



COVID-19 Weekly Testing Summary: Week ending 25 December 2021 (Week 51 of 2021)

This report summarises national laboratory testing for SARS-CoV-2, the virus causing COVID-19, in South Africa. This report is based on data for specimens reported up to 25 December 2021 (Week 51 of 2021).

Highlights:

- The number of tests reported in week 51 of 2021 (n=305,042: 232,177 PCR and 72,865 antigen tests) was lower than the number of tests reported in the previous week.
- In week 51 the testing rate was highest in the Western Cape (802 per 100,000 persons) and lowest in Limpopo (150 per 100,000 persons).
- In week 51 the percentage testing positive was 35.3%, which was 1.6% lower than the previous week.
- In week 51, compared to the previous week, the percentage testing positive increased in the Western Cape, Eastern Cape, Northern Cape, Free State and KwaZulu-Natal. The percentage testing positive decreased in Gauteng, North West, Free State, Mpumalanga and Limpopo.
- The percentage testing positive in week 51 was $\geq 37\%$ in the Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, Mpumalanga and Limpopo provinces. The percentage testing positive was lowest in Gauteng (22.7%) and North West (25.7%).

Executive Summary:

- In the period 1 March 2020 through 25 December 2021, 20,908,329 tests for SARS-CoV-2 have been reported nationally: 17,713,466 PCR and 3,194,863 antigen tests.
- The number of tests reported in week 51 of 2021 (n=305,042: 232,177 PCR and 72,865 antigen tests) was lower than the number of tests reported in the previous week.
- Gauteng reported the largest percentage of tests (31.4%), followed by KwaZulu-Natal (20.3%) and Western Cape (18.4%).
- The overall testing rate decreased from 683 per 100,000 persons in week 50 to 512 per 100,000 persons in week 51.
- In week 51 the testing rate decreased in all provinces except in the North West. Notable decreases were observed in Gauteng and KwaZulu-Natal provinces. The testing rate was highest in the Western Cape (802 per 100,000 persons) and lowest in Limpopo (150 per 100,000 persons).
- The testing rate in week 51 was highest in the ≥ 80 years age group (966 per 100,000 persons).
- In week 51 the percentage testing positive was 35.3%, which was 1.6% lower than the previous week ($P < 0.001$).
- In the past week, the percentage testing positive decreased by 0.5% in the public sector (39.9% in week 50 to 39.4% in week 51, $P = 0.007$) and decreased by 2.0% in the private sector (34.6% in week 50 to 32.6% in week 51, $P < 0.001$).
- In week 51, compared to the previous week, the percentage testing positive increased in the Western Cape, Eastern Cape, Northern Cape, Free State and KwaZulu-Natal. The percentage testing positive decreased in Gauteng, North West, Free State, Mpumalanga and Limpopo.

- The percentage testing positive in week 51 was $\geq 37\%$ in the Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, Mpumalanga and Limpopo provinces. The percentage testing positive was lowest in Gauteng (22.7%) and North West (25.7%).
- The percentage testing positive was $>30\%$ across all age groups ≥ 5 years, and was highest in the 70-74 years age group (40.4%).
- Health sub-districts showing the highest percentage testing positive were spatially diffuse: 7 of the 25 districts are in the Northern Cape; 6 in KwaZulu-Natal, 5 in the Western Cape, and two each in the Eastern Cape and Limpopo.
- Antigen tests accounted for 23.9% (72,865 / 305,042) of tests reported in week 51, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 51 the public sector accounted for 71.0% (51,701 / 72,865) of antigen tests reported. A decrease in the number of antigen tests reported was observed across all provinces in the past week.
- The mean turnaround time for PCR tests reported in week 51 was 0.9 days; 1.2 days in the public sector and 0.7 days in the private sector. Turnaround times for public sector PCR tests decreased in all provinces except in the Western Cape in the past week, and were <2 days in all provinces.
- The mean turnaround time for antigen tests reported in week 51 was 4.9 days in the public sector and 0.1 days in the private sector.

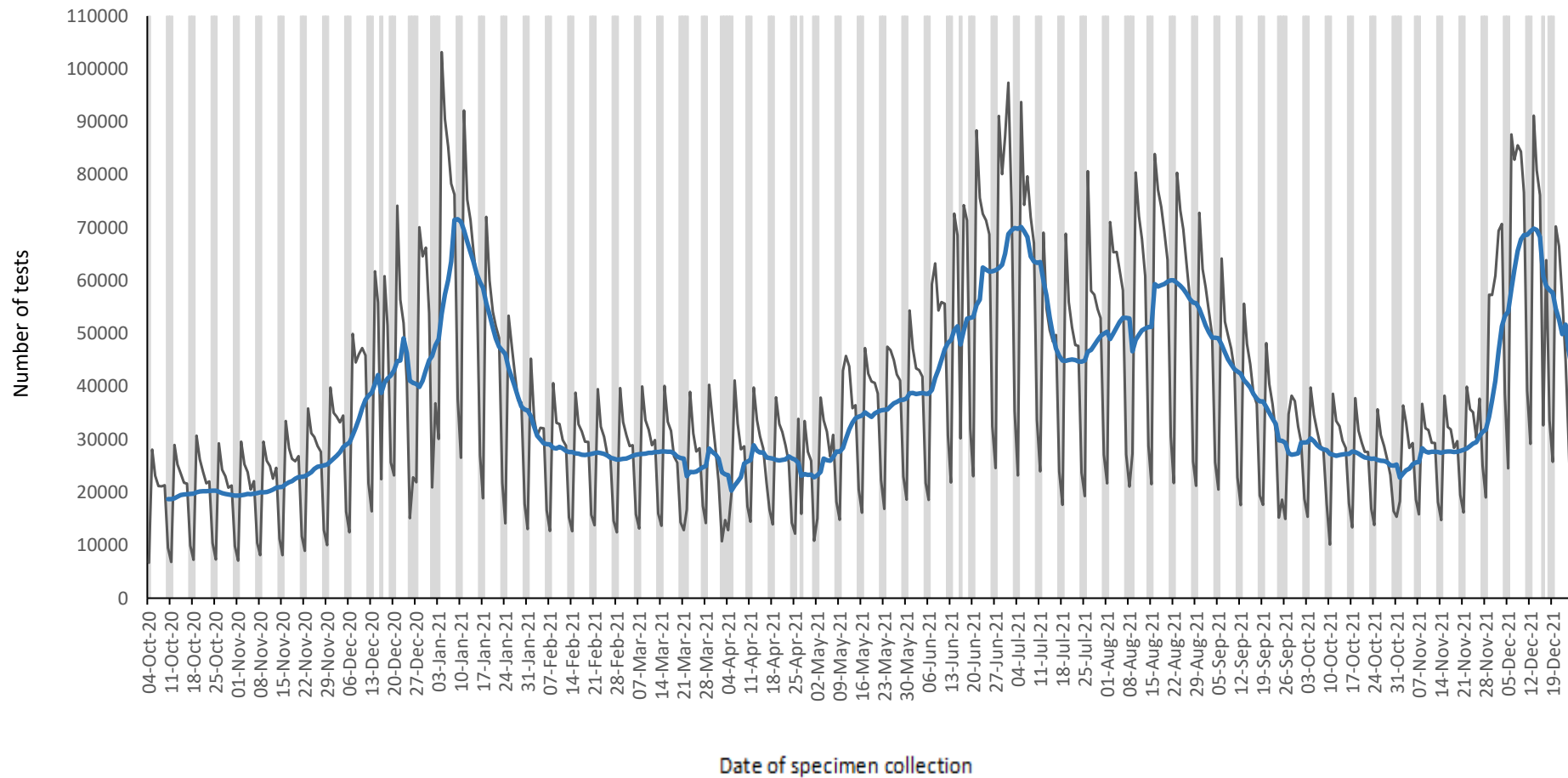


Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 4 October 2020 – 25 December 2021. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays



Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January – 25 December 2021

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
1	03-Jan-21	501309 (2.4)	151052	30.1
2	10-Jan-21	418059 (2.0)	104818	25.1
3	17-Jan-21	327493 (1.6)	63273	19.3
4	24-Jan-21	249599 (1.2)	34647	13.9
5	31-Jan-21	203766 (1.0)	22373	11.0
6	07-Feb-21	193321 (0.9)	16475	8.5
7	14-Feb-21	190679 (0.9)	12190	6.4
8	21-Feb-21	184710 (0.9)	10387	5.6
9	28-Feb-21	189711 (0.9)	8691	4.6
10	07-Mar-21	193443 (0.9)	8340	4.3
11	14-Mar-21	185523 (0.9)	8156	4.4
12	21-Mar-21	173268 (0.8)	7355	4.2
13	28-Mar-21	163967 (0.8)	7062	4.3
14	04-Apr-21	180871 (0.9)	7292	4.0
15	11-Apr-21	185346 (0.9)	8847	4.8
16	18-Apr-21	184899 (0.9)	9470	5.1
17	25-Apr-21	160005 (0.8)	9180	5.7
18	02-May-21	193951 (0.9)	13459	6.9
19	09-May-21	240284 (1.1)	19936	8.3
20	16-May-21	248480 (1.2)	24212	9.7
21	23-May-21	262595 (1.3)	29775	11.3
22	30-May-21	270287 (1.3)	36103	13.4
23	06-Jun-21	337837 (1.6)	59446	17.6
24	13-Jun-21	370900 (1.8)	88066	23.7
25	20-Jun-21	432326 (2.1)	118604	27.4
26	27-Jun-21	489751 (2.3)	146602	29.9
27	04-Jul-21	443690 (2.1)	141416	31.9
28	11-Jul-21	320488 (1.5)	100896	31.5
29	18-Jul-21	312831 (1.5)	88363	28.2
30	25-Jul-21	350092 (1.7)	88221	25.2
31	01-Aug-21	370866 (1.8)	87999	23.7
32	08-Aug-21	358519 (1.7)	83280	23.2
33	15-Aug-21	420403 (2.0)	95240	22.7
34	22-Aug-21	390850 (1.9)	78062	20.0
35	29-Aug-21	344483 (1.6)	54987	16.0
36	05-Sep-21	299828 (1.4)	38767	12.9
37	12-Sep-21	260273 (1.2)	23986	9.2

38	19-Sep-21	208133 (1.0)	13981	6.7
39	26-Sep-21	206021 (1.0)	9466	4.6
40	03-Oct-21	195999 (0.9)	6435	3.3
41	10-Oct-21	190736 (0.9)	5010	2.6
42	17-Oct-21	184342 (0.9)	3402	1.8
43	24-Oct-21	175189 (0.8)	2552	1.5
44	31-Oct-21	179491 (0.9)	2088	1.2
45	07-Nov-21	193243 (0.9)	2301	1.2
46	14-Nov-21	194887 (0.9)	4792	2.5
47	21-Nov-21	219988 (1.1)	18860	8.6
48	28-Nov-21	373341 (1.8)	97414	26.1
49	05-Dec-21	480777 (2.3)	171813	35.7
50	12-Dec-21	407454 (1.9)	150170	36.9
51	19-Dec-21	305042 (1.5)	107632	35.3
Total		20,908,329 (100.0)	3,687,872	

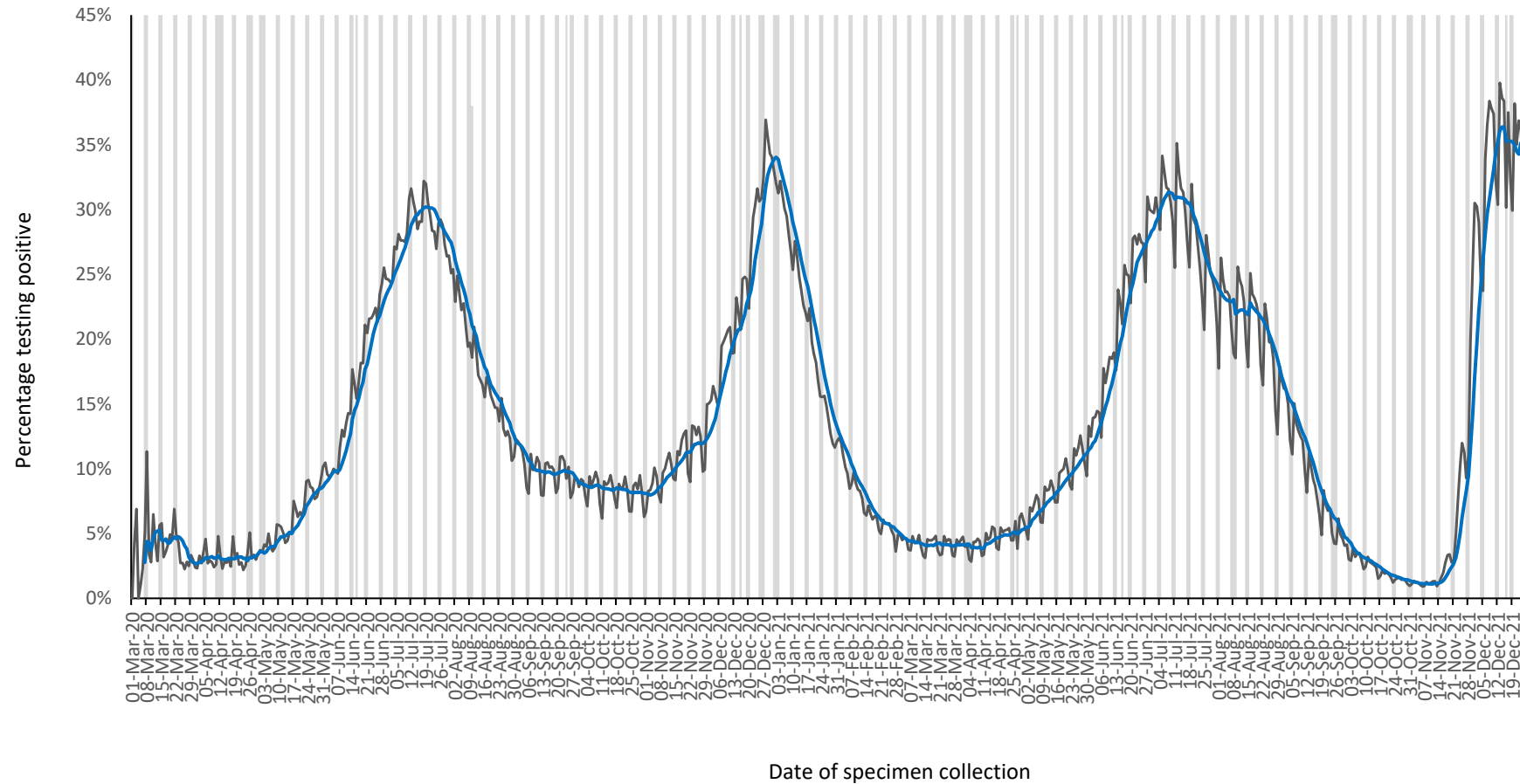


Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 25 December 2021. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

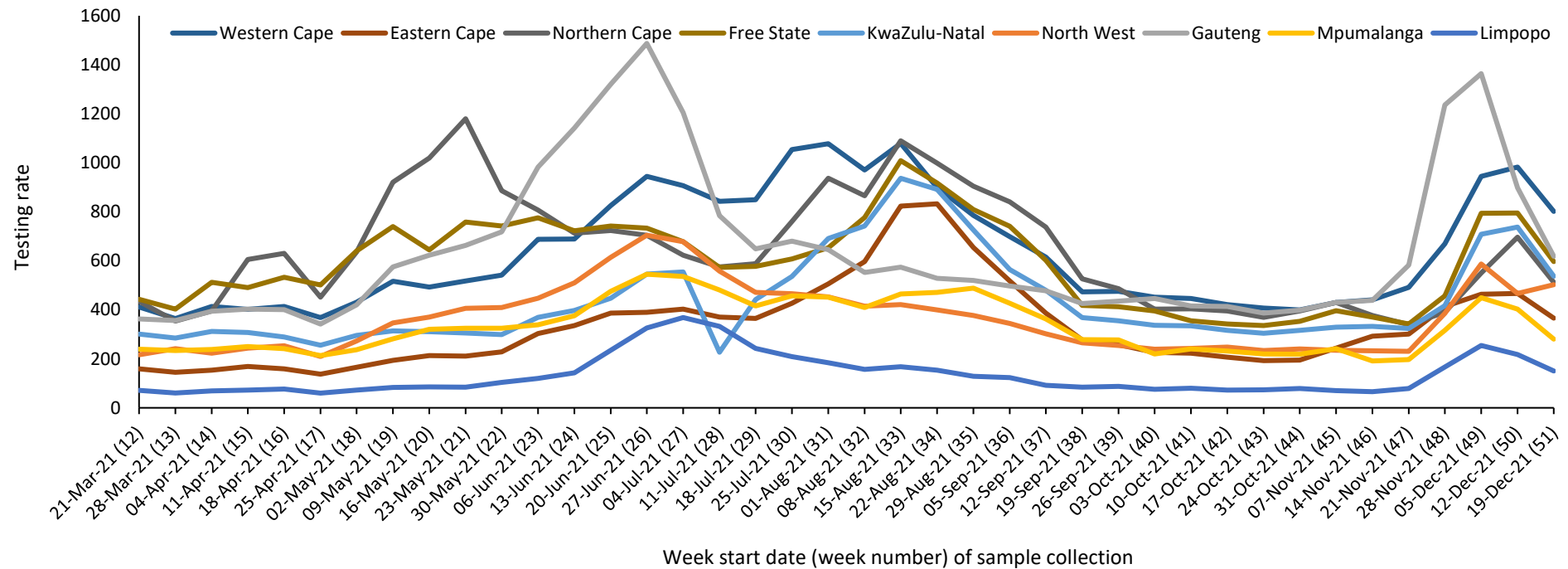


Figure 3. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 25 December 2021

Table 2. Weekly number of tests and positive tests reported by province, South Africa, 5-25 December 2021

Province	Population ^a	5-11 Dec 2021		12-18 Dec 2021		19-25 Dec 2021		Testing rate per 100,000	Change in percentage positive from previous week ^b
		No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)		
Western Cape	7005741	66194	18598 (28.1)	68827	27131 (39.4)	56153	25494 (45.4)	802	6.0%
Eastern Cape	6734001	31228	8389 (26.9)	31423	12927 (41.1)	24651	11494 (46.6)	366	5.5%
Northern Cape	1292786	7107	1969 (27.7)	8996	3725 (41.4)	6617	2859 (43.2)	512	1.8%
Free State	2928903	23241	8717 (37.5)	23295	9564 (41.1)	17474	5993 (34.3)	597	-6.8%
KwaZulu-Natal	11531628	81626	26357 (32.3)	85094	35482 (41.7)	61894	26627 (43.0)	537	1.3%
North West ^c	4108816	24131	10929 (45.3)	19161	7725 (40.3)	20624	5308 (25.7)	502	-14.6%
Gauteng	15488137	211275	81658 (38.7)	139059	40311 (29.0)	95740	21716 (22.7)	618	-6.3%
Mpumalanga	4679786	21038	8619 (41.0)	18849	7651 (40.6)	13107	4853 (37.0)	280	-3.6%
Limpopo	5852553	14880	6564 (44.1)	12731	5649 (44.4)	8767	3284 (37.5)	150	-6.9%
Unknown		57	13 (22.8)	19	5 (26.3)	15	4 (26.7)		
Total	59622350	480777	171813 (35.7)	407454	150170 (36.9)	305042	107632 (35.3)	512	-1.6%

^a 2020 Mid-year population Statistics SA

^b Current week compared to previous week

^c Due to negative tests that were erroneously reported in duplicate in some labs in the North West province, a large decrease in the percentage testing positive was observed in the past week. Duplicate tests are currently being removed from the database and this will be corrected in future reports.

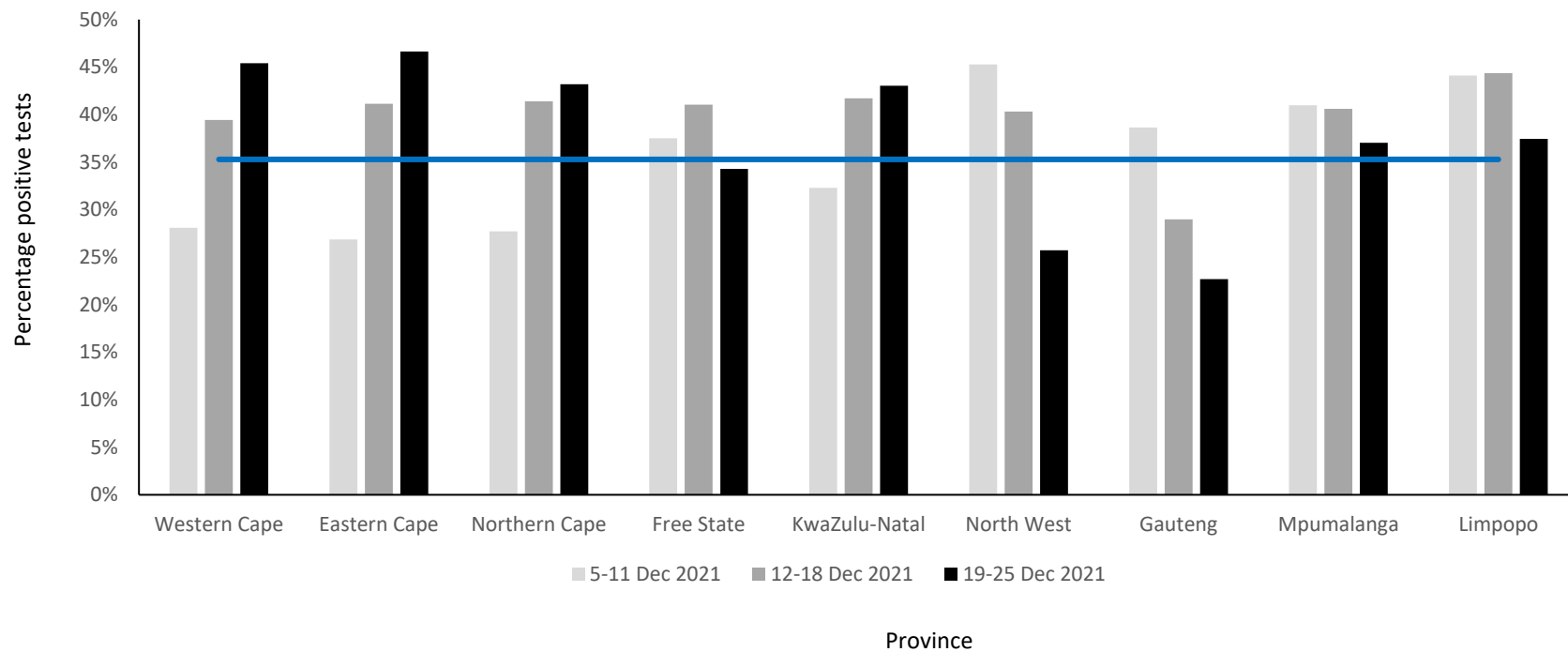


Figure 4. Weekly percentage testing positive by province, South Africa, 5 - 25 December 2021. The horizontal blue line shows the national mean for week 51, beginning 19 December 2021

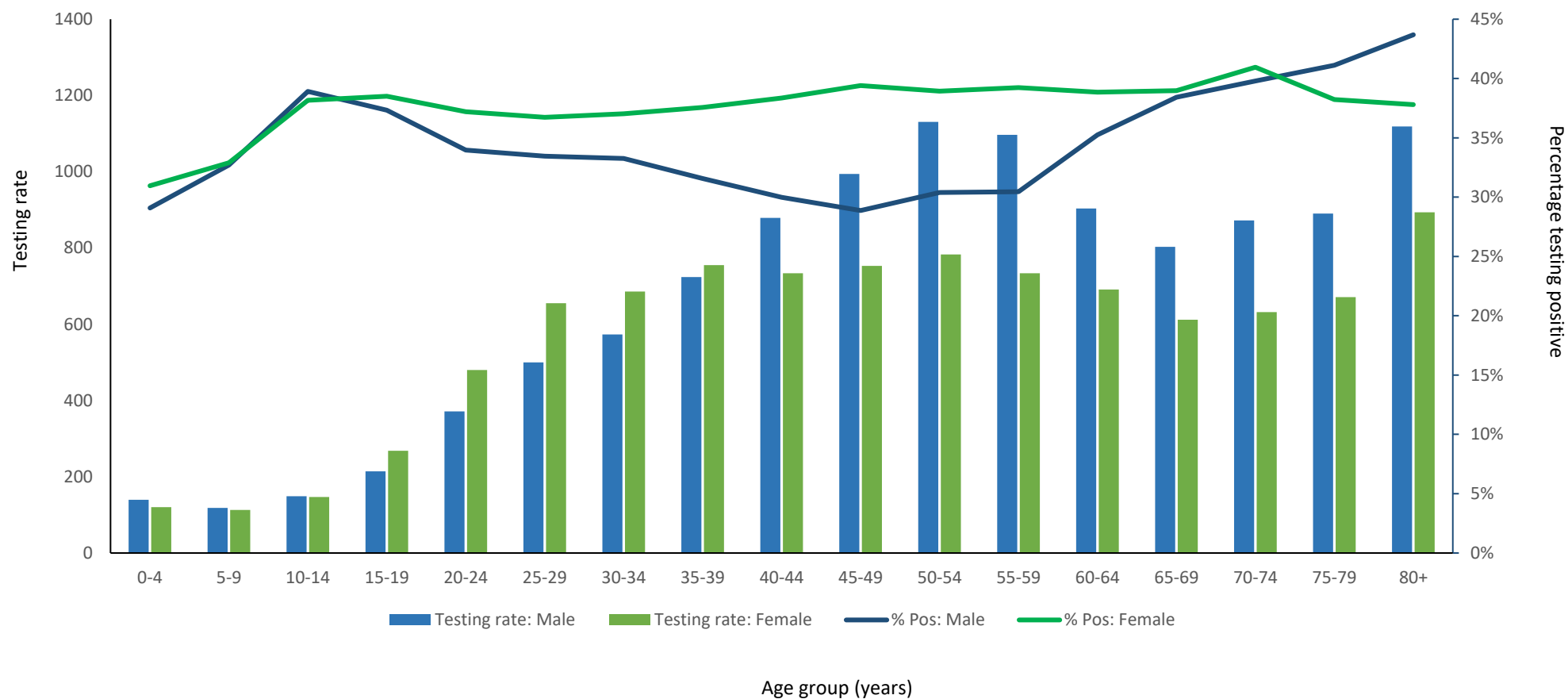


Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 51, 19-25 December 2021

Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 19 - 25 December 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Mutale	Limpopo	0.831 (0.717-0.945)	0.690 (0.556-0.824)
Tsantsabane	Northern Cape	0.746 (0.635-0.857)	0.496 (0.400-0.592)
Mkhambathini	KwaZulu-Natal	0.737 (0.590-0.884)	0.518 (0.406-0.631)
Witzenberg	Western Cape	0.723 (0.680-0.766)	0.618 (0.559-0.677)
Greater Giyani	Limpopo	0.723 (0.651-0.795)	0.665 (0.590-0.740)
Hessequa	Western Cape	0.690 (0.640-0.739)	0.589 (0.536-0.642)
Tokoloko	Free State	0.673 (0.533-0.814)	0.617 (0.492-0.742)
Mthonjaneni	KwaZulu-Natal	0.666 (0.565-0.767)	0.523 (0.430-0.616)
Kareeberg	Northern Cape	0.665 (0.531-0.799)	...
Ditsobotla	North West	0.656 (0.524-0.789)	0.504 (0.425-0.583)
Mtubatuba	KwaZulu-Natal	0.641 (0.540-0.742)	0.521 (0.435-0.606)
Indaka	KwaZulu-Natal	0.640 (0.508-0.773)	0.512 (0.388-0.635)
uMlalazi	KwaZulu-Natal	0.639 (0.590-0.689)	0.653 (0.606-0.699)
Umhlabuyalingana	KwaZulu-Natal	0.636 (0.596-0.677)	0.439 (0.401-0.477)
Randfontein	Gauteng	0.630 (0.606-0.654)	0.656 (0.636-0.676)
Sundays River Valley	Eastern Cape	0.611 (0.525-0.697)	0.371 (0.266-0.476)
Siyancuma	Northern Cape	0.611 (0.535-0.687)	0.559 (0.486-0.632)
Senqu	Eastern Cape	0.600 (0.499-0.701)	0.386 (0.314-0.458)
Siyathemba	Northern Cape	0.598 (0.490-0.705)	0.578 (0.440-0.715)
Dikgatlong	Northern Cape	0.597 (0.503-0.690)	0.573 (0.478-0.668)
Emthanjeni	Northern Cape	0.594 (0.514-0.675)	0.474 (0.404-0.544)
Swellendam	Western Cape	0.592 (0.522-0.661)	0.481 (0.392-0.570)
Umsobomvu	Northern Cape	0.587 (0.452-0.723)	0.623 (0.493-0.753)
Swartland	Western Cape	0.586 (0.536-0.637)	0.269 (0.217-0.320)
Cape Agulhas	Western Cape	0.585 (0.523-0.648)	0.265 (0.182-0.347)

95% CI: 95% confidence interval; PTP: adjusted positive test proportion; Elements marked in **red** have current week proportions testing positive that are **higher** than and CIs that do not overlap with the previous week proportions and CIs. Elements marked in **blue** have current week proportions testing positive that are **lower** than and CIs that do not overlap with the previous week proportions and CIs

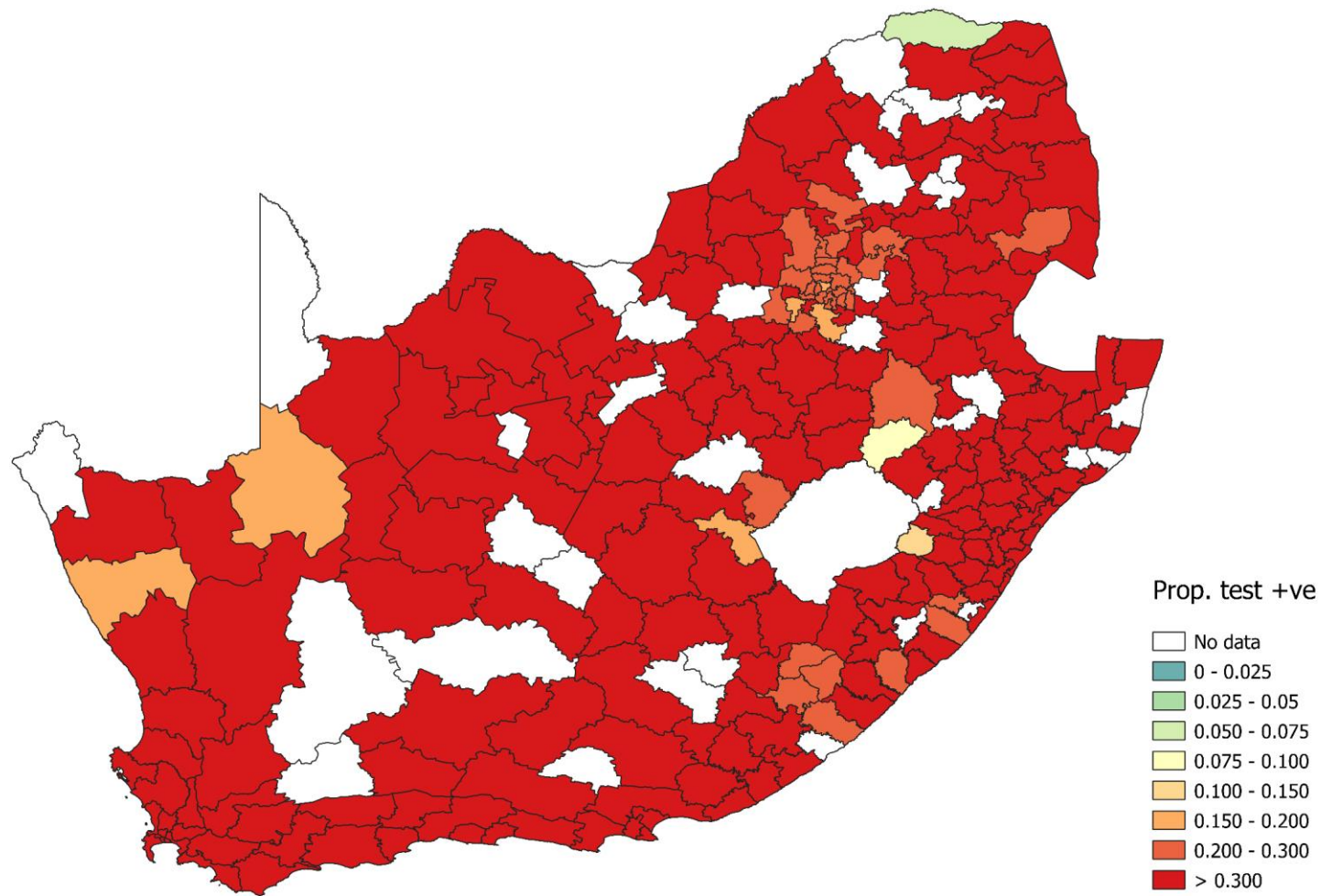


Figure 6. Proportion testing positive by health sub-district in South Africa for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

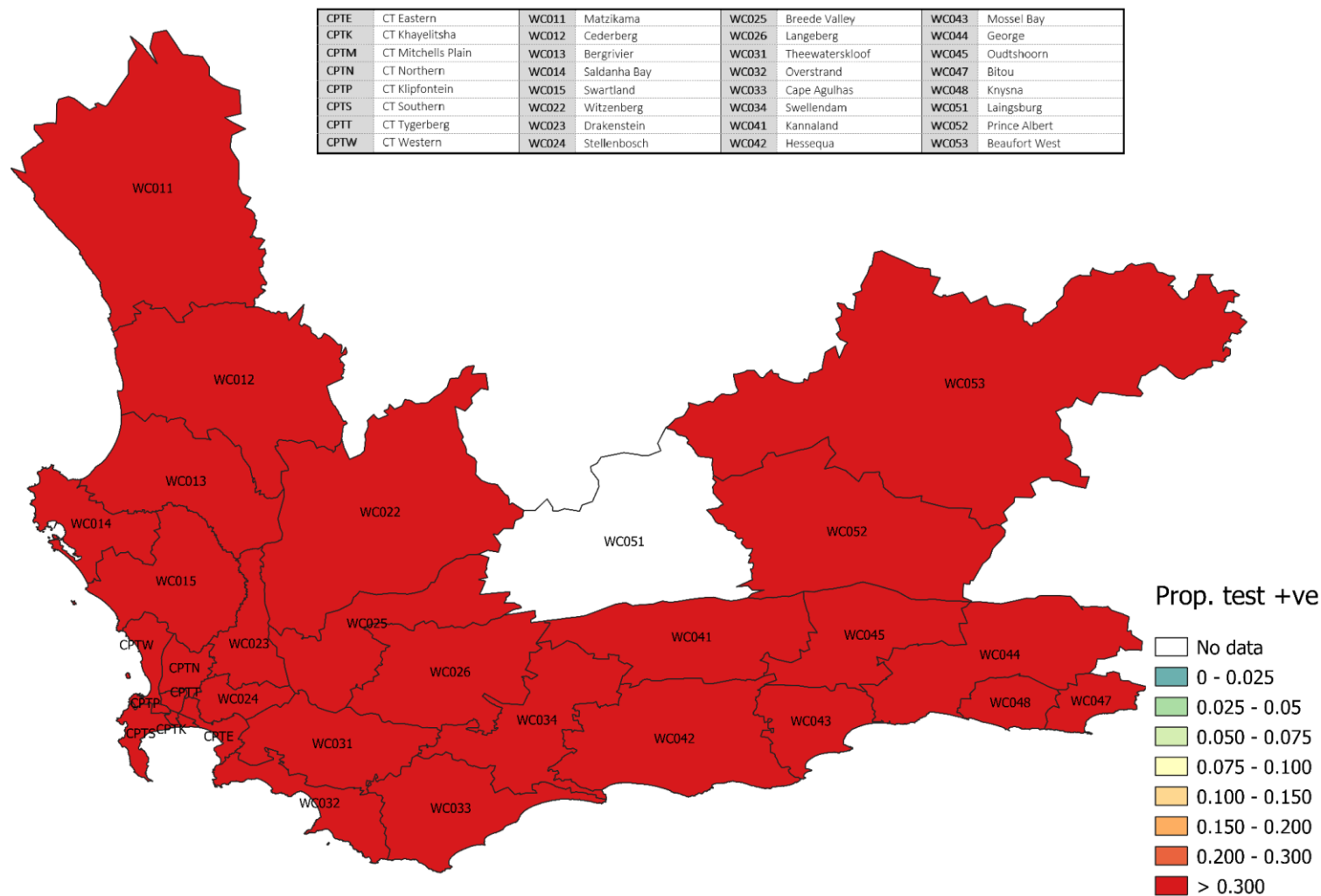


Figure 7. Proportion testing positive by health sub-district in the Western Cape Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

BUF	Buffalo City	EC122	Mquma	EC135	Intsika Yethu	EC155	Nyandeni
EC101	Camdeboo	EC123	Great Kei	EC136	Emaahleni	EC156	Mhlonjolo
EC102	Blue Crane Route	EC124	Amahlathi	EC137	Lingcobo	EC157	King Sabata Dalindyebo
EC103	Ikwezi	EC126	Nqushwa	EC138	Sakhisizwe	EC441	Matatiele
EC104	Makana	EC127	Nkonkobe	EC141	Elundini	EC442	Umtzimvubu
EC105	Ndlambe	EC128	Nxuba	EC142	Senqu	EC443	Mbizana
EC106	Sundays River Valley	EC131	Inxuba Yethemba	EC143	Maletswai	EC444	Ntabankulu
EC107	Baviaans	EC132	Tsolwana	EC144	Gariep	NMAA	Nelson Mandela Bay A
EC108	Kouga	EC133	Inxwanya	EC153	Nguza Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukanji	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mohashe						

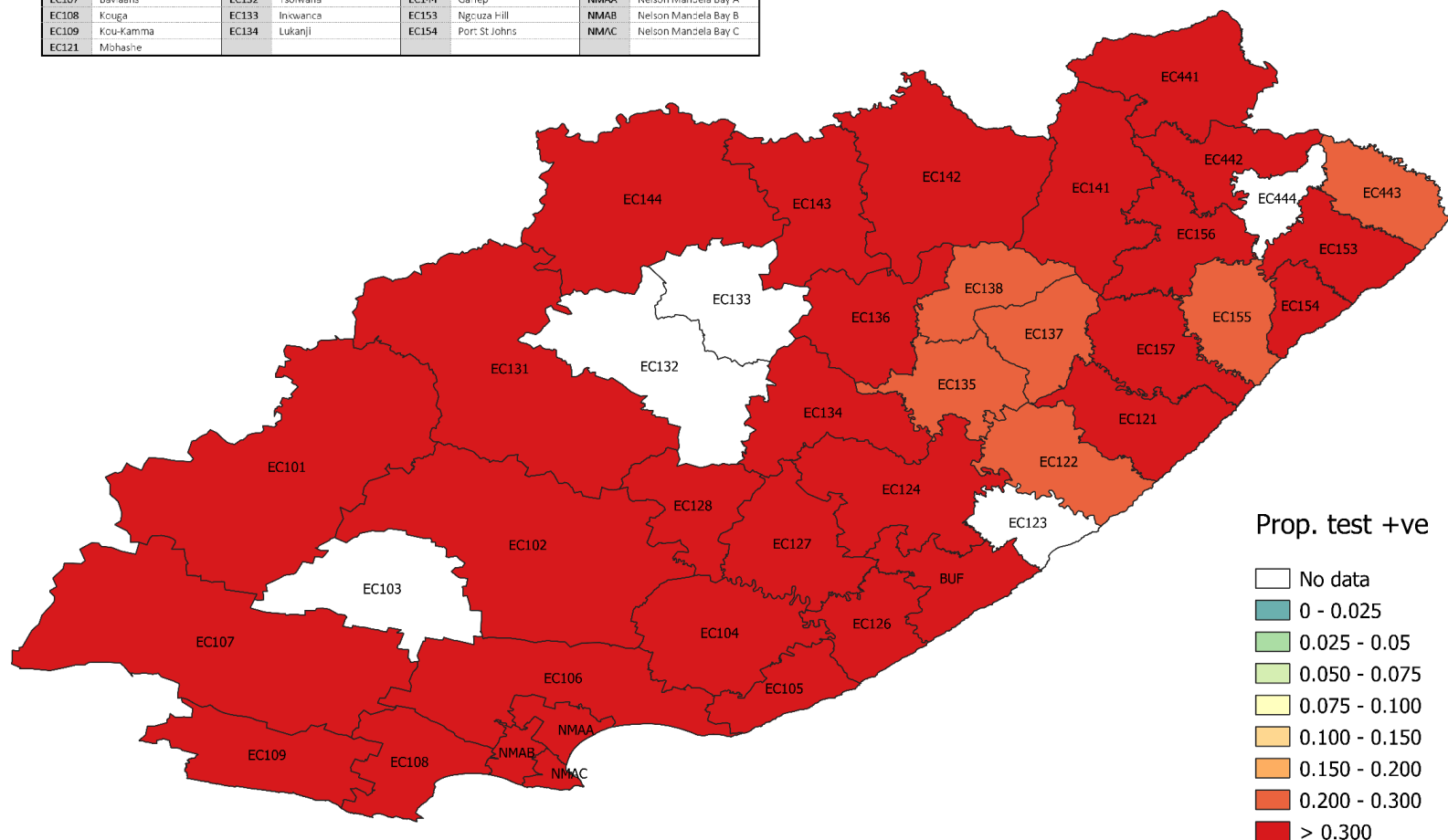


Figure 8. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

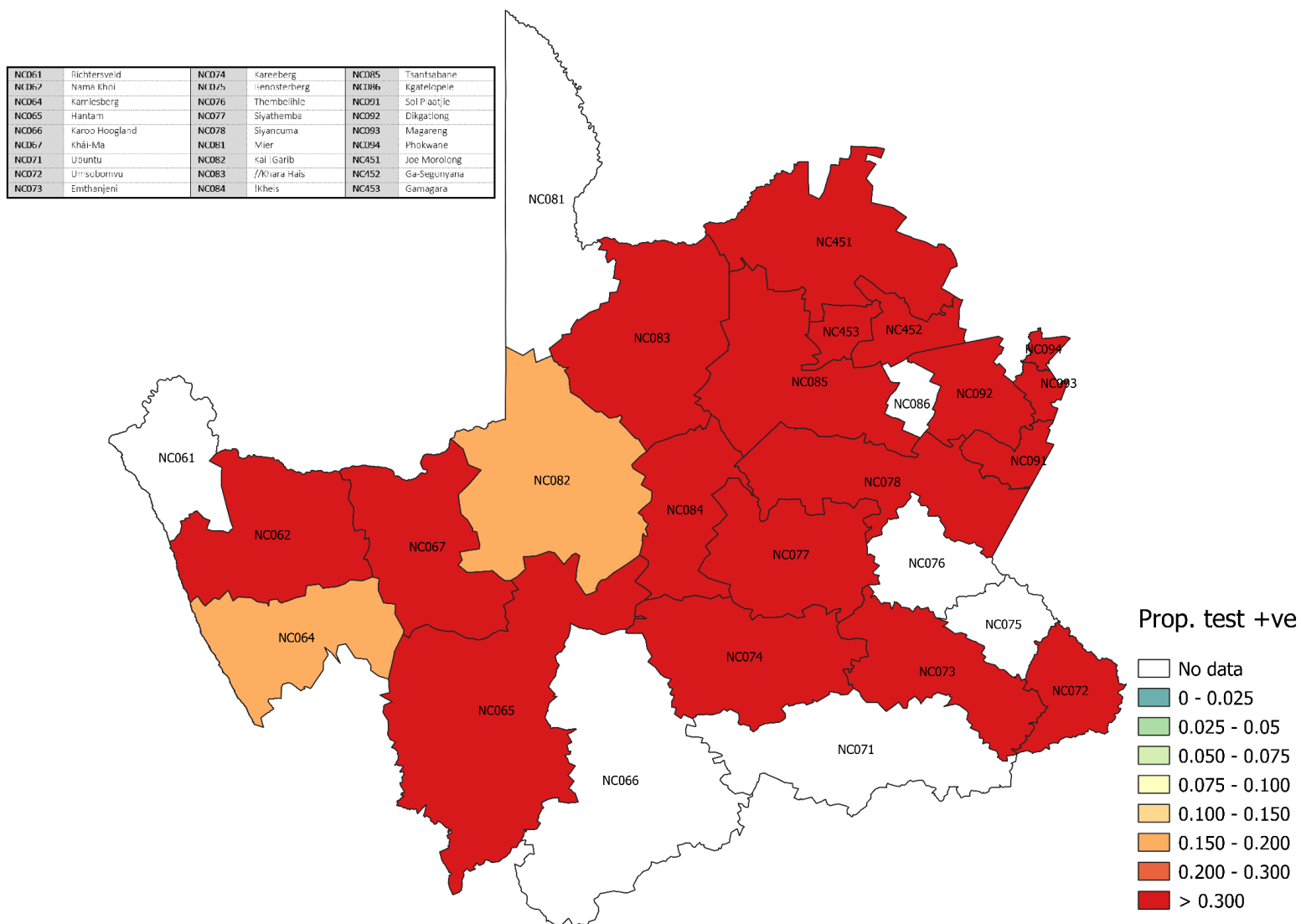


Figure 9. Proportion testing positive by health sub-district in Northern Cape Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

MAN	Mangaung	FS181	Masifonyana	FS191	Setsoto	FS196	Mantsopa
FS161	Letsemeng	FS182	Tokologo	FS192	Ditlhabeng	FS201	Mochaka
FS162	Kopanong	FS183	Tswelopele	FS193	Nketoana	FS203	Ngwathe
FS163	Mohokare	FS184	Matjhabeng	FS194	Matuti a Phofung	FS204	Metsimsholo
FS164	Naledi	FS185	Nala	FS195	Phumelele	FS205	Mafube

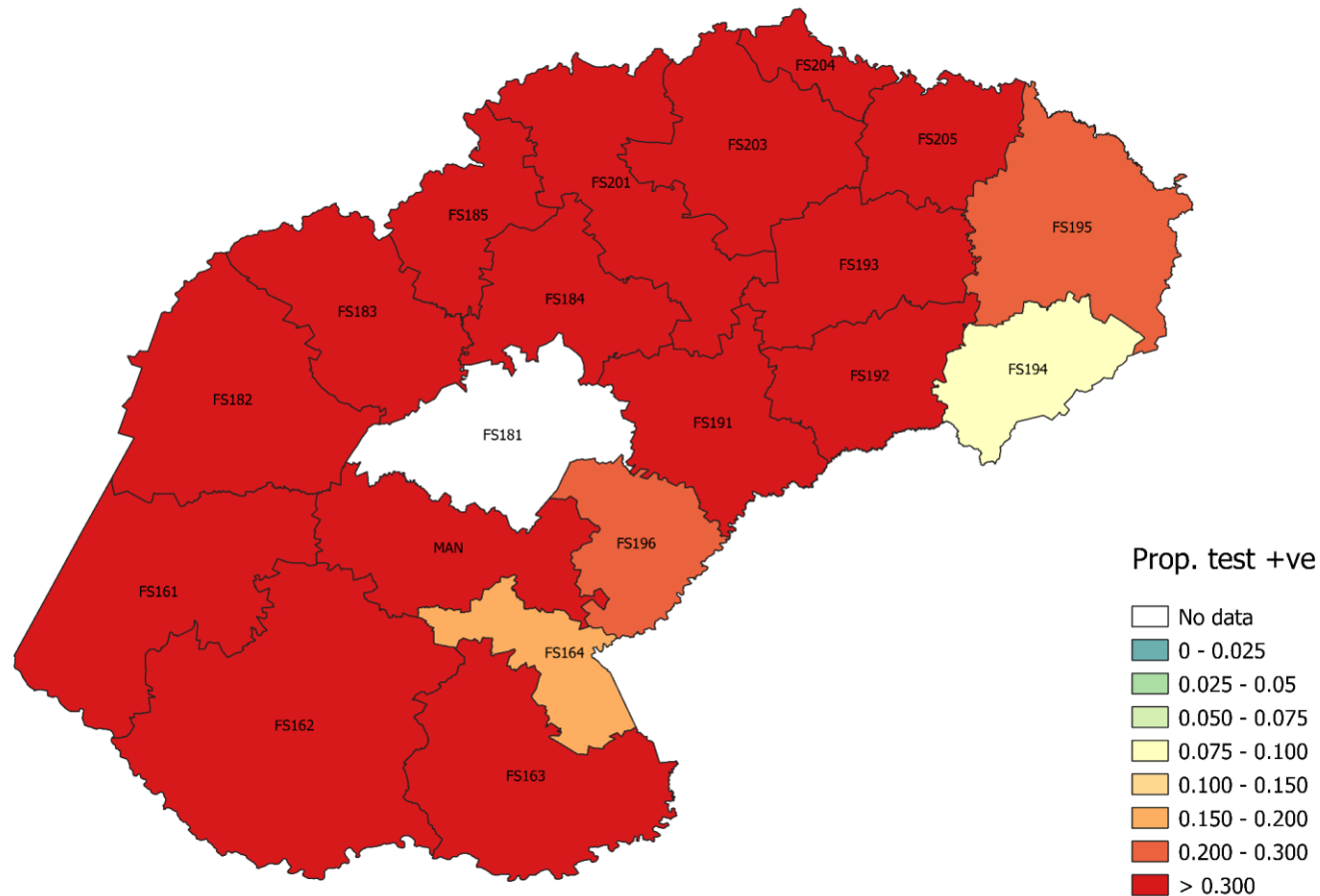


Figure 10. Proportion testing positive by health sub-district in Free State Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

ETHN	eThekweni North	KZN233	Indika	KZN273	The big b False bay
ETHS	eThekweni South	KZN234	Umtshozi	KZN274	Hlabisa
ETHW	eThekweni West	KZN235	Okhehlamba	KZN275	Mtubatuba
KZN211	Vulamehlo	KZN236	Imbabazane	KZN281	Mfolozi
KZN212	Umdoni	KZN241	Endumeni	KZN282	uMhlathuze
KZN213	Umkumbe	KZN242	Nqutu	KZN283	Ntambana
KZN214	uMuziwabantu	KZN244	Msinga	KZN284	uMlalazi
KZN215	Ezingoleni	KZN245	Umvoti	KZN285	Mthunjaneni
KZN216	Hibiscus Coast	KZN252	Newcastle	KZN286	Nkandla
KZN221	uMshwathi	KZN253	Emedlangeni	KZN291	Mandon
KZN222	uMngeni	KZN254	Dannhauser	KZN292	KwaDukuza
KZN223	Mpofana	KZN261	eThumba	KZN293	Ndwedwe
KZN224	Impendle	KZN262	uPhongolo	KZN294	Maphumulo
KZN225	The Msunduzi	KZN263	Abagulusi	KZN431	Ingwe
KZN226	Mkhambathini	KZN265	Norgeria	KZN432	Kwa Sani
KZN227	Richmond	KZN266	Ulundl	KZN433	Greater Kokstad
KZN232	Emnambithi/Ladysmith	KZN271	Umkhaya Ingana	KZN434	Ubuhlebezwe
		KZN272	Jozini	KZN435	Umkhulu

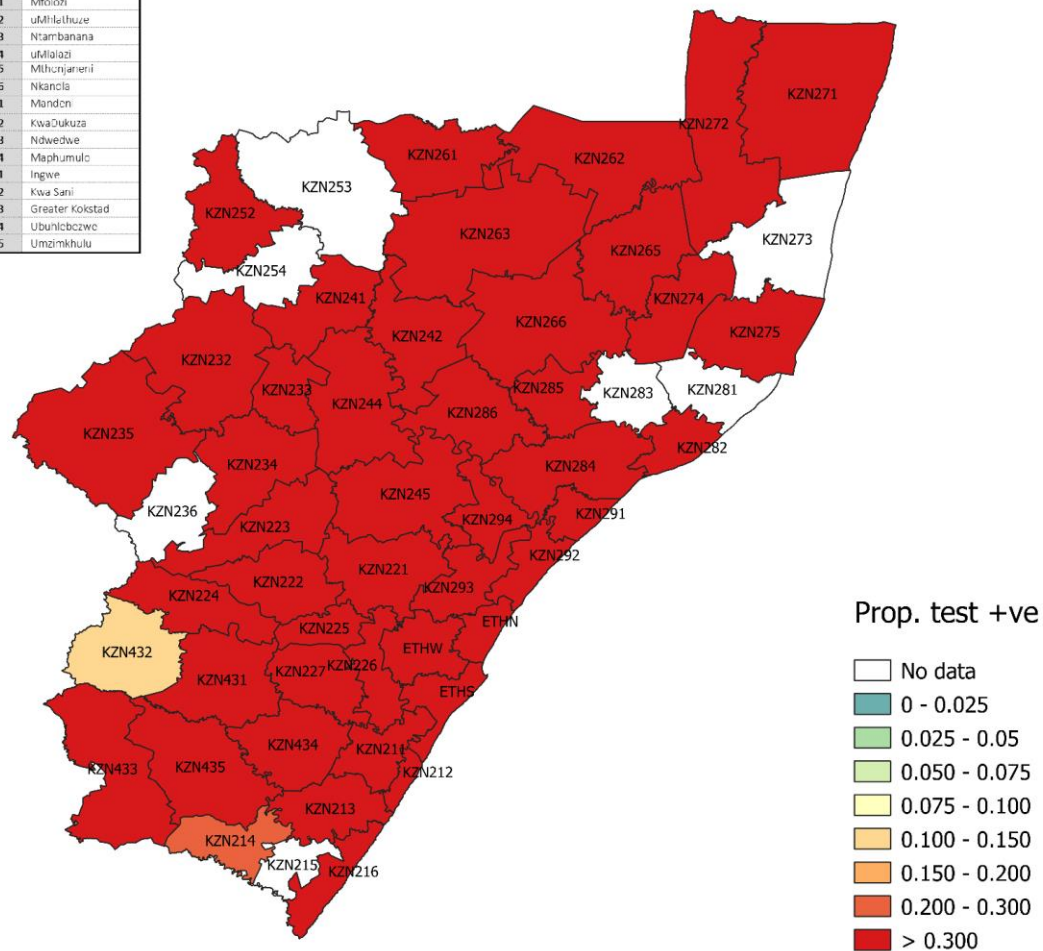


Figure 11. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

NW371	Moretele	NW383	Mafikeng	NW396	Lekwa-Teemane
NW372	Madibeng	NW384	Ditsobotla	NW397	Kagisano/Molopo
NW373	Rustenburg	NW385	Ramotshere Moiloa	NW401	Ventersdorp
NW374	Kgetlengrivier	NW392	Naledi	NW402	Tlokwe City Council
NW375	Moses Kotane	NW393	Mamusa	NW403	City of Matlosana
NW381	Ratlou	NW394	Greater Taung	NW404	Maquassi Hills
NW382	Tswaing				

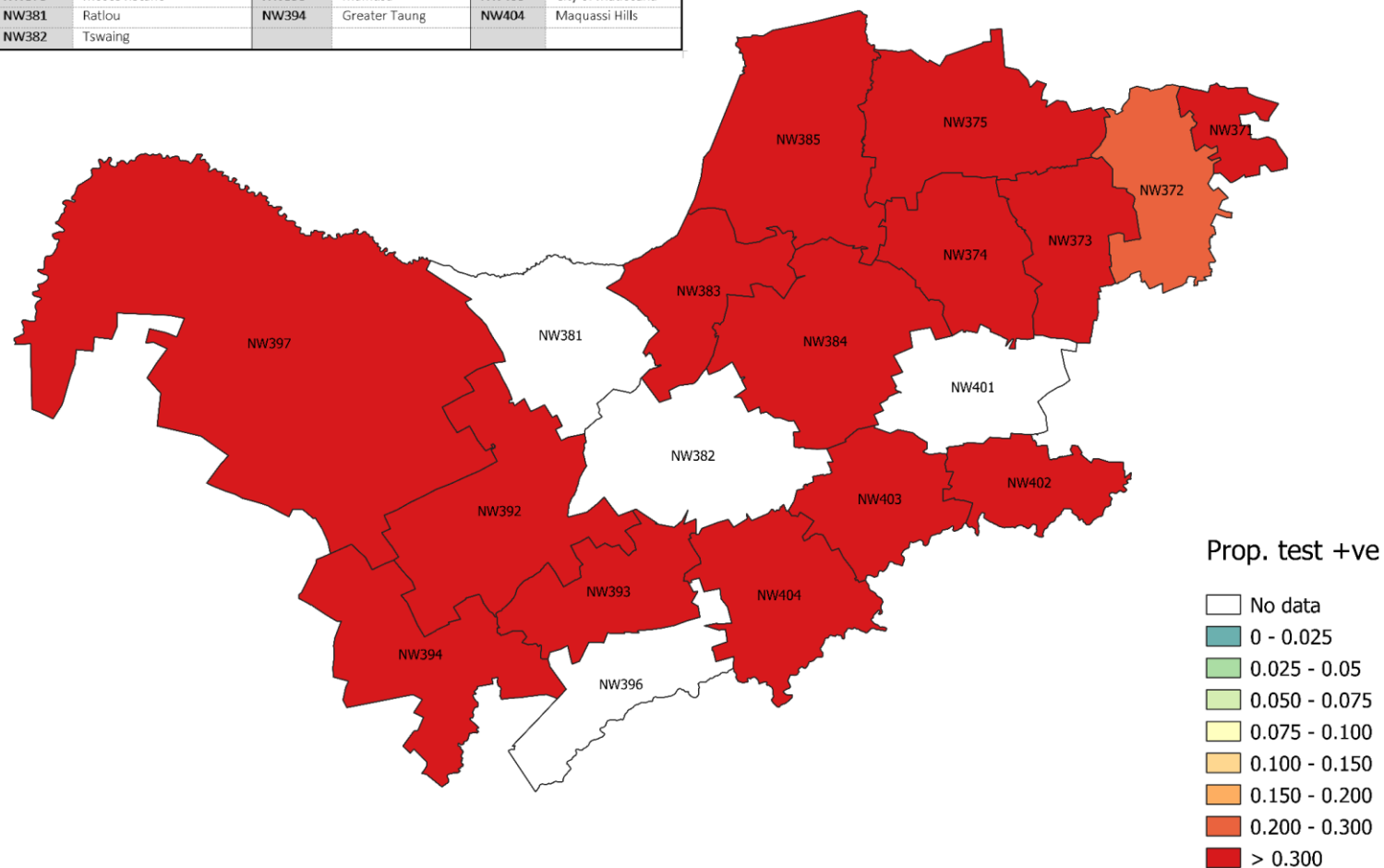


Figure 12. Proportion testing positive by health sub-district in North West Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

EKUE1	Ekurhuleni East 1	GT421	Emfuleni	JHBA	Johannesburg A	TSH1	Tshwane 1
EKUE2	Ekurhuleni East 2	GT422	Midvaal	JHBB	Johannesburg B	TSH2	Tshwane 2
EKUN1	Ekurhuleni North 1	GT423	Lesedi	JHBC	Johannesburg C	TSH3	Tshwane 3
EKUN2	Ekurhuleni North 2	GT481	Mogale City	JHBD	Johannesburg D	TSH4	Tshwane 4
EKUS1	Ekurhuleni South 1	GT482	Randfontein	JHBE	Johannesburg E	TSH5	Tshwane 5
EKUS2	Ekurhuleni South 2	GT483	Westonaria	JHBF	Johannesburg F	TSH6	Tshwane 6
		GT484	Verafong City	JHBG	Johannesburg G	TSH7	Tshwane 7

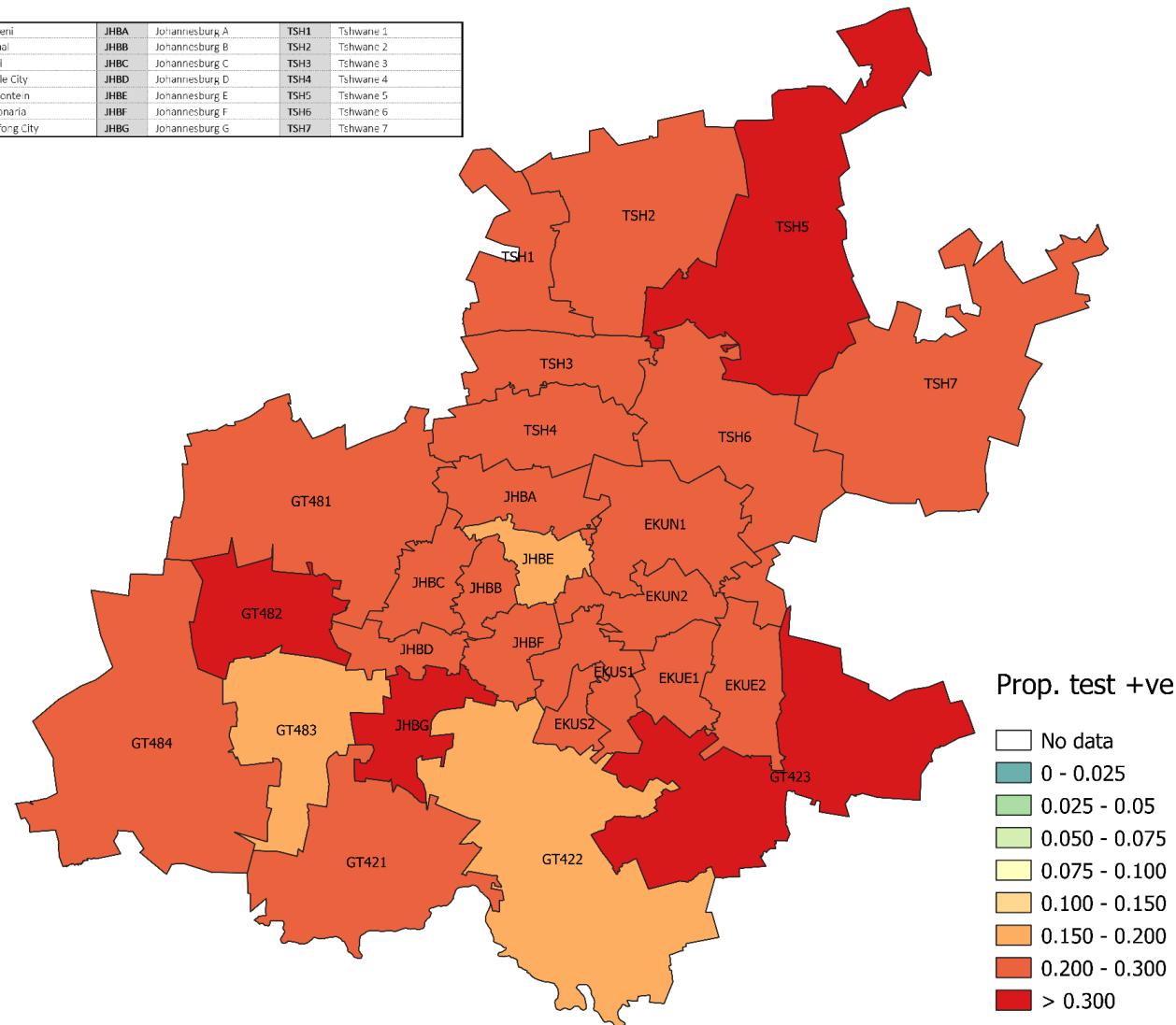


Figure 13. Proportion testing positive by health sub-district in Gauteng Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

MP301	Albert Luthuli	MP307	Govan Mbeki	MP316	Dr JS Moroka
MP302	Msukaligwa	MP311	Victor Khanye	MP321	Thaba Chweu
MP303	Mkhondo	MP312	Emalahleni	MP322	Mbombela
MP304	Pikey Ka Seme	MP313	Steve Tshwete	MP323	Umjindi
MP305	Lekwa	MP314	Emakhazeni	MP324	Nkomazi
MP306	Dipaleseng	MP315	Thembisile	MP325	Bushbuckridge

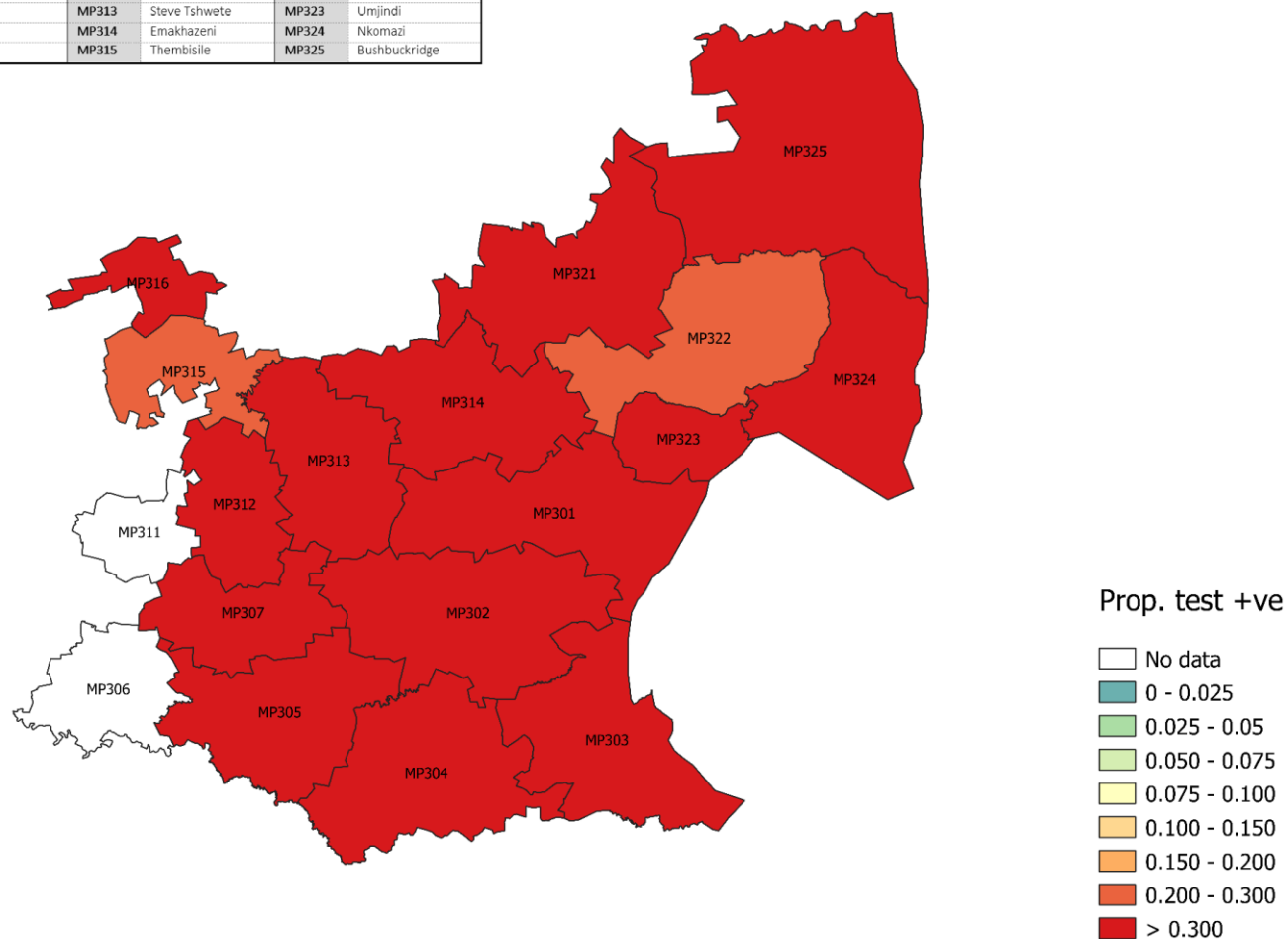


Figure 14. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

LIM331	Greater Giyani	LIM351	Blouberg	LIM365	Modimolle
LIM332	Greater Letaba	LIM352	Aganang	LIM366	Bela-Bela
LIM333	Greater Tzaneen	LIM353	Molemole	LIM367	Mogalakwena
LIM334	Ba-Phalaborwa	LIM354	Polokwane	LIM471	Ephraim Mogale
LIM335	Maruleng	LIM355	Lepelle-Nkumpi	LIM472	Elias Motsoaledi
LIM341	Musina	LIM361	Thabazimbi	LIM473	Makhuduthamaga
LIM342	Mutale	LIM362	Lephalale	LIM474	Fetakgomo
LIM343	Thulamela	LIM364	Mookgopong	LIM475	Greater Tloetse
LIM344	Makhado				

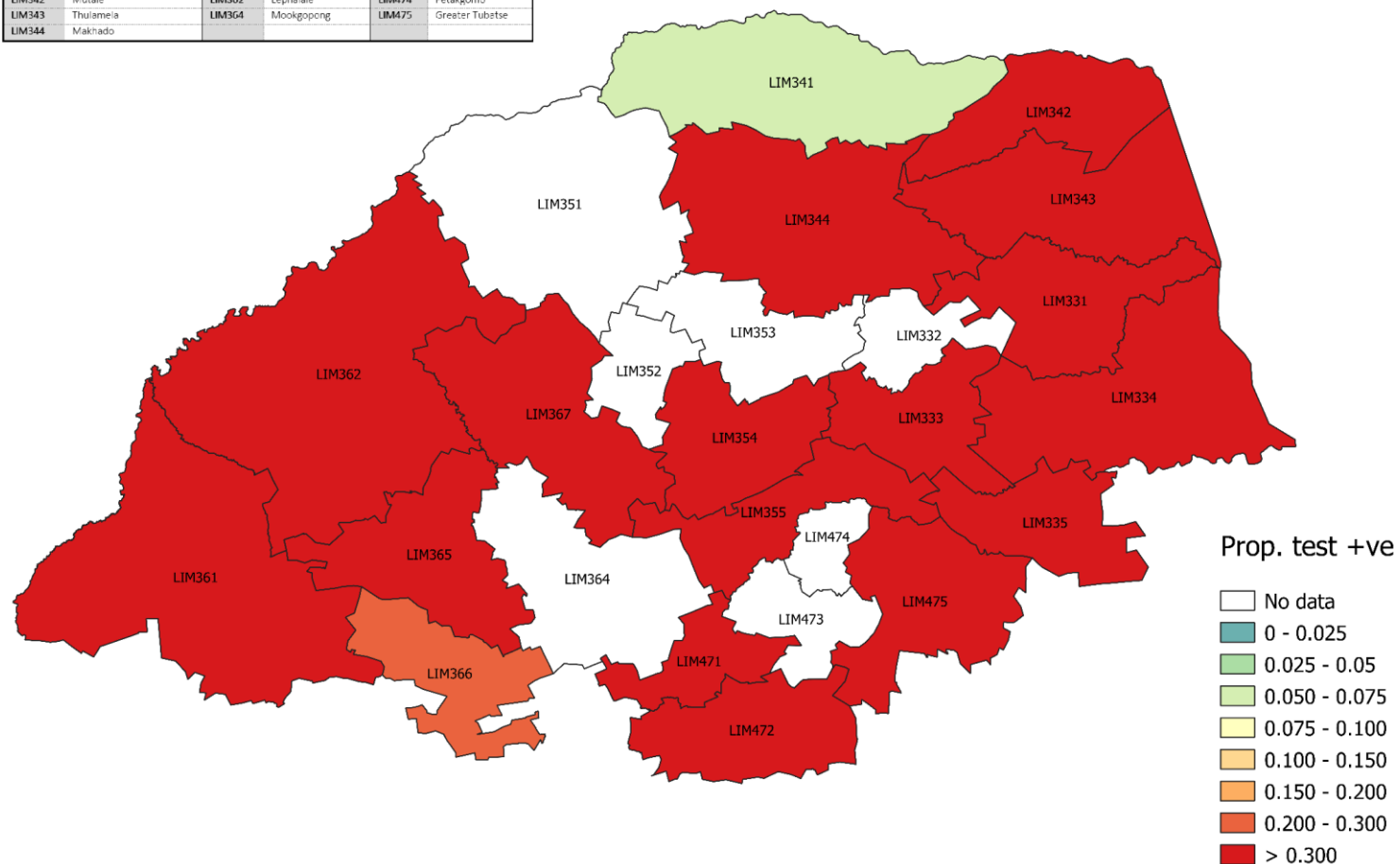


Figure 15. Proportion testing positive by health sub-district in Limpopo Province for the week of 19-25 December 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

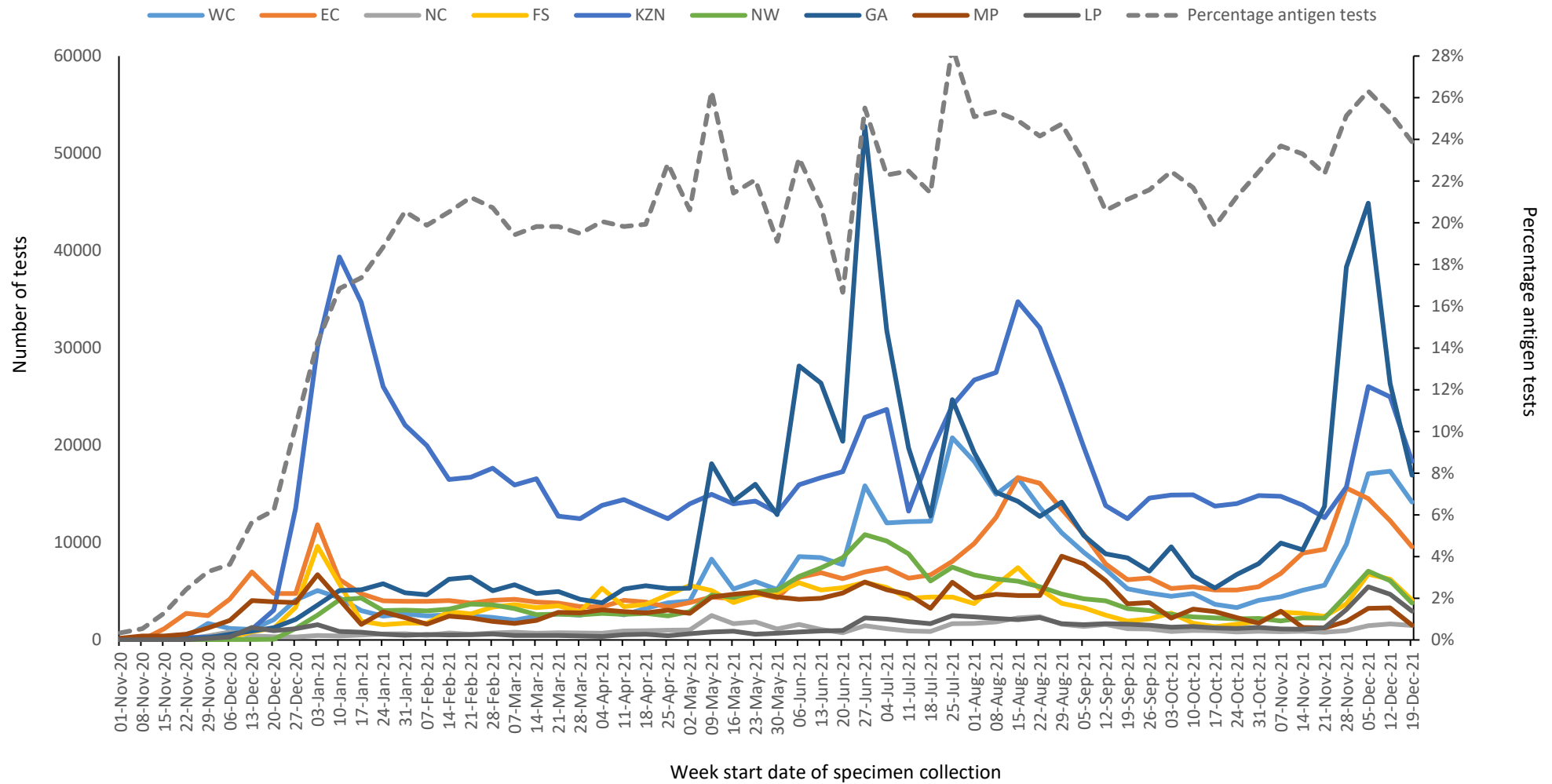


Figure 16. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 25 December 2021. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

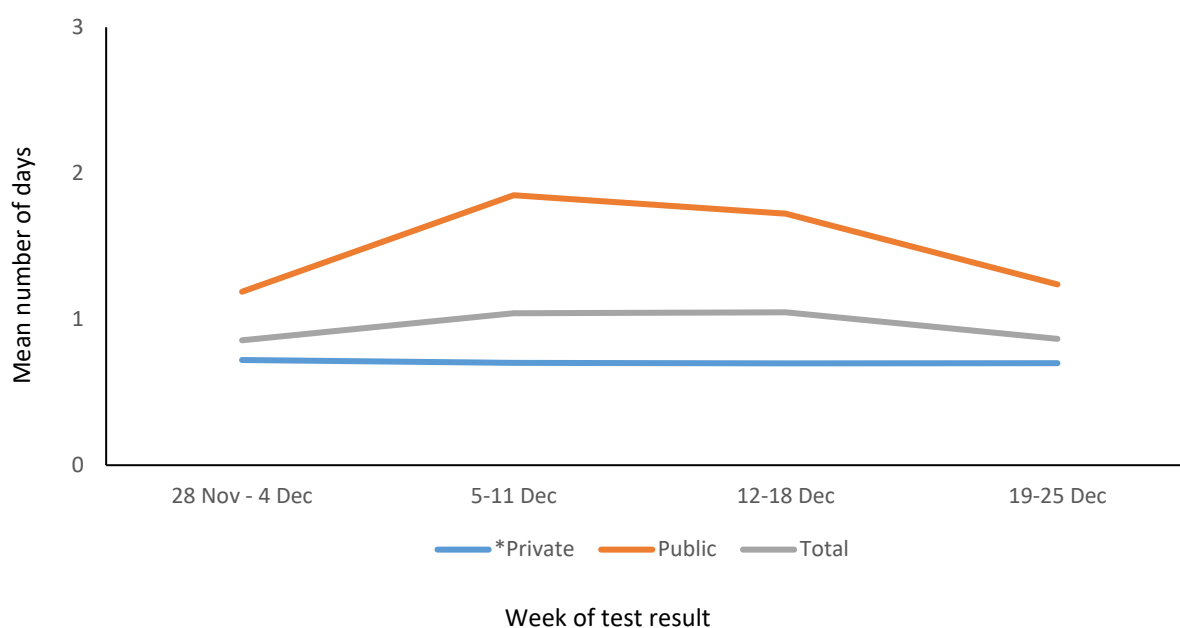


Figure 17. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 28 November – 25 December 2021. * Excludes 1 private lab for week 51.

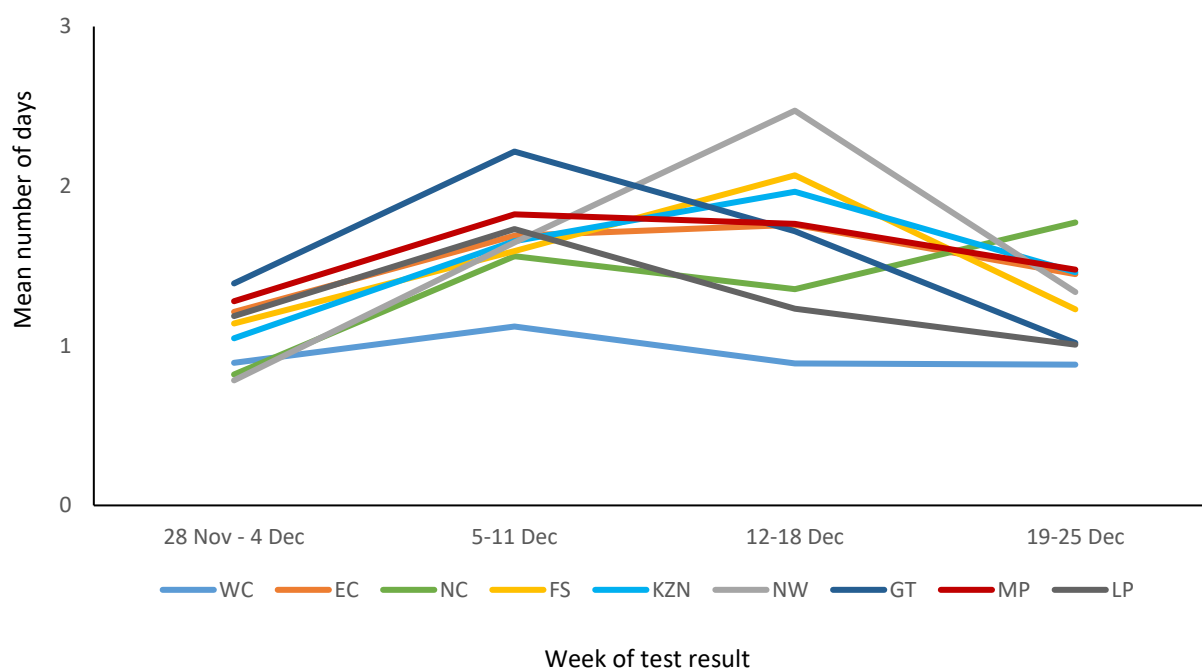


Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 28 November – 25 December 2021. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

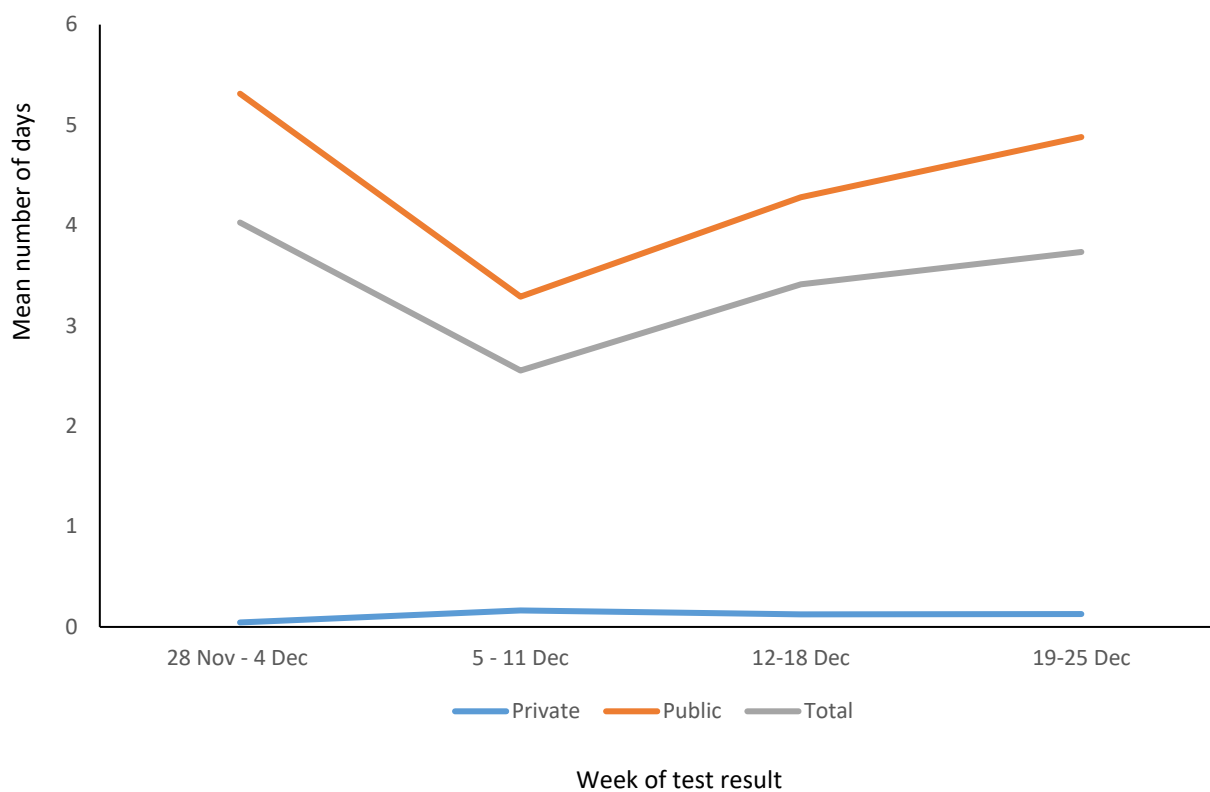


Figure 19. Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 28 November – 25 December 2021

Methods

Testing for SARS-CoV-2 began on 28 January 2020 at the NICD and after the first case was confirmed on 5th March 2020, testing was expanded to a larger network of private and NHLS laboratories. Laboratory testing was conducted for people meeting the case definition for persons under investigation (PUI). This definition was updated several times over the reporting period but at different times included (i) symptomatic individuals seeking testing, (ii) hospitalised individuals for whom testing was done, (iii) individuals in high-risk occupations, (iv) individuals in outbreak settings, and (v) individuals identified through community screening and testing (CST) programmes which were implemented in April 2020 and was discontinued from the week beginning 17th May. CST was implemented differently in different provinces, and ranged from mass screening approaches (including asymptomatic individuals) to screening of individuals in contact with a confirmed case to targeted testing of clusters of cases. Respiratory specimens were submitted to testing laboratories. Testing was performed using reverse transcriptase real-time PCR, which detects SARS-CoV-2 viral genetic material. Laboratories used any one of several in-house and commercial PCR assays to test for the presence of SARS-CoV-2 RNA. Testing for SARS-CoV-2 using rapid antigen-based tests was implemented towards the end of October 2020. Results of reported rapid antigen-based tests are included in this report, however data are incomplete and efforts are ongoing to improve data completeness.

Test results were automatically fed into a data warehouse after result authorisation. We excluded specimens collected outside South Africa and duplicate entries of the same test for an individual. From week 49 of 2020 onwards, test data were reported from the Notifiable Medical Conditions Surveillance System (NMCSS). Date of specimen receipt in the laboratory was used when date of specimen collection was missing. Proportion testing positive (PTP) was calculated as the number of positive tests/total number of tests and presented as percentage by multiplying with 100. We used 2020 mid-year population estimates from Statistics South Africa to calculate the testing rate, expressed as tests per 100,000 persons. Laboratory turnaround times were calculated as the mean number of days between specimen collection and reporting of the result. Categorical variables were compared using the chi-squared test, with a P-value<0.05 considered statistically significant.

Health district and sub-district (in the metros) level results were mapped based on geo-locatable public (approximately 98% of public sector facilities in the country) and private (approximately 78% of private testing facilities) sector testing facilities. Estimates of overall prevalence were derived using regression techniques. Estimates were adjusted to produce district-specific positive test prevalences based on the national average age and sex profile of testing for that week. This adjustment allows more accurate comparison of the proportion testing positive across districts. Districts with fewer than 20 tests reported during the week have been excluded from the analysis.

Limitations

- A backlog in testing of samples by laboratories affects the reported number of tests. As a result, numbers tested during this period may change in subsequent reports.
- If higher-priority specimens were tested preferentially this would likely result in an inflated proportion testing positive.
- Different and changing testing strategies (targeted vs. mass testing, PCR vs. antigen-based tests or prioritisation of severe or at-risk cases during epidemic waves) used by different provinces makes percentage testing positive and number of reported tests difficult to interpret and compare.
- Health district and sub-district level were mapped based on the testing facility and not place of residence.

- Patient admission status was categorised based on the reported patient facility and may not reflect whether the patient was actually admitted to hospital.
- Antigen tests may be underestimated as they are used in a number of different settings and results may not be reported.
- Due to negative tests being erroneously reported in duplicate in some labs in the North West province, a large decrease in the percentage testing positive was observed in that province in the past week. This error is currently under investigation and will be corrected for future reports.