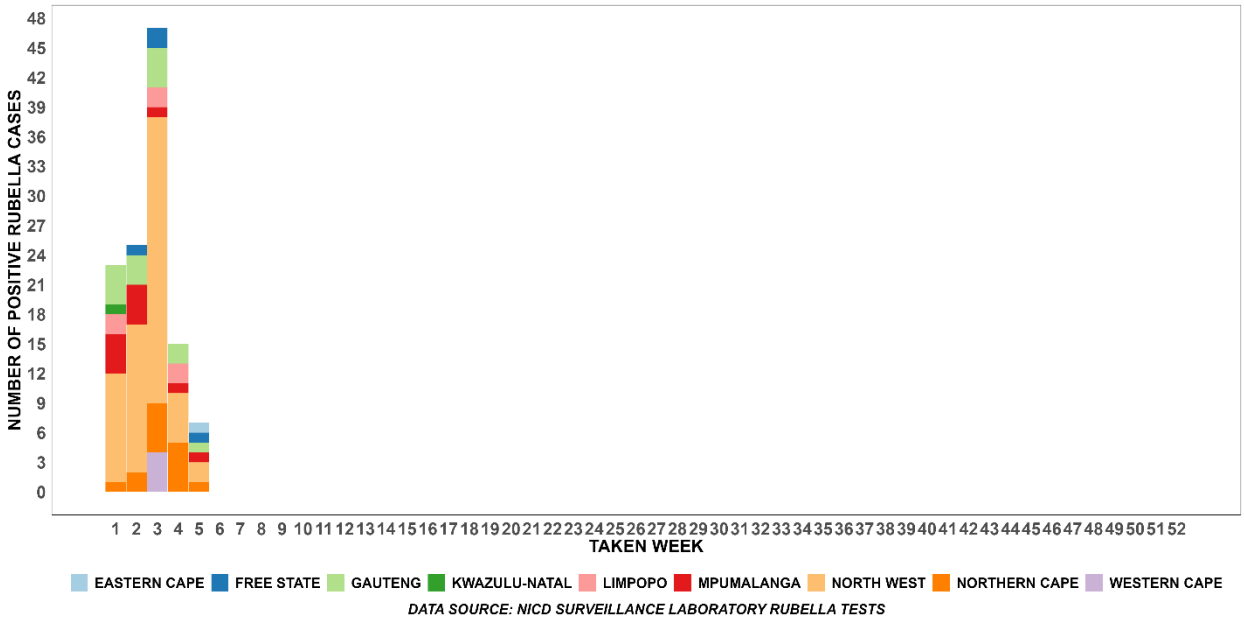

Figure 5. *The epidemiological curves of the number of laboratory-confirmed rubella cases by Province in South Africa from NICD diagnostic data, from epidemiological week 1-5, 2025 by specimen taken dates.*

Rubella infection affected mostly children from 1 to 9 years of age, with the largest number of cases among those aged 5 to 9 years of age in 2024 (Table 5). Rubella infection poses a risk of congenital rubella syndrome if they are infected in the first trimester of the pregnancy.

Table 5: Number of rubella laboratory-confirmed cases by age group, epidemiological week 1-52, 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	178	4	278	630	217	24	1	1	1333
FREE STATE	79	1	116	422	109	5	1	1	734
GAUTENG	562	10	691	1609	284	55	9	1	3221
KWAZULU-NATAL	362	4	423	1647	354	51	2	2	2845
LIMPOPO	48	3	75	244	56	11	0	0	437
MPUMALANGA	123	3	192	695	138	21	1	0	1173
NORTH WEST	78	5	368	1481	473	63	1	0	2469
NORTHERN CAPE	134	0	146	697	307	62	3	0	1349
WESTERN CAPE	192	5	364	723	200	55	0	0	1539
South Africa	**1756**	**35**	**2653**	**8148**	**2138**	**347**	**18**	**5**	**15100**

Table 6: Number of rubella laboratory-confirmed cases by age group, epidemiological week 1-5, 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	0	0	0	0	0	0	1	1
FREE STATE	0	0	1	2	0	0	0	1	4
GAUTENG	0	2	4	4	0	0	0	4	14
KWAZULU-NATAL	0	0	0	0	0	0	0	1	1
LIMPOPO	0	0	3	3	0	0	0	0	6
MPUMALANGA	0	0	5	5	0	0	0	1	11
NORTH WEST	0	0	30	32	0	0	0	0	62
NORTHERN CAPE	0	0	4	5	0	0	0	5	14
WESTERN CAPE	0	0	3	1	0	0	0	0	4
South Africa	**0**	**2**	**50**	**52**	**0**	**0**	**0**	**13**	**117**

Conclusion

There were 15 100 rubella cases across South Africa in 2024. This number exceeds the typical annual number of rubella cases observed since 2015. A seasonal increase is expected each year, usually between September to December, however the number of cases in 2024 is notably higher than in previous years. There has been a marked decrease in cases in the first 5 weeks of 2025 with 117 reported cases in South Africa, with 67 in North West Province.

The reason for this observed increase is that many children entered 2024 without immunity to rubella, either through vaccination or prior exposure to the virus. The rubella vaccine was only introduced into the Expanded Programme on Immunisation in 2024, so a limited number of children have been vaccinated. Additionally, children who were not vaccinated and did not have prior exposure to rubella remain susceptible to infection. The natural transmission of rubella was also interrupted by the non-pharmaceutical interventions implemented during the SARS-CoV-2 pandemic over 2020-2021. These interventions led to reduced exposure to the rubella virus, resulting in limited immunity among children, thus increasing their susceptibility to rubella in 2024.

The seasonal increase has now exposed the many susceptible children to rubella infection and resulted in the surge in cases that we have observed.

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 and pregnant women in their first trimester of pregnancy, whom either exposed to a case/s of confirmed or suspected rubella. 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.

There has been an increase in measles cases in December 2024 and also this year in January 2025. Unfortunately with the backlog of testing that resulted from the rubella outbreak, many of these diagnoses were received by clinicians too late to differentiate these cases from measles cases, and therefore appropriate public health responses may not have been implemented. Now that the backlog has cleared, the laboratory is now able to adhere to the turn around time. Every case of fever-rash should be attended to according to principles outlined in the EPI Manual, version 2015, or the newer version (which is imminently due for release by NDoH). Continuous surveillance and reporting on measles and rubella allows for monitoring the end to outbreaks. To date, there had been 40 laboratory-confirmed cases of measles in the first five weeks of 2025, with 32 being in Gauten Province, with 19 of these cases being in City of Johannesburg.

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.