



## COVID-19 Weekly Testing Summary

### Week 20 of 2022

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 21 May 2022 (Week 20 of 2022).

#### Highlights:

- The number of tests reported in week 20 of 2022 (164,406: 112,386 PCR and 52,020 antigen tests) was 14.2% lower than the number of tests reported in the previous week (n=191,652).
- In week 20, the testing rate was 273 per 100,000 persons; highest in Gauteng (428 per 100,000 persons) and lowest in Limpopo (40 per 100,000 persons).
- In week 20, the percentage testing positive was 22.0%, which was 3.1% lower than the previous week.
- In week 20, compared to the previous week, the percentage testing positive increased in the Northern Cape and decreased in the Free State, KwaZulu-Natal, Gauteng, North West and Limpopo provinces. The percentage testing positive was unchanged in the Western Cape, Eastern Cape and Mpumalanga.
- The percentage testing positive in week 20 was highest in the Northern Cape (34.9%) followed by the Western Cape (32.9%), and was between 20-30% in the Eastern Cape and Free State. The percentage testing positive was between 10-19% in all other provinces.
- In week 20, the percentage testing positive was highest in the ≥80 years age group (28.7%) followed by the 75-79 years age group (28.1%).

#### Executive Summary:

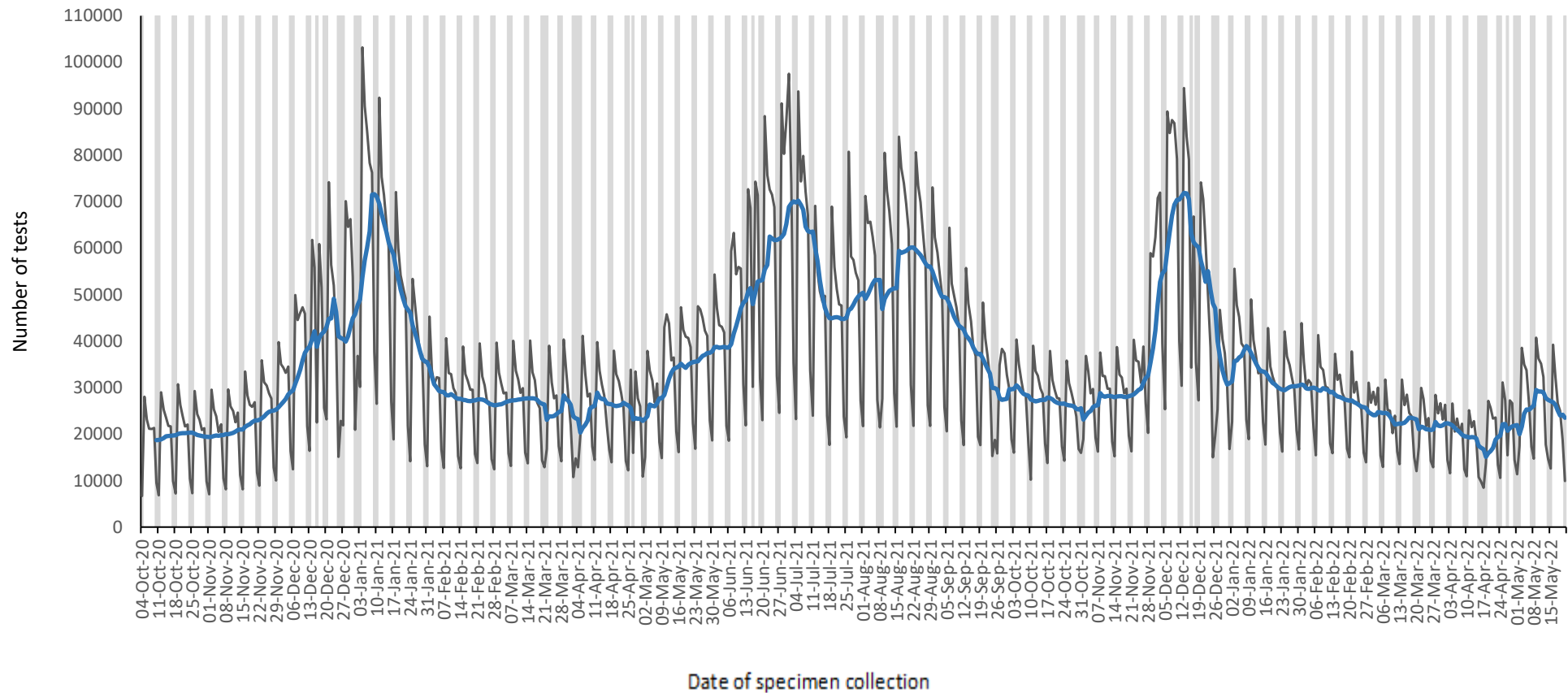
- In the period 1 March 2020 through 21 May 2022, 24,815,523 tests for SARS-CoV-2 have been reported nationally: 20,352,472 PCR and 4,463,051 antigen tests.
- The number of tests reported in week 20 of 2022 (n= 164,406: 112,386 PCR and 52,020 antigen tests) was 14.2% lower than the number of tests reported in the previous week (n=191,652 in week 19).
- Gauteng reported the largest proportion of tests (41.1%), followed by KwaZulu-Natal (18.9%) and Western Cape (14.2%).
- The overall testing rate decreased from the previous week (319 per 100,000 persons in week 19 to 273 per 100,000 persons in week 20).
- In week 20, testing rates decreased in Gauteng, KwaZulu-Natal and Free State provinces, and were similar to the previous week in all other provinces. The testing rate was highest in Gauteng (428 per 100,000 persons) and lowest in Limpopo (40 per 100,000 persons).
- The testing rate in week 20 was highest in the ≥80 years age group (573 per 100,000 persons).
- In week 20, the percentage testing positive was 22.0%, which was 3.1% lower than the previous week (25.1% in week 19 to 22.0% in week 20,  $P<0.001$ ).

- In the past week, the percentage testing positive decreased by 2.6% in the public sector (19.5% in week 19 to 16.9% in week 20,  $P<0.001$ ) and by 3.2% in the private sector (28.8% in week 19 to 25.6% in week 20,  $P<0.001$ ).
- In week 20, compared to the previous week, the percentage testing positive increased in the Northern Cape and decreased in the Free State, KwaZulu-Natal, Gauteng, North West and Limpopo provinces. The percentage testing positive was unchanged in the Western Cape, Eastern Cape and Mpumalanga.
- The percentage testing positive in week 20 was highest in the Northern Cape (34.9%) followed by the Western Cape (32.9%), and was between 20-30% in the Eastern Cape and Free State. The percentage testing positive was between 10-19% in all other provinces.
- In week 20, health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape ( $n=13$ ) and Northern Cape ( $n=7$ ).
- In week 20, the percentage testing positive was highest in the  $\geq 80$  years age group (28.7%) followed by the 75-79 years age group (28.1%). A decrease in the percentage testing positive was observed across all age groups in the past week.
- Antigen tests accounted for 31.6% (52,020/164,406) of tests reported in week 20, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 20 the public sector accounted for 50.0% (26,012/52,020) of antigen tests reported and a decrease in the number of antigen tests reported was observed in all provinces in the past week.
- The mean turnaround time for PCR tests reported in week 20 was 1.0 day; 1.3 days in the public sector and 0.8 days in the private sector. Turnaround times for public sector PCR tests decreased in the North West and were  $<2$  days in all provinces.
- The mean turnaround time for antigen tests reported in week 20 was 6.1 days in the public sector and 0.1 days in the private sector.



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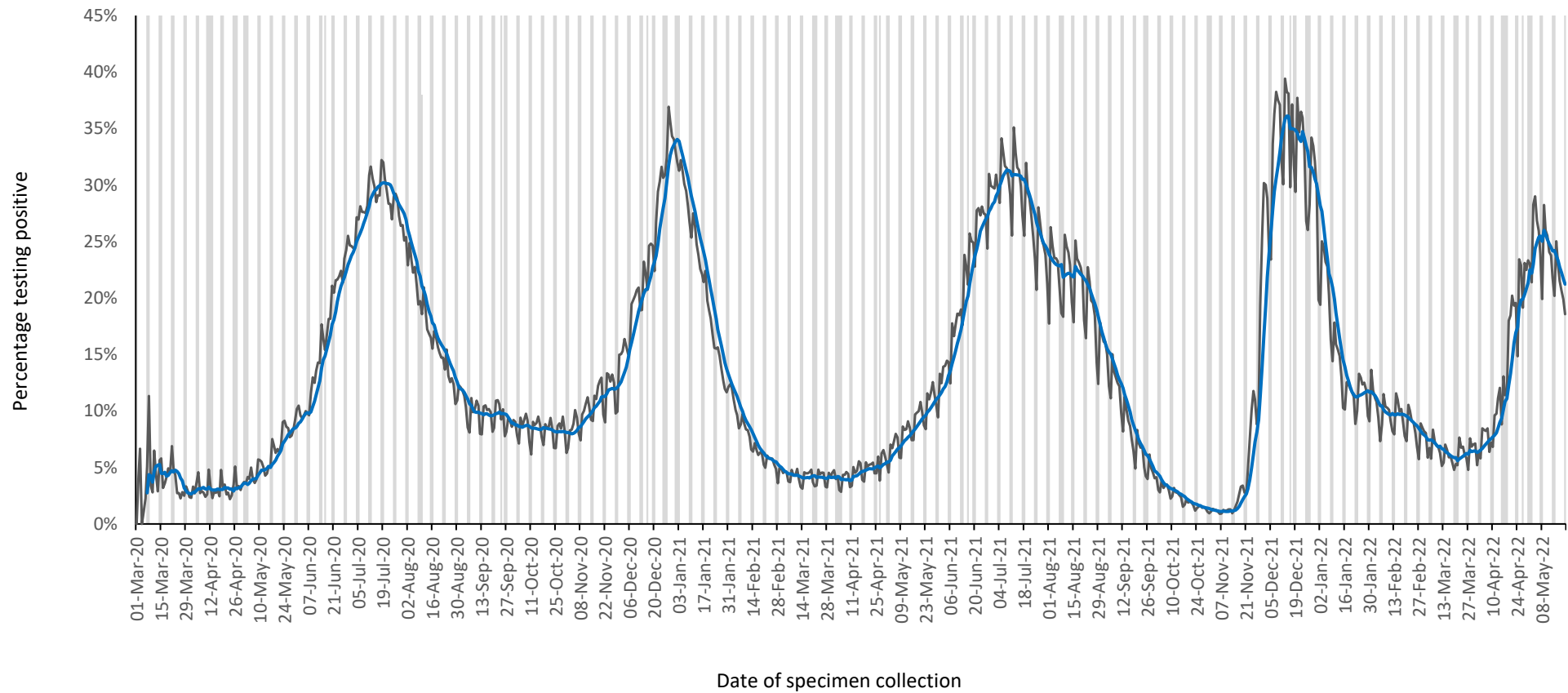
**Figure 1.** Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 4 October 2020 – 21 May 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays



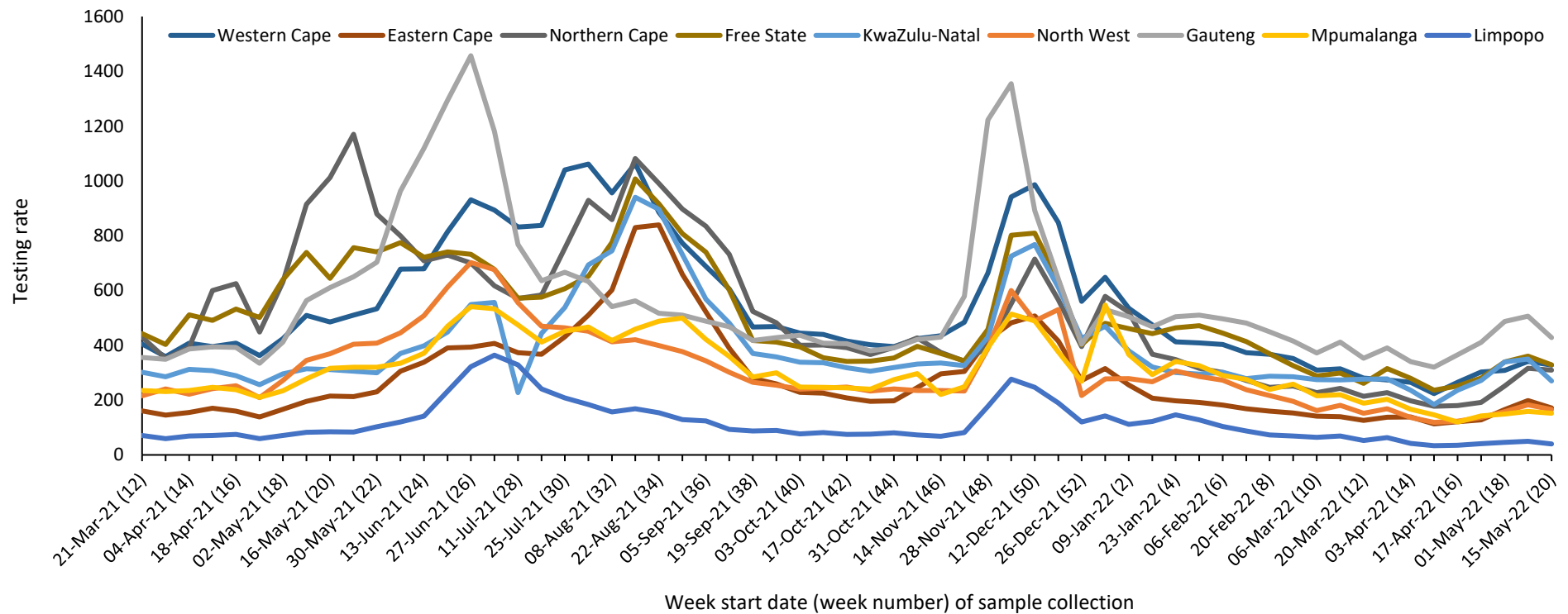
**Table 1.** Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021 – 21 May 2022

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
1	03-Jan-21	501386 (2.0)	151074	30.1
2	10-Jan-21	418300 (1.7)	104825	25.1
3	17-Jan-21	327534 (1.3)	63283	19.3
4	24-Jan-21	249623 (1.0)	34652	13.9
5	31-Jan-21	203797 (0.8)	22380	11.0
6	07-Feb-21	193340 (0.8)	16476	8.5
7	14-Feb-21	190714 (0.8)	12192	6.4
8	21-Feb-21	184731 (0.7)	10390	5.6
9	28-Feb-21	189730 (0.8)	8695	4.6
10	07-Mar-21	193454 (0.8)	8341	4.3
11	14-Mar-21	185527 (0.7)	8156	4.4
12	21-Mar-21	173275 (0.7)	7356	4.2
13	28-Mar-21	163975 (0.7)	7063	4.3
14	04-Apr-21	180875 (0.7)	7292	4.0
15	11-Apr-21	185350 (0.7)	8847	4.8
16	18-Apr-21	184922 (0.7)	9471	5.1
17	25-Apr-21	160025 (0.6)	9183	5.7
18	02-May-21	193977 (0.8)	13464	6.9
19	09-May-21	240329 (1.0)	19939	8.3
20	16-May-21	248497 (1.0)	24212	9.7
21	23-May-21	262638 (1.1)	29778	11.3
22	30-May-21	270321 (1.1)	36111	13.4
23	06-Jun-21	337915 (1.4)	59453	17.6
24	13-Jun-21	370990 (1.5)	88087	23.7
25	20-Jun-21	432622 (1.7)	118654	27.4
26	27-Jun-21	490249 (2.0)	146638	29.9
27	04-Jul-21	444061 (1.8)	141464	31.9
28	11-Jul-21	320773 (1.3)	100958	31.5
29	18-Jul-21	313232 (1.3)	88447	28.2
30	25-Jul-21	350617 (1.4)	88360	25.2
31	01-Aug-21	372296 (1.5)	88132	23.7
32	08-Aug-21	359599 (1.4)	83382	23.2
33	15-Aug-21	420919 (1.7)	95390	22.7
34	22-Aug-21	392615 (1.6)	78198	19.9
35	29-Aug-21	346106 (1.4)	55097	15.9
36	05-Sep-21	300488 (1.2)	38858	12.9
37	12-Sep-21	260673 (1.1)	24018	9.2

38	19-Sep-21	209089 (0.8)	14011	6.7
39	26-Sep-21	207816 (0.8)	9491	4.6
40	03-Oct-21	197893 (0.8)	6453	3.3
41	10-Oct-21	191734 (0.8)	5044	2.6
42	17-Oct-21	185608 (0.7)	3412	1.8
43	24-Oct-21	177189 (0.7)	2566	1.4
44	31-Oct-21	182910 (0.7)	2106	1.2
45	07-Nov-21	196673 (0.8)	2323	1.2
46	14-Nov-21	197166 (0.8)	4813	2.4
47	21-Nov-21	224594 (0.9)	18976	8.4
48	28-Nov-21	381931 (1.5)	98401	25.8
49	05-Dec-21	493187 (2.0)	175094	35.5
50	12-Dec-21	424482 (1.7)	154912	36.5
51	19-Dec-21	337055 (1.4)	117656	34.9
52	20-Dec-21	216544 (0.9)	66088	30.5
1	02-Jan-22	272505 (1.1)	61113	22.4
2	09-Jan-22	234365 (0.9)	35133	15.0
3	16-Jan-22	208393 (0.8)	24053	11.5
4	23-Jan-22	212504 (0.9)	25804	12.1
5	24-Jan-22	210074 (0.8)	22947	10.9
6	06-Feb-22	203109 (0.8)	20412	10.0
7	13-Feb-22	191163 (0.8)	19086	10.0
8	14-Feb-22	180701 (0.7)	16304	9.0
9	27-Feb-22	172533 (0.7)	13135	7.6
10	06-Mar-22	155311 (0.6)	10679	6.9
11	13-Mar-22	163521 (0.7)	9866	6.0
12	20-Mar-22	146197 (0.6)	9448	6.5
13	27-Mar-22	156349 (0.6)	10238	6.5
14	03-Apr-22	136883 (0.6)	10571	7.7
15	10-Apr-22	119476 (0.5)	12262	10.3
16	17-Apr-22	135480 (0.5)	24078	17.8
17	24-Apr-22	152796 (0.6)	33720	22.1
18	01-May-22	179692 (0.7)	47384	26.4
19	08-May-22	191652 (0.8)	48018	25.1
20	15-May-22	164406 (0.7)	36183	22.0
<b>Total</b>		<b>24,815,523 (100.0)</b>	<b>4,265,041</b>	



**Figure 2.** Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 21 May 2022. 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 – 21 May 2022

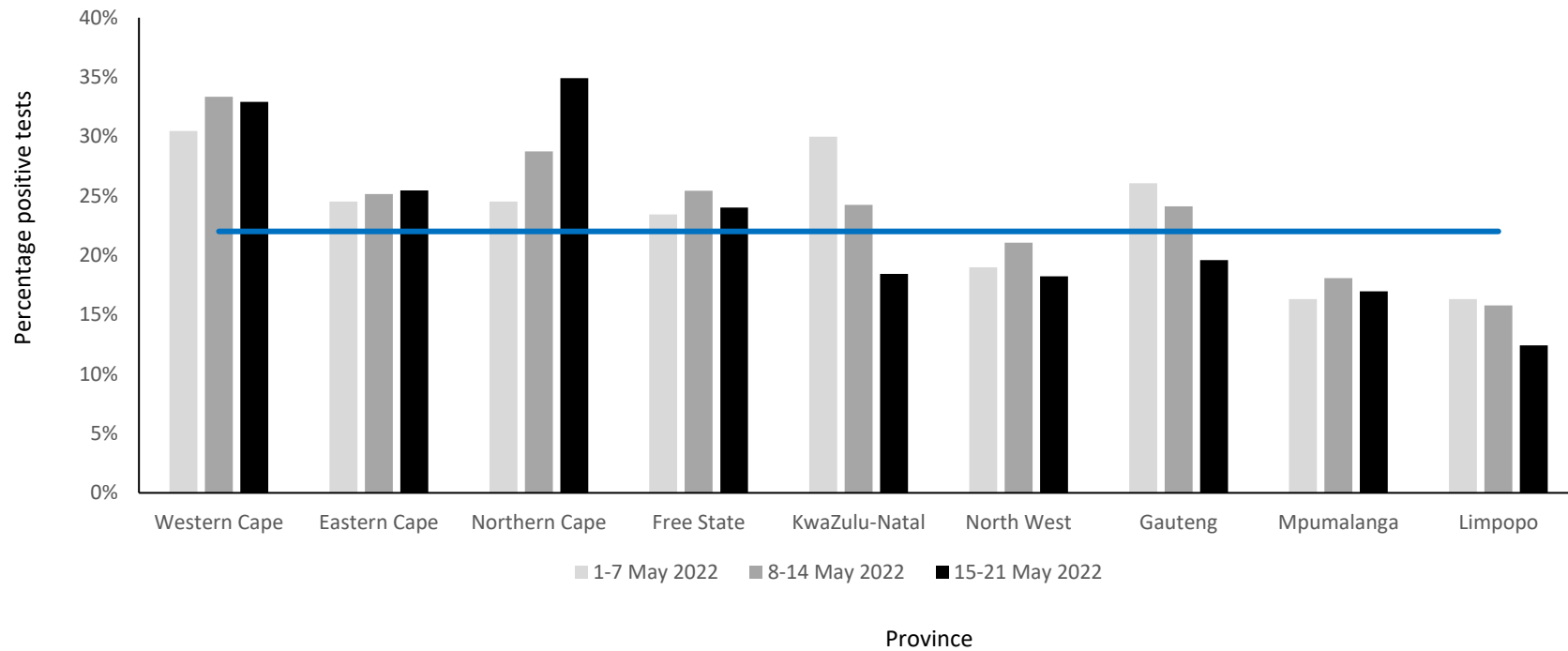
**Table 2.** Weekly number of tests and positive tests reported by province, South Africa, 1 – 21 May 2022

Province	Population <sup>a</sup>	1-7 May 2022		8-14 May 2022		15-21 May 2022		Testing rate per 100000	Change in percentage positive from previous week <sup>b</sup>
		No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)		
Western Cape	7113776	21942	6685 (30.5)	24308	8104 (33.3)	23299	7666 (32.9)	328	-0.4%
Eastern Cape	6676590	11084	2717 (24.5)	13221	3326 (25.2)	11436	2912 (25.5)	171	0.3%
Northern Cape	1303047	3271	802 (24.5)	4121	1184 (28.7)	4034	1408 (34.9)	310	6.2%
Free State	2932441	9962	2334 (23.4)	10586	2692 (25.4)	9644	2316 (24.0)	329	-1.4%
KwaZulu-Natal	11513575	39118	11727 (30.0)	40268	9758 (24.2)	31085	5727 (18.4)	270	-5.8%
North West	4122854	6516	1237 (19.0)	7526	1585 (21.1)	6812	1242 (18.2)	165	-2.8%
Gauteng	15810388	76932	20049 (26.1)	80116	19323 (24.1)	67617	13242 (19.6)	428	-4.5%
Mpumalanga	4743584	7066	1152 (16.3)	7536	1362 (18.1)	7226	1226 (17.0)	152	-1.1%
Limpopo	5926724	2699	440 (16.3)	2941	464 (15.8)	2384	296 (12.4)	40	-3.4%
Unknown		1102	241 (21.9)	1029	220 (21.4)	869	148 (17.0)		
<b>Total</b>	<b>60142978</b>	<b>179692</b>	<b>47384 (26.4)</b>	<b>191652</b>	<b>48018 (25.1)</b>	<b>164406</b>	<b>36183 (22.0)</b>	<b>273</b>	<b>-3.1%</b>

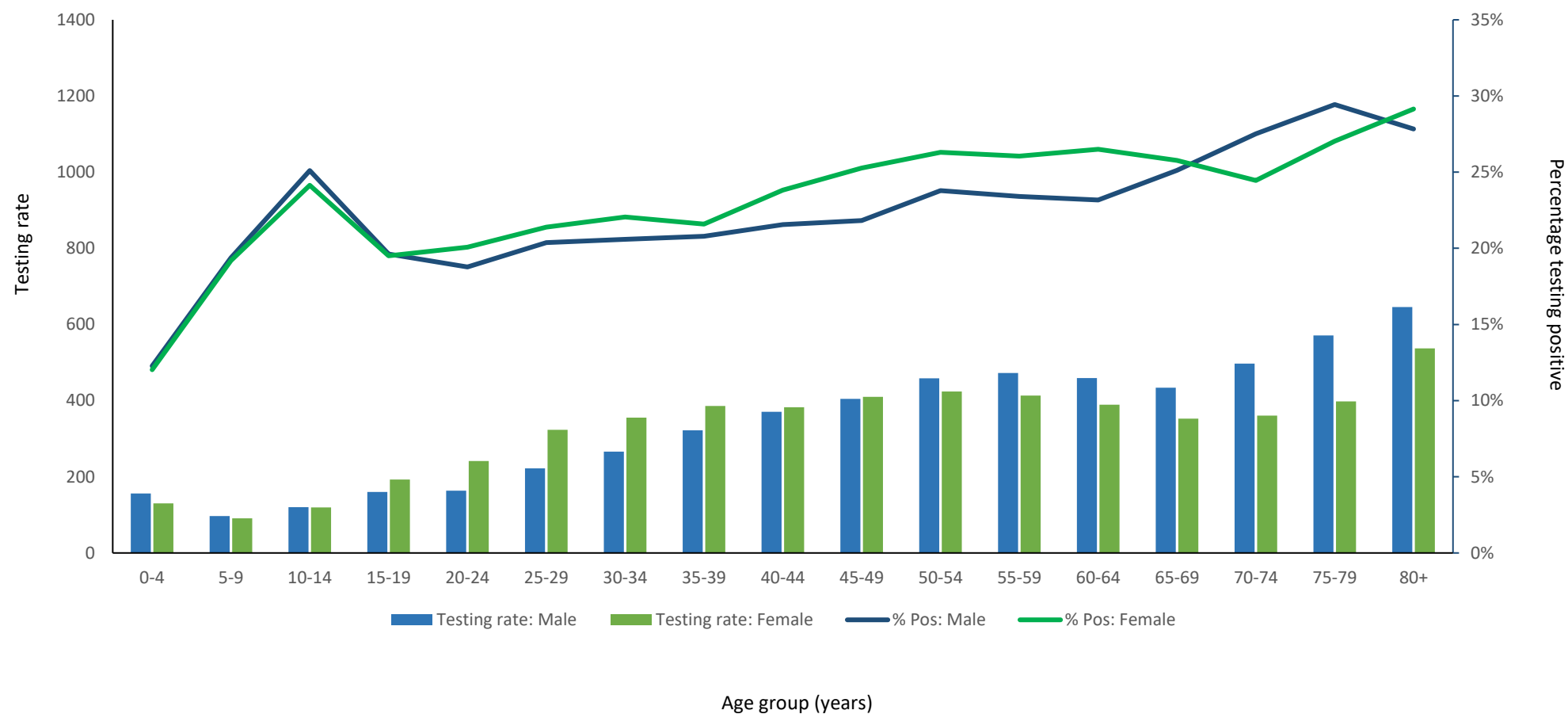
<sup>a</sup> 2021 Mid-year population Statistics SA

<sup>b</sup> Current week compared to previous week

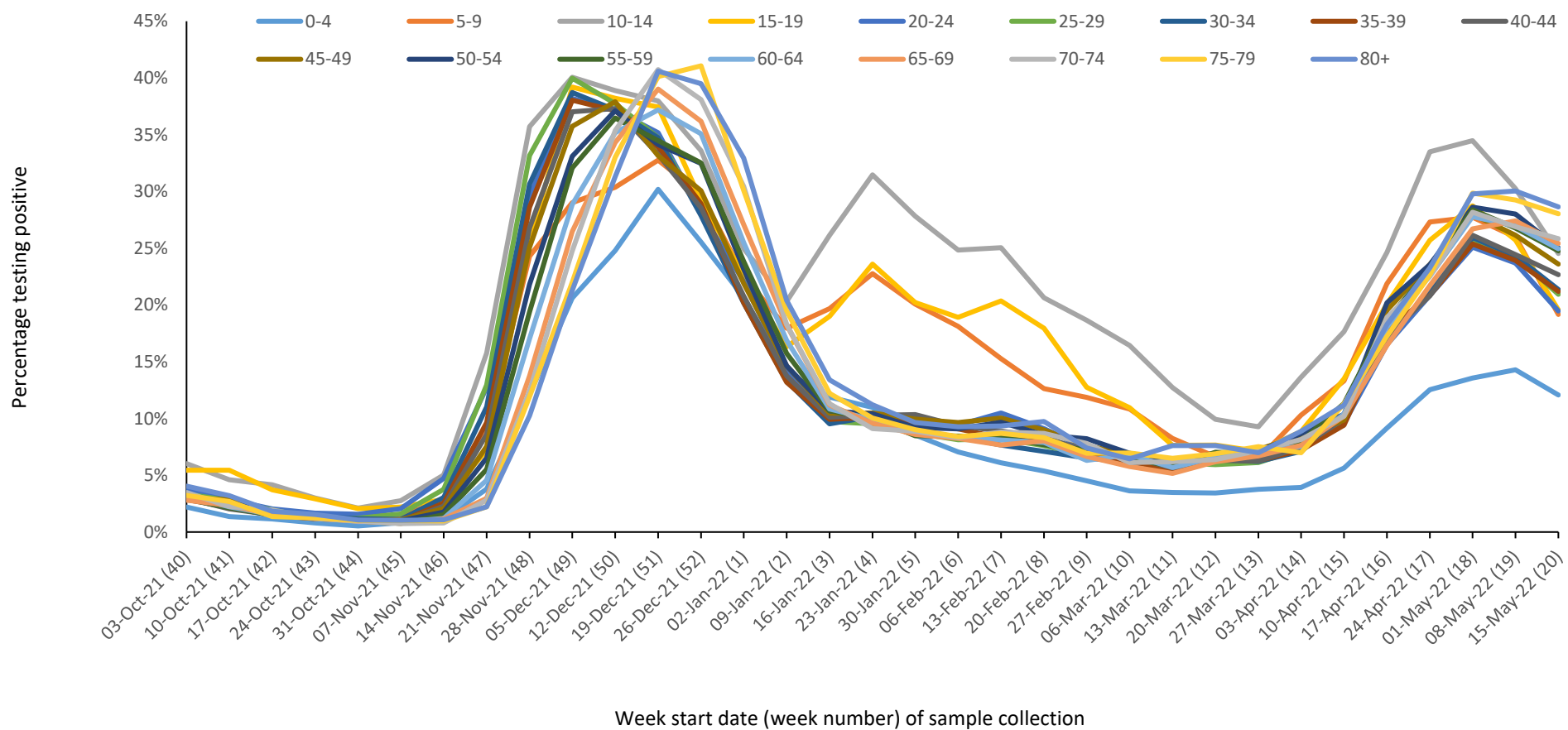




**Figure 4.** Weekly percentage testing positive by province, South Africa, 1-21 May 2022. The horizontal blue line shows the national mean for week 20, beginning 15 May 2022



**Figure 5.** Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 20, 15-21 May 2022



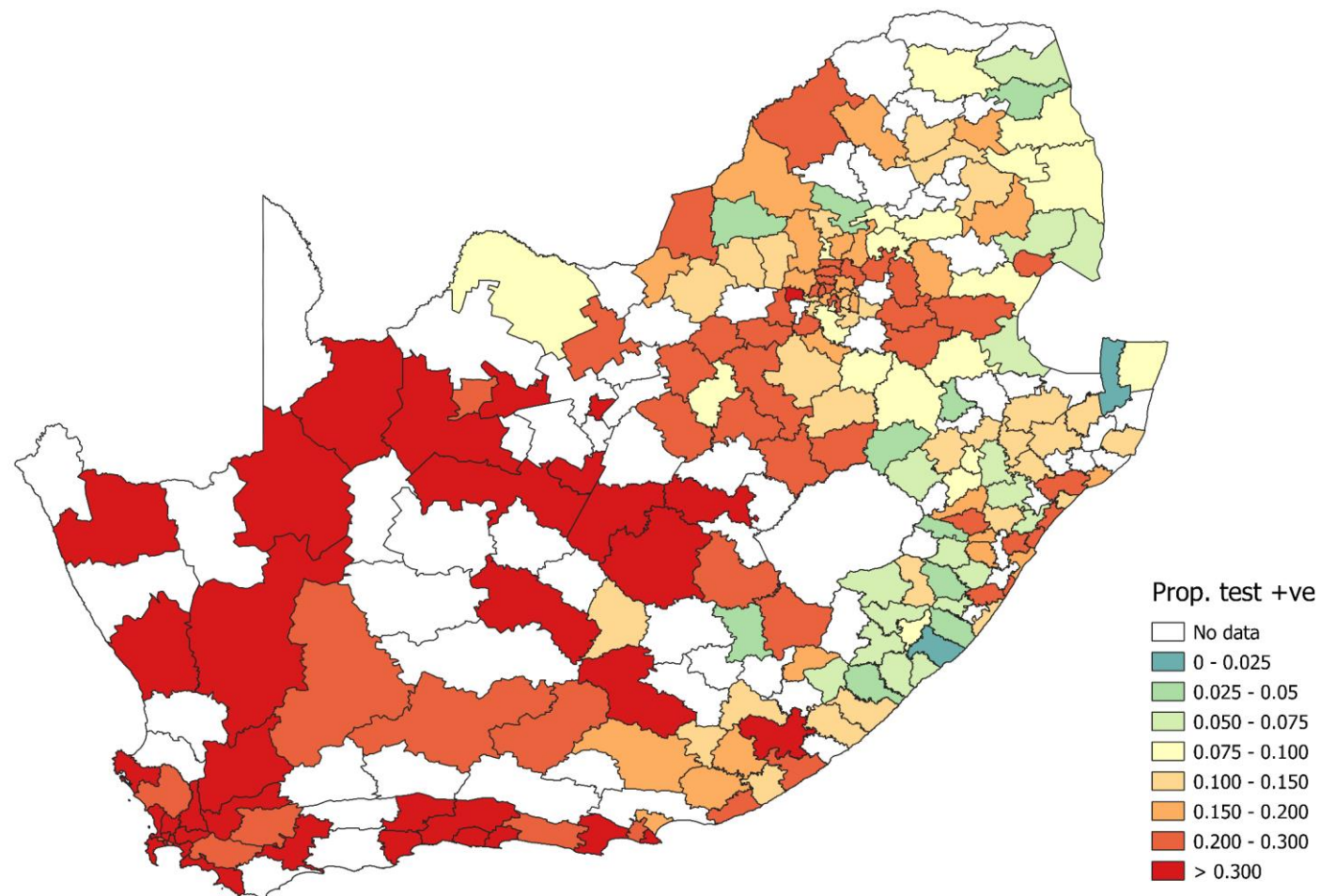
**Figure 6.** Percentage testing positive by age group and week of specimen collection, South Africa, 3 October 2021 – 21 May 2022



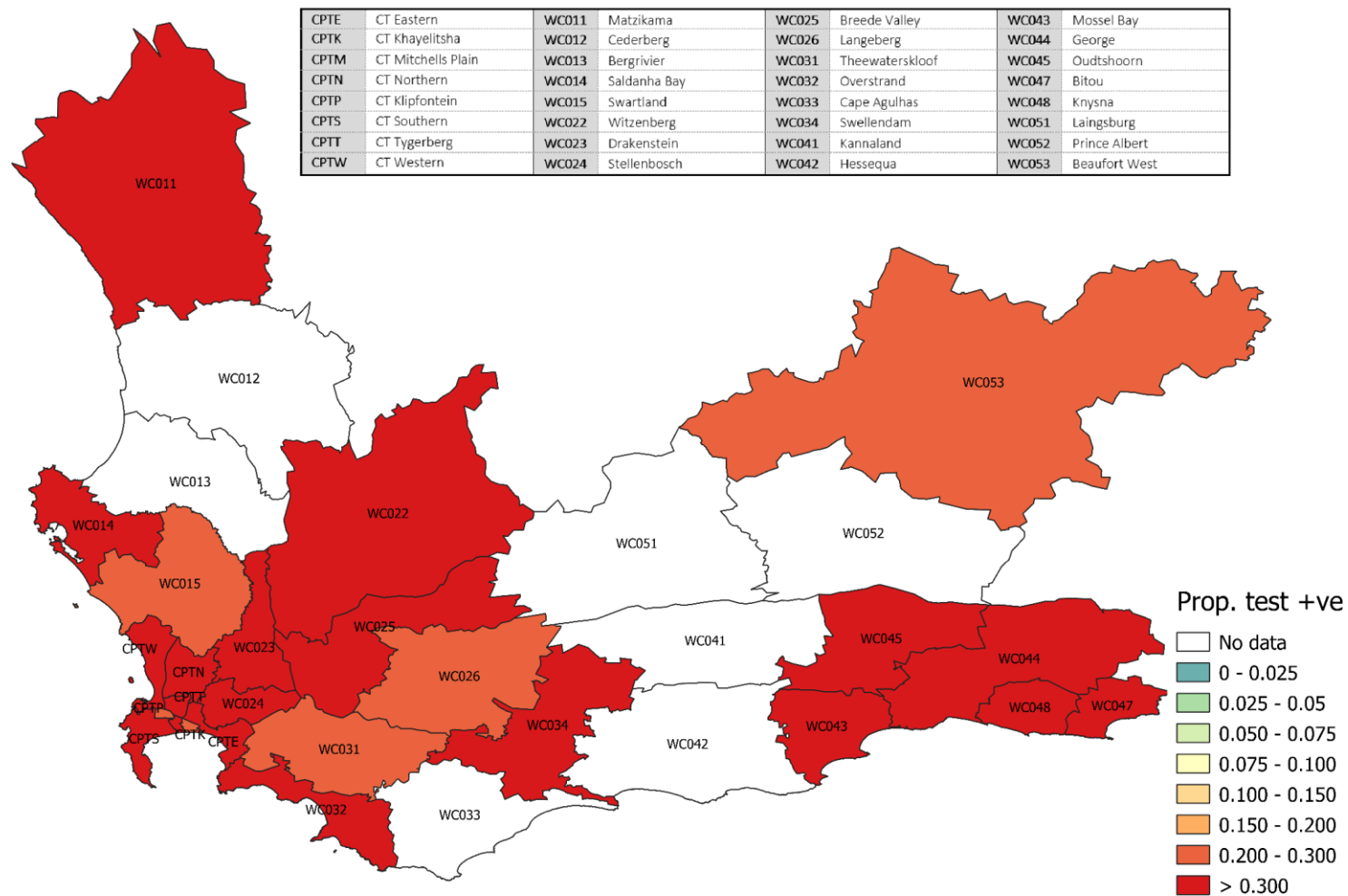
**Table 3.** Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 15-21 May 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Randfontein	Gauteng	0.554 (0.523-0.584)	0.654 (0.628-0.680)
Hantam	Northern Cape	0.528 (0.429-0.627)	...
Inxuba Yethemba	Eastern Cape	0.525 (0.461-0.589)	0.461 (0.395-0.527)
Letsemeng	Free State	0.471 (0.339-0.603)	...
Tsantsabane	Northern Cape	0.459 (0.324-0.594)	...
Kai !Garib	Northern Cape	0.451 (0.345-0.556)	0.089 (0.057-0.120)
Saldanha Bay	Western Cape	0.449 (0.405-0.494)	0.510 (0.466-0.554)
Witzenberg	Western Cape	0.448 (0.348-0.548)	0.613 (0.511-0.714)
Siyancuma	Northern Cape	0.418 (0.318-0.518)	...
Knysna	Western Cape	0.412 (0.305-0.519)	0.345 (0.253-0.437)
Kopanong	Free State	0.408 (0.319-0.497)	0.331 (0.260-0.402)
Drakenstein	Western Cape	0.398 (0.364-0.432)	0.425 (0.391-0.458)
Breed Valley	Western Cape	0.392 (0.346-0.437)	0.376 (0.329-0.422)
Oudtshoorn	Western Cape	0.379 (0.319-0.440)	0.493 (0.425-0.562)
CT Northern	Western Cape	0.378 (0.355-0.400)	0.391 (0.368-0.414)
Mossel Bay	Western Cape	0.377 (0.333-0.420)	0.346 (0.303-0.390)
CT Tygerberg	Western Cape	0.375 (0.357-0.393)	0.369 (0.351-0.387)
Emthanjeni	Northern Cape	0.371 (0.247-0.496)	0.372 (0.272-0.472)
Bitou	Western Cape	0.361 (0.264-0.459)	0.393 (0.306-0.479)
Swellendam	Western Cape	0.358 (0.282-0.433)	0.501 (0.421-0.581)
Nama Khoi	Northern Cape	0.356 (0.302-0.411)	0.128 (0.086-0.169)
CT Eastern	Western Cape	0.353 (0.327-0.380)	0.382 (0.355-0.408)
Phokwane	Northern Cape	0.349 (0.239-0.459)	0.367 (0.238-0.496)
CT Western	Western Cape	0.348 (0.334-0.361)	0.366 (0.353-0.379)
Kouga	Eastern Cape	0.347 (0.280-0.415)	0.304 (0.244-0.363)

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

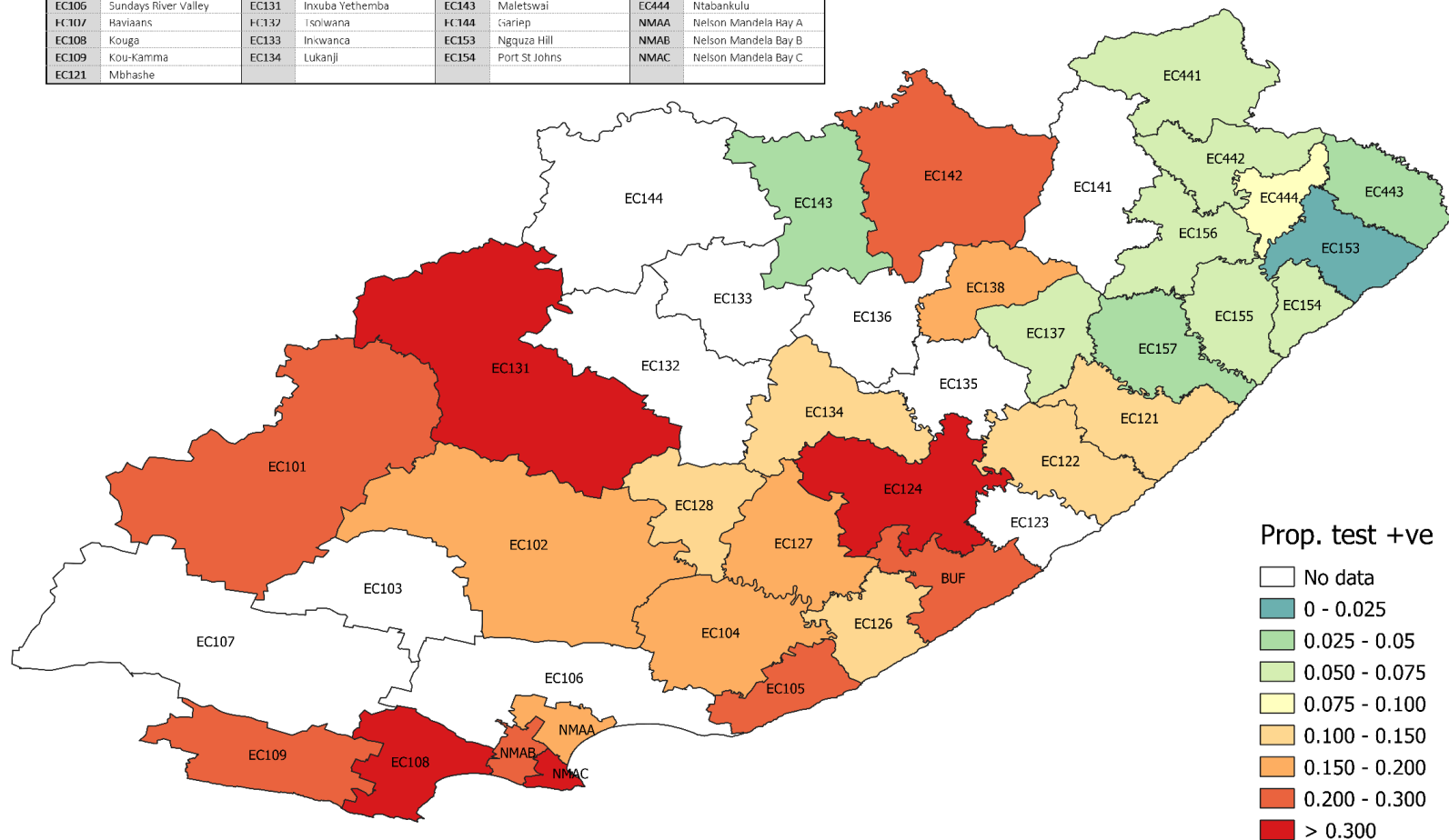


**Figure 7.** Proportion testing positive by health sub-district in South Africa for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

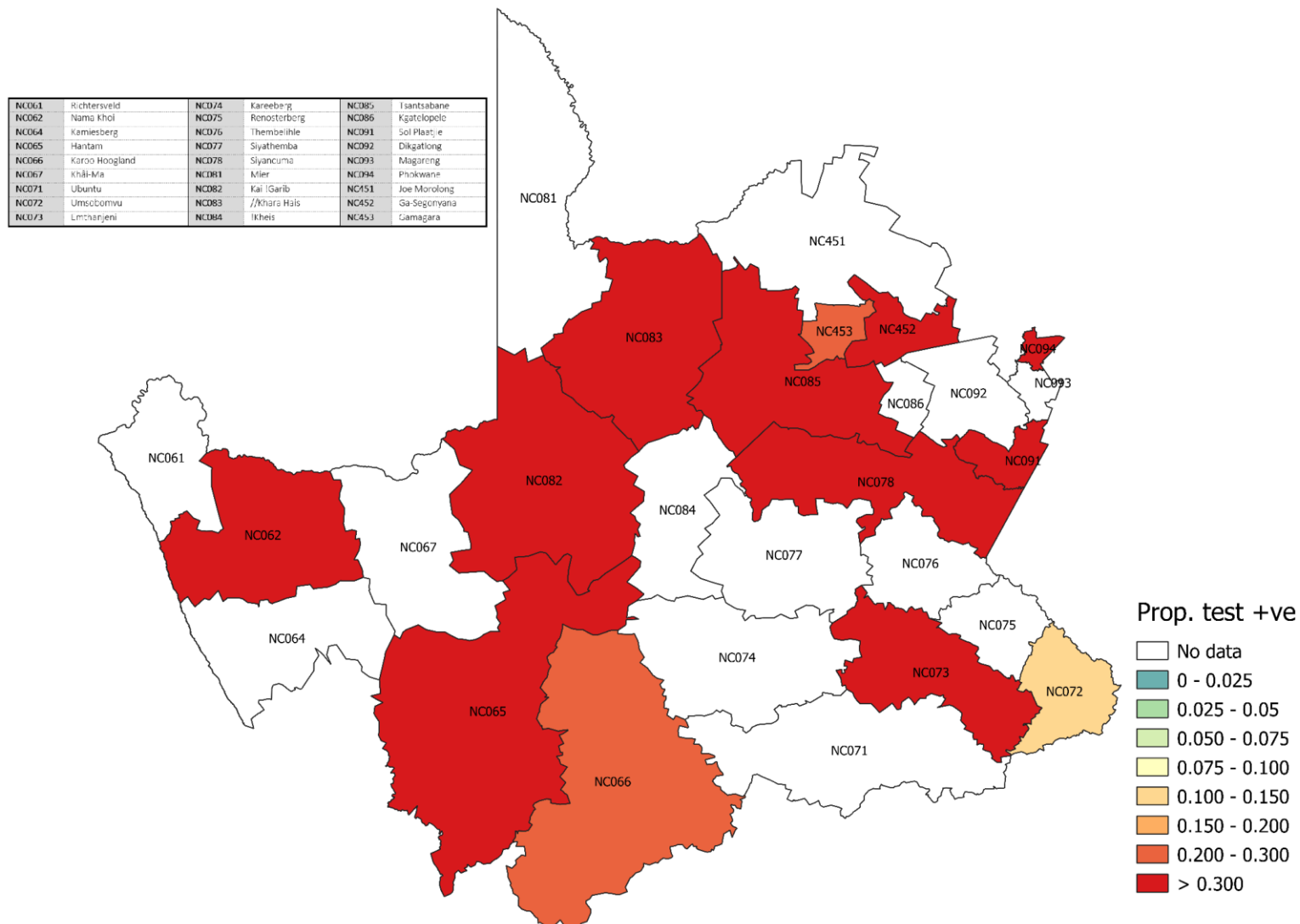


**Figure 8.** Proportion testing positive by health sub-district in the Western Cape Province for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

BUF	Buffalo City	EC122	Mnquma	EC135	Intsika Yethu	EC155	Nyandeni
EC101	Camdeboo	EC123	Great Kei	EC136	Emalahleni	EC156	Mhlonito
EC102	Blue Crane Route	EC124	Amahlathi	EC137	Engcobo	EC157	King Sabata Dalindyebo
EC103	Ikwezi	EC126	Ngqushwa	EC138	Sakhisizwe	EC441	Matatiele
EC104	Mekana	EC127	Nkurubhe	EC141	Eluridini	EC442	Umtzimvubu
EC105	Ndlambe	EC128	Nxuba	EC142	Senqu	EC443	Mbizana
EC106	Sundays River Valley	EC131	Inxuba Yethemba	EC143	Maletswai	EC444	Ntabankulu
EC107	Haviaans	EC132	IsiNwana	EC144	Gariep	NMAA	Nelson Mandela Bay A
EC108	Kouga	EC133	Inxwanga	EC153	Ngqiza Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukanji	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mbhashe						



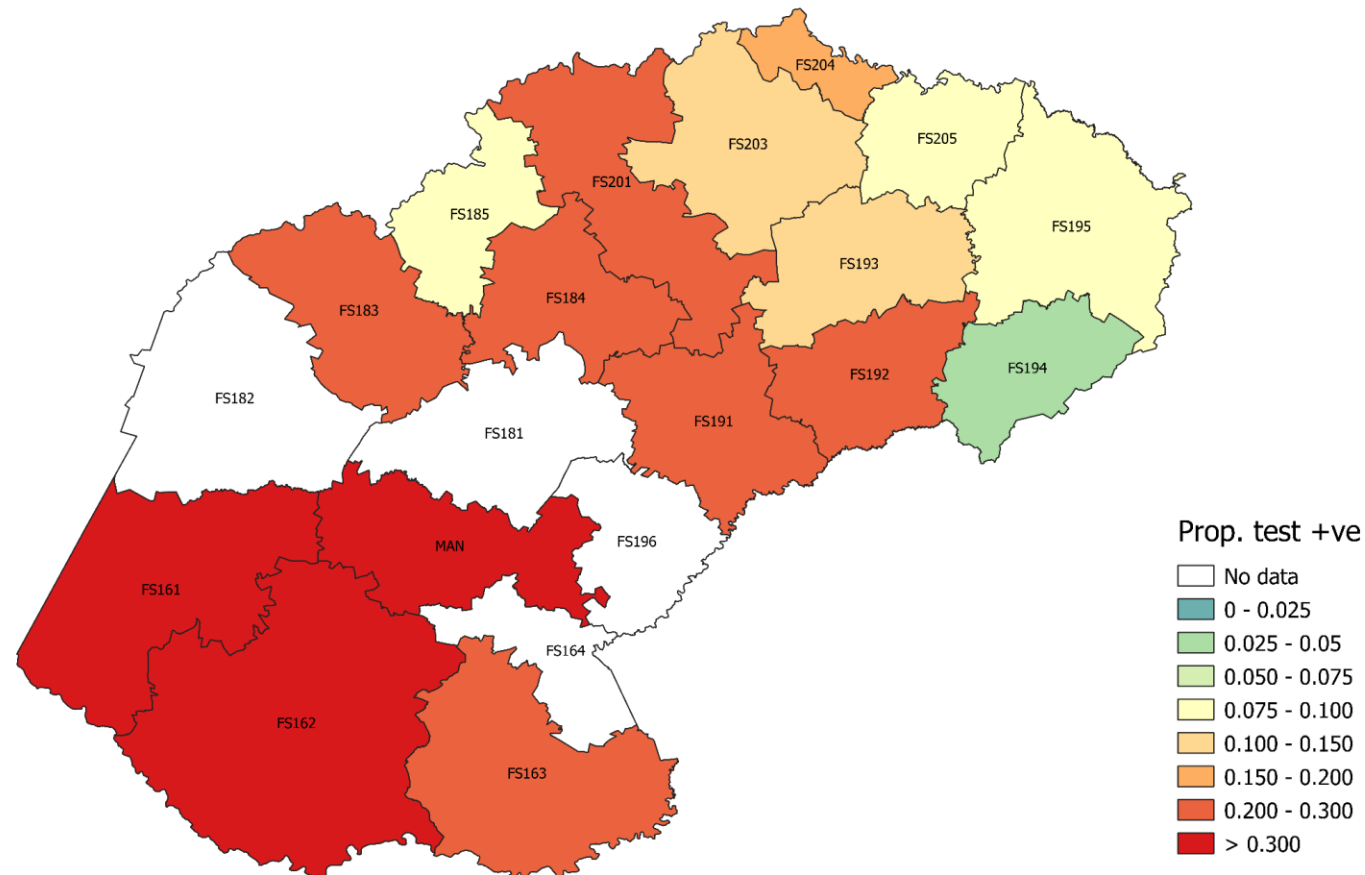
**Figure 9.** Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.



**Figure 10.** Proportion testing positive by health sub-district in Northern Cape Province for the week of 15-21 May 2022. 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%.

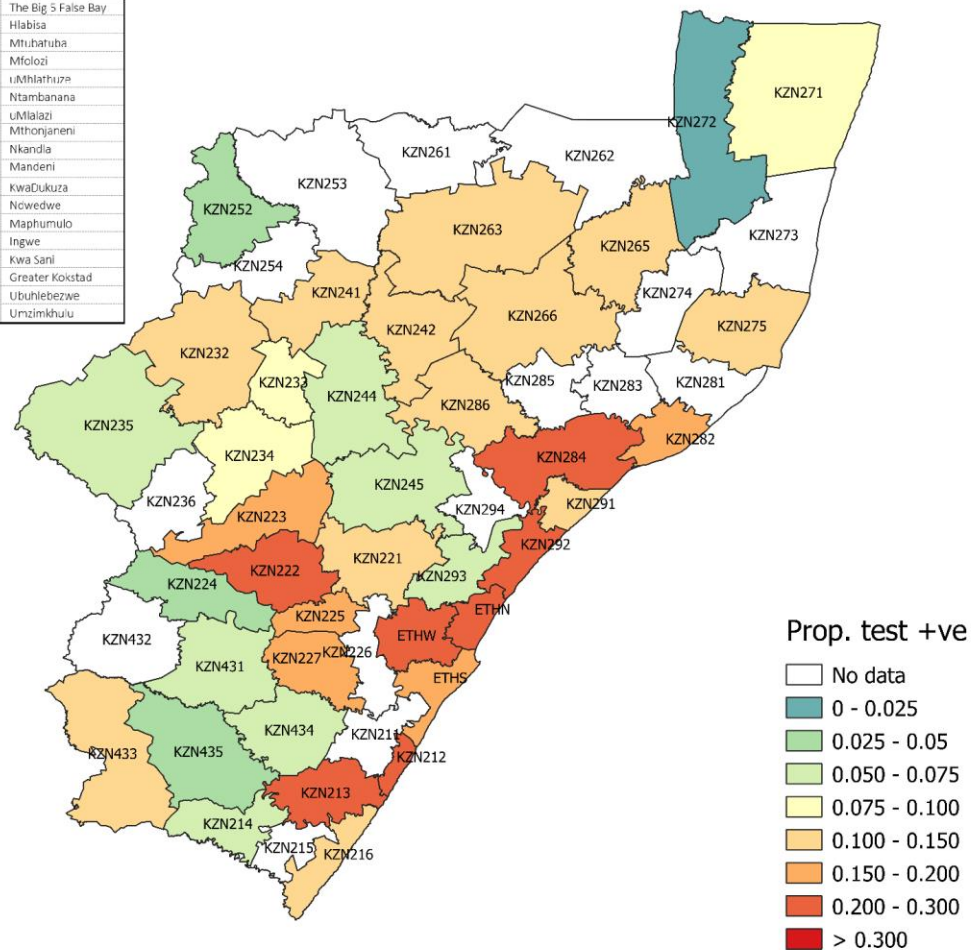


MAN	Mangaung	FS181	Masilonyana	FS191	Setsooto	FS196	Mantsopa
FS161	Letsemeng	FS182	Tokolologo	FS192	Dihlabeng	FS201	Moghaka
FS162	Kopanong	FS183	Tswelopele	FS193	Nketoana	FS203	Ngwathe
FS163	Mohokare	FS184	Matjhabeng	FS194	Maluti a Phofung	FS204	Metsimaholo
FS164	Naledi	FS185	Nala	FS195	Phumelela	FS205	Mafube



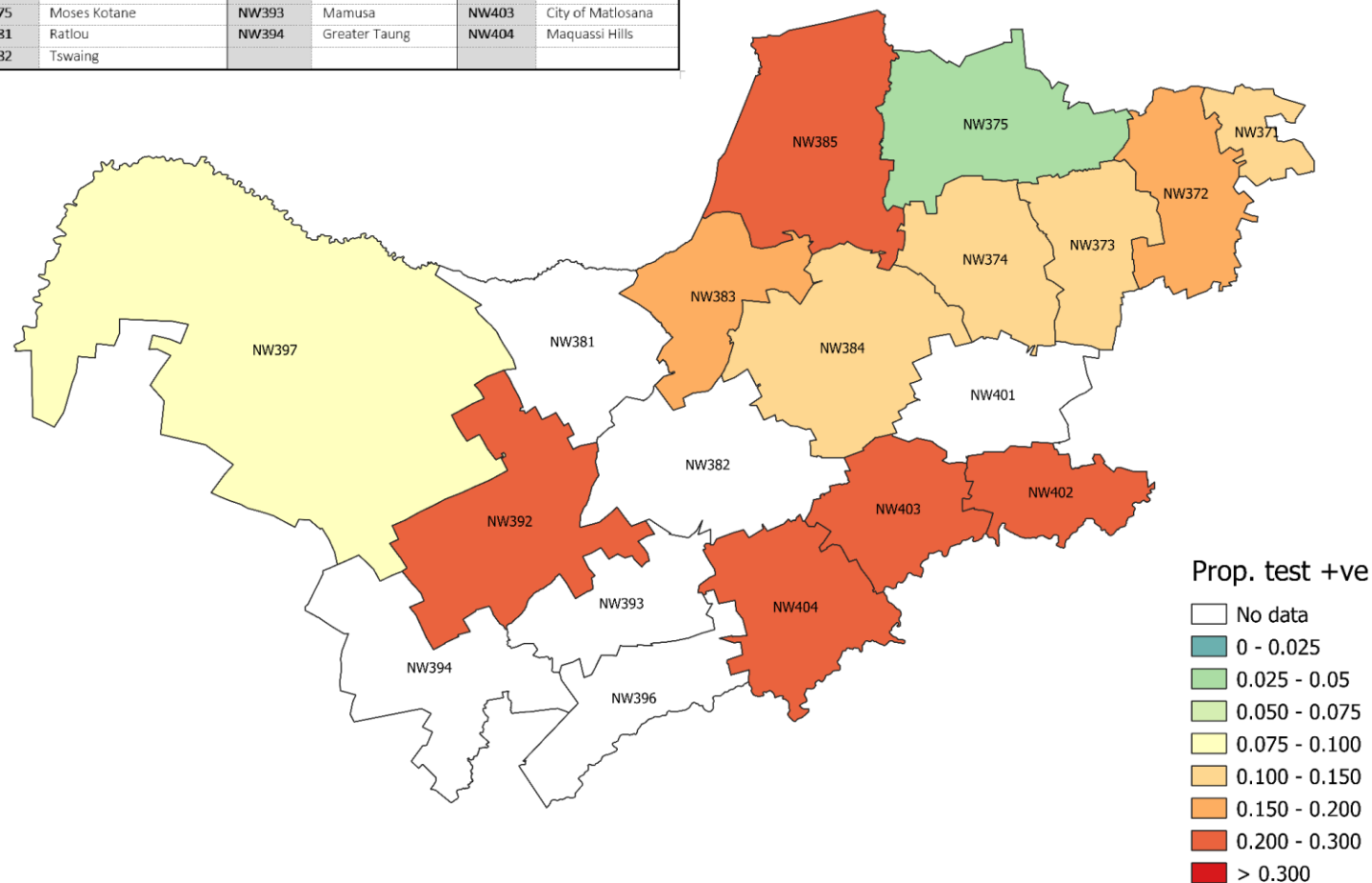
**Figure 11.** Proportion testing positive by health sub-district in Free State Province for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

ETHN	eThekweni North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekweni South	KZN234	Umtshezi	KZN274	Hlabisa
ETHS	eThekweni South	K/N/7/5	Oxhahlamba	K/N/7/5	Mthabatha
ETHW	eThekweni West	KZN236	Imbabazane	KZN281	Mfolozi
K/N/11	Vulamehlo	K/N/41	Endumeni	K/N/8/7	uMhlathuze
KZN212	Umdoni	KZN242	Nqutu	KZN283	Ntambanana
KZN213	Umkumbe	KZN244	Msinga	KZN284	uMlalazi
KZN214	uMuziwabantu	KZN245	Umvoti	KZN285	Mthorjaneni
KZN215	Ezingoleni	KZN252	Newcastle	KZN286	Nkandla
KZN216	Hibiscus Coast	KZN253	Emadlangeni	KZN291	Mandeni
KZN221	uMshwathi	KZN254	Dannhauser	KZN292	KwaDukuza
KZN222	uMngeni	KZN261	eDumbe	KZN293	Nowedwe
KZN223	Mpofana	KZN262	uPhongolo	KZN294	Maphumulo
KZN224	Impendle	KZN263	Abaqulusi	KZN431	Ingwe
KZN225	The Msunduzi	KZN265	Nongoma	KZN432	Kwa Sani
KZN226	Mkhambathini	KZN266	Ulundi	KZN433	Greater Kokstad
KZN227	Richmond	KZN271	Umhlabuyalingana	KZN434	Ubuhlebezwe
KZN232	Emnambithi/Ladysmith	KZN272	Jozini	KZN435	Umkhulu



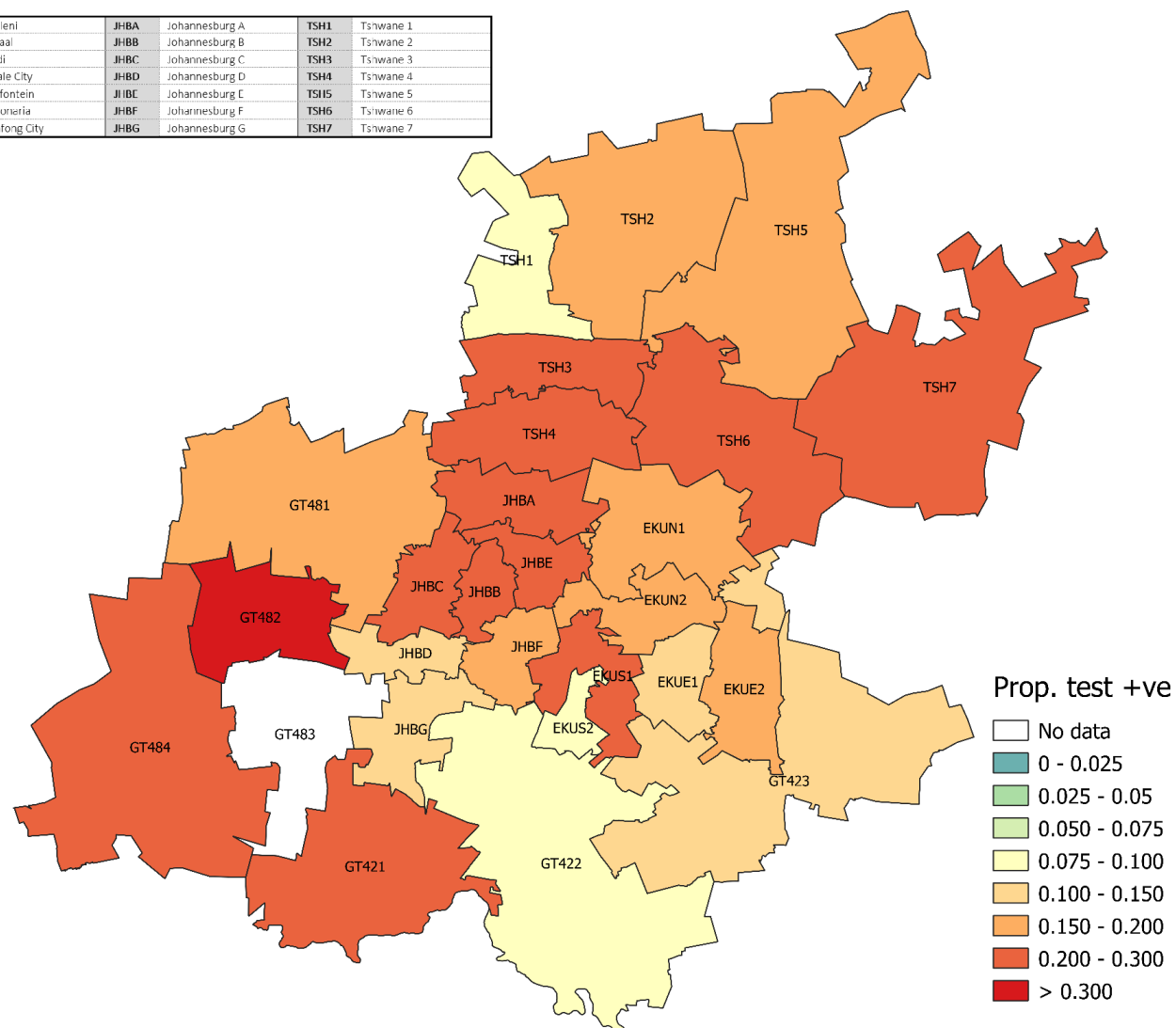
**Figure 12.** Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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				



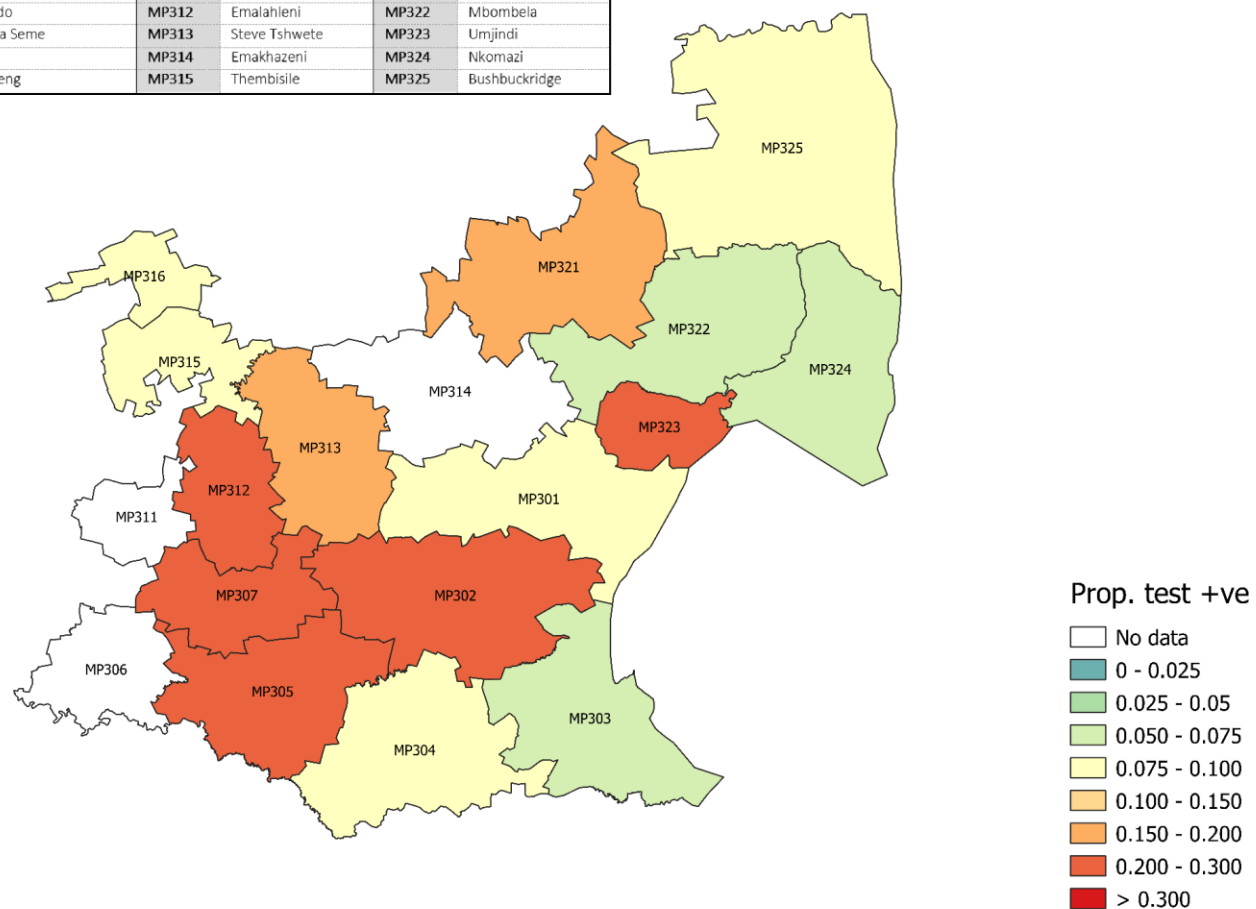
**Figure 13.** Proportion testing positive by health sub-district in North West Province for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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	Merafong City	JHBG	Johannesburg G	TSH7	Tshwane 7



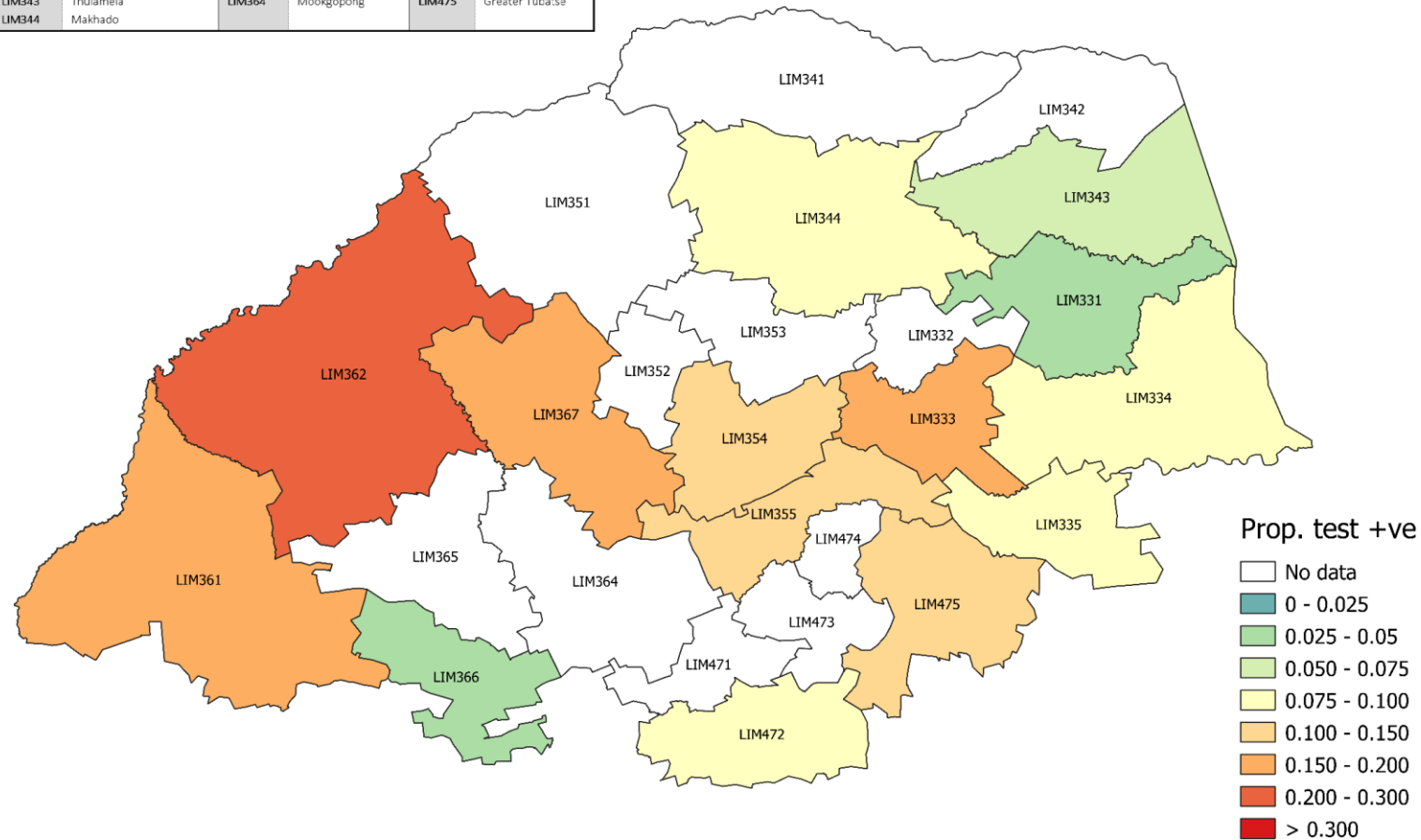
**Figure 14.** Proportion testing positive by health sub-district in Gauteng Province for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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	Pixley Ka Seme	MP313	Steve Tshwete	MP323	Umgindi
MP305	Lekwa	MP314	Emakhazeni	MP324	Nkomazi
MP306	Dipaleseng	MP315	Thembisile	MP325	Bushbuckridge

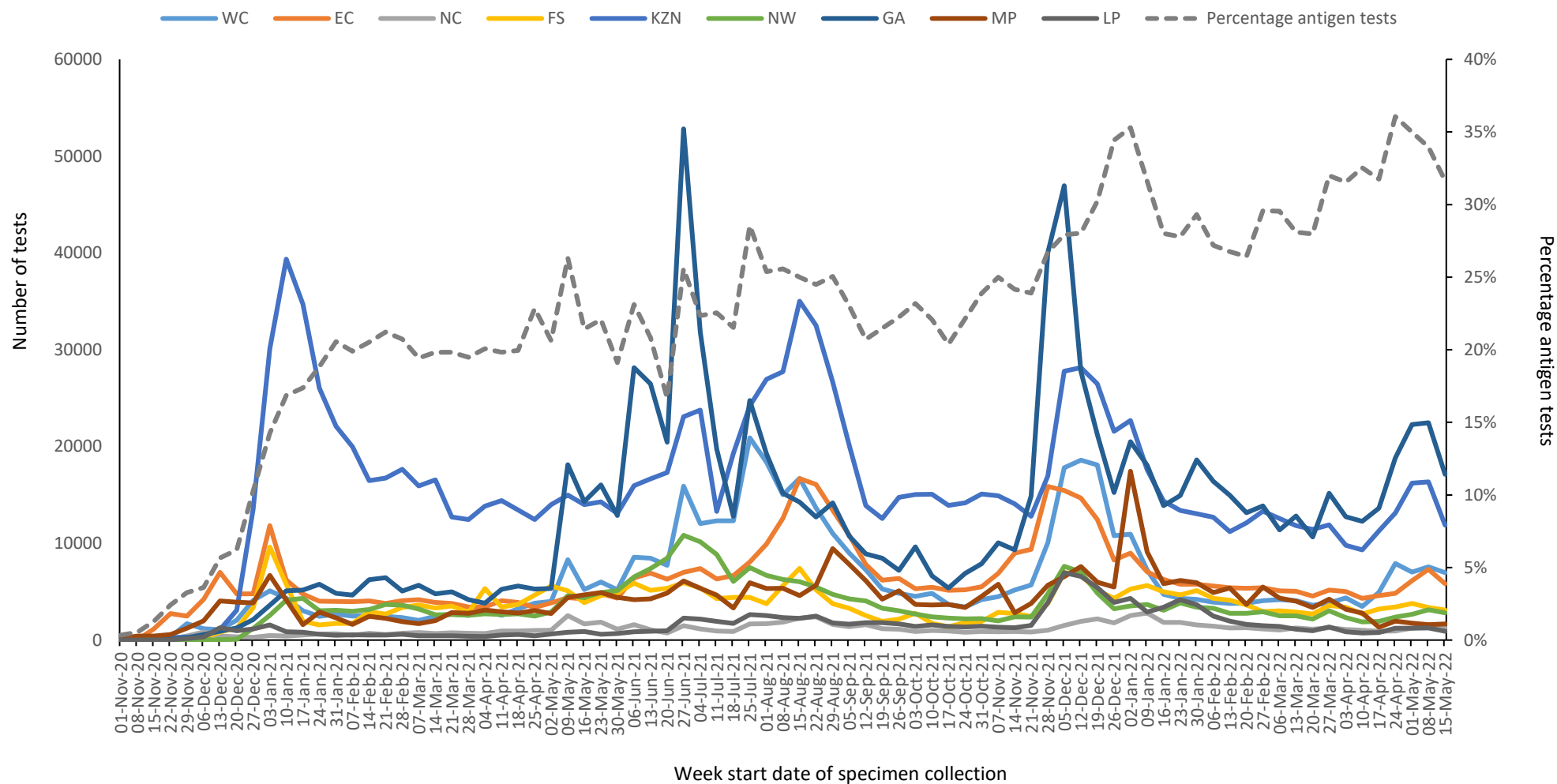


**Figure 15.** Proportion testing positive by health sub-district in Mpumalanga Province for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

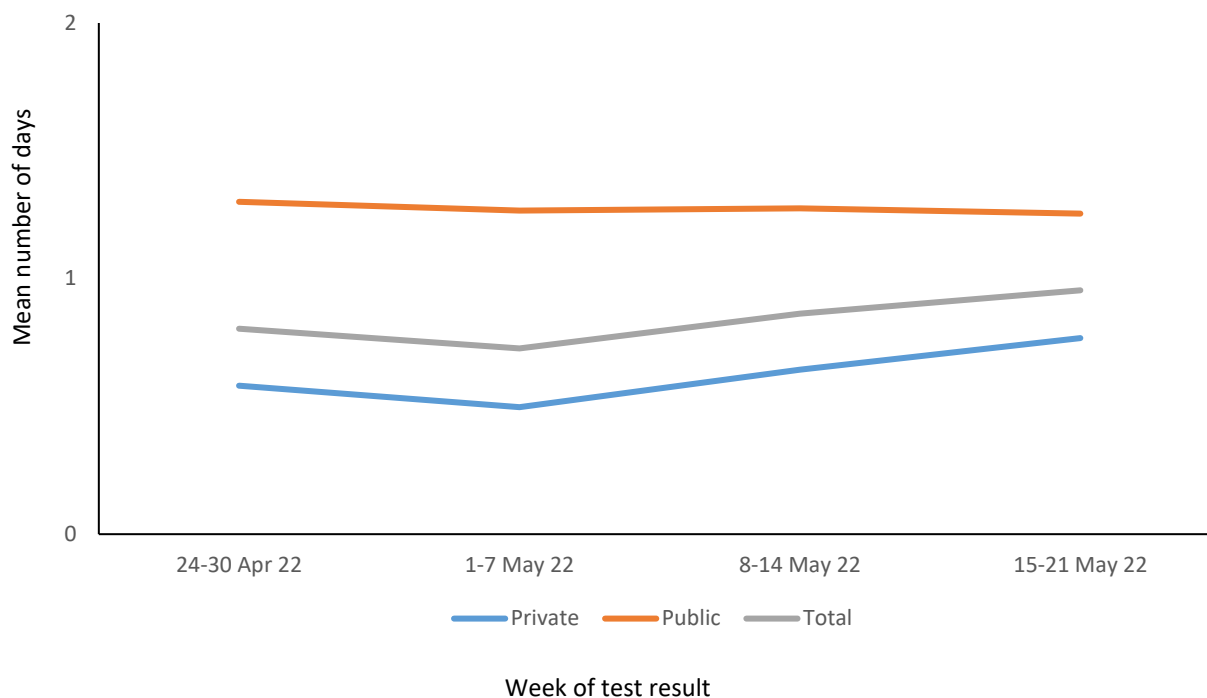
LIM331	Greater Giyani	LIM351	Blouberg	LIM365	Modimolle
LIM332	Greater Letaba	LIM352	Aganang	LIM366	Bcia Bcia
LIM333	Greater Tzaneen	LIM353	Molemole	LIM367	Mogalakwena
LIM334	Ba-Phalaborwa	LIM354	Polokwane	LIM471	Ephraim Mogale
LIM335	Maruleng	LIM355	Lepele-Nkumpi	LIM472	Elias Motsoaledi
LIM341	Musina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



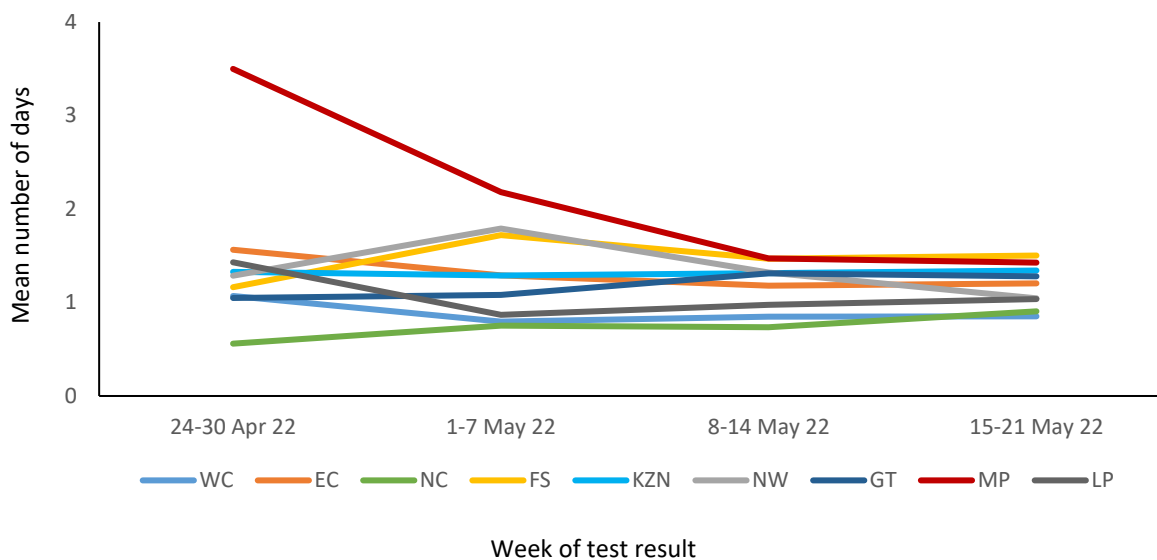
**Figure 16.** Proportion testing positive by health sub-district in Limpopo Province for the week of 15-21 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.



**Figure 17.** Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 21 May 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

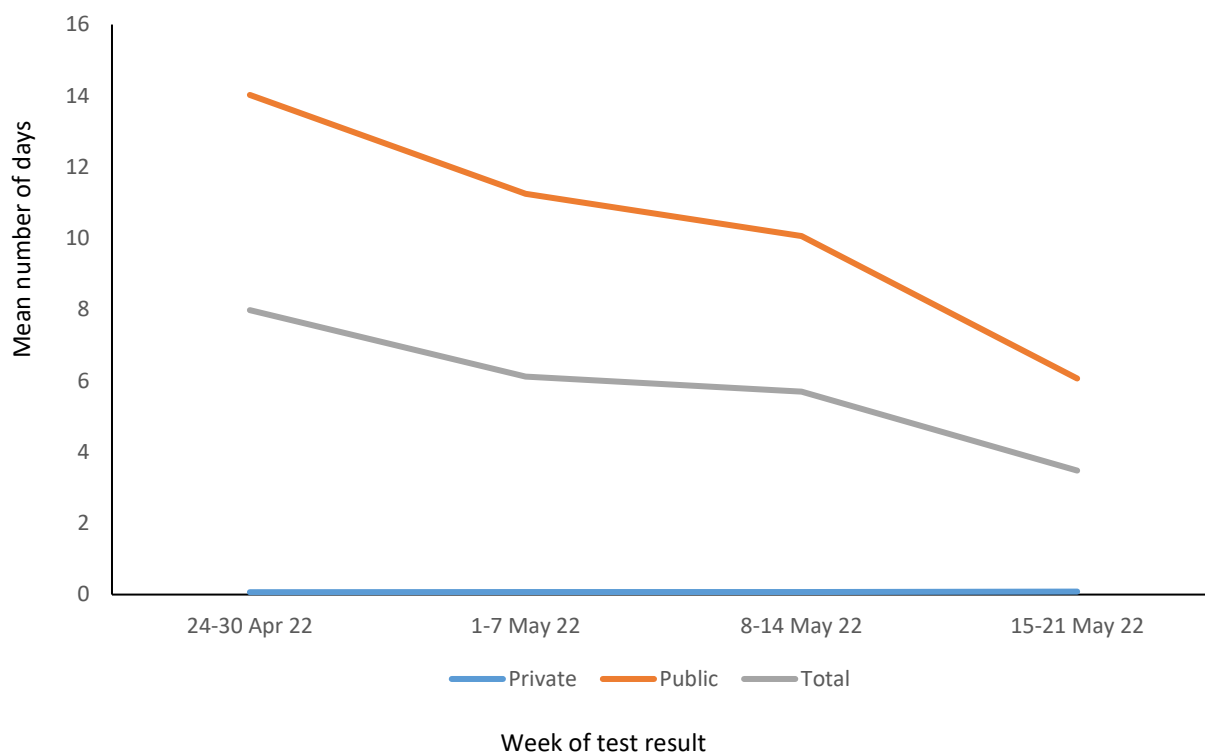


**Figure 18.** Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 24 April - 21 May 2022.



**Figure 19.** 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, 24 April - 21 May 2022. 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 20.** Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 24 April - 21 May 2022.

## 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 17<sup>th</sup> 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. Testing rates were calculated using mid-year population estimates from Statistics South Africa and expressed as tests per 100,000 (2019 estimates were used from week 10 – 40 of 2020, 2020 estimates were used from week 41 2021 to week 1 of 2022 and 2021 estimates were used from week 2 of 2022 and onwards). 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 97% of public sector facilities in the country) and private (approximately 76% 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.