



## COVID-19 Weekly Testing Summary

### Week 21 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 28 May 2022 (Week 21 of 2022).

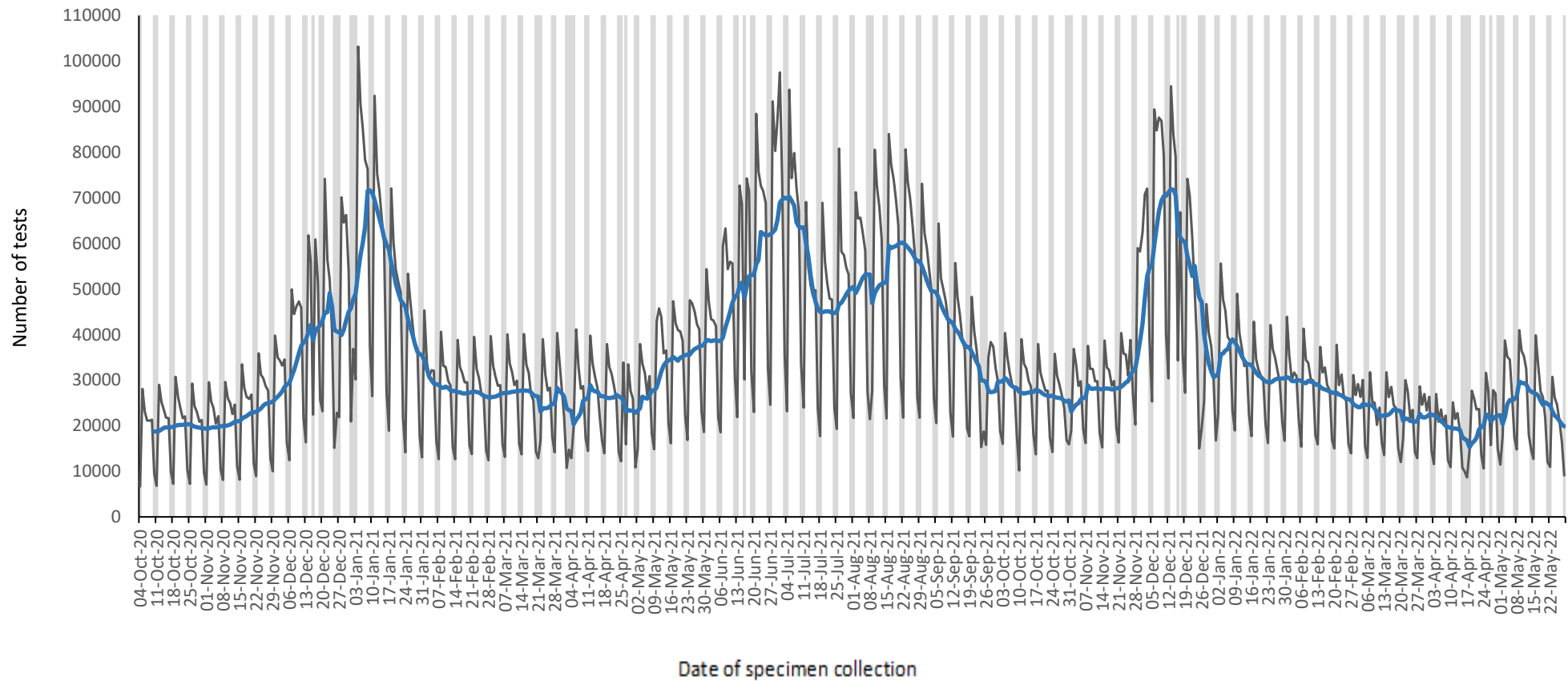
#### Highlights:

- The number of tests reported in week 21 of 2022 (138,975: 96,915 PCR and 42,060 antigen tests) was 19.8% lower than the number of tests reported in the previous week (n=173,301).
- In week 21, the testing rate was 231 per 100,000 persons; highest in Gauteng (361 per 100,000 persons) and lowest in Limpopo (39 per 100,000 persons).
- In week 21, the percentage testing positive was 16.8%, which was 5.1% lower than the previous week.
- In week 21, compared to the previous week, the percentage testing positive decreased in all provinces, except in Limpopo where it was unchanged.
- The percentage testing positive in week 21 was highest in the Western Cape (29.2%) followed by the Northern Cape (24.4%) and Eastern Cape (20.1%). The percentage testing positive was between 10-19% in all other provinces.
- In week 21, the percentage testing positive was highest in the ≥80 years age group (26.0%).

#### Executive Summary:

- In the period 1 March 2020 through 28 May 2022, 24,974,302 tests for SARS-CoV-2 have been reported nationally: 20,451,689 PCR and 4,522,613 antigen tests.
- The number of tests reported in week 21 of 2022 (n= 138,975: 96,915 PCR and 42,060 antigen tests) was 19.8% lower than the number of tests reported in the previous week (n=173,301 in week 20).
- Gauteng reported the largest proportion of tests (41.1%), followed by KwaZulu-Natal (18.3%) and Western Cape (14.2%).
- The overall testing rate decreased from the previous week (288 per 100,000 persons in week 20 to 231 per 100,000 persons in week 21).
- In week 21, testing rates decreased in all provinces and were highest in Gauteng (361 per 100,000 persons) and lowest in Limpopo (39 per 100,000 persons).
- The testing rate in week 21 was highest in the ≥80 years age group (500 per 100,000 persons).
- In week 21, the percentage testing positive was 16.8%, which was 5.1% lower than the previous week (21.9% in week 20 to 16.8% in week 21,  $P<0.001$ ).
- In the past week, the percentage testing positive decreased by 4.2% in the public sector (17.1% in week 20 to 12.9% in week 21,  $P<0.001$ ) and by 5.9% in the private sector (25.6% in week 20 to 19.7% in week 21,  $P<0.001$ ).

- In week 21, compared to the previous week, the percentage testing positive decreased in all provinces, except in Limpopo where it was unchanged.
- The percentage testing positive in week 21 was highest in the Western Cape (29.2%) followed by the Northern Cape (24.4%) and Eastern Cape (20.1%). The percentage testing positive was between 10-19% in all other provinces.
- In week 21, health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=18) and Northern Cape (n=4).
- In week 21, the percentage testing positive decreased across all age groups and was highest in the ≥80 years age group (26.0%).
- Antigen tests accounted for 30.3% (42,060/138,975) of tests reported in week 21, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 21 the public sector accounted for 53.5% (22,512/42,060) 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 21 was 0.8 days; 1.2 days in the public sector and 0.6 days in the private sector. Turnaround times for public sector PCR tests decreased in Limpopo and were <2 days in all provinces.
- The mean turnaround time for antigen tests reported in week 21 was 14.2 days in the public sector and 0.1 days in the private sector.



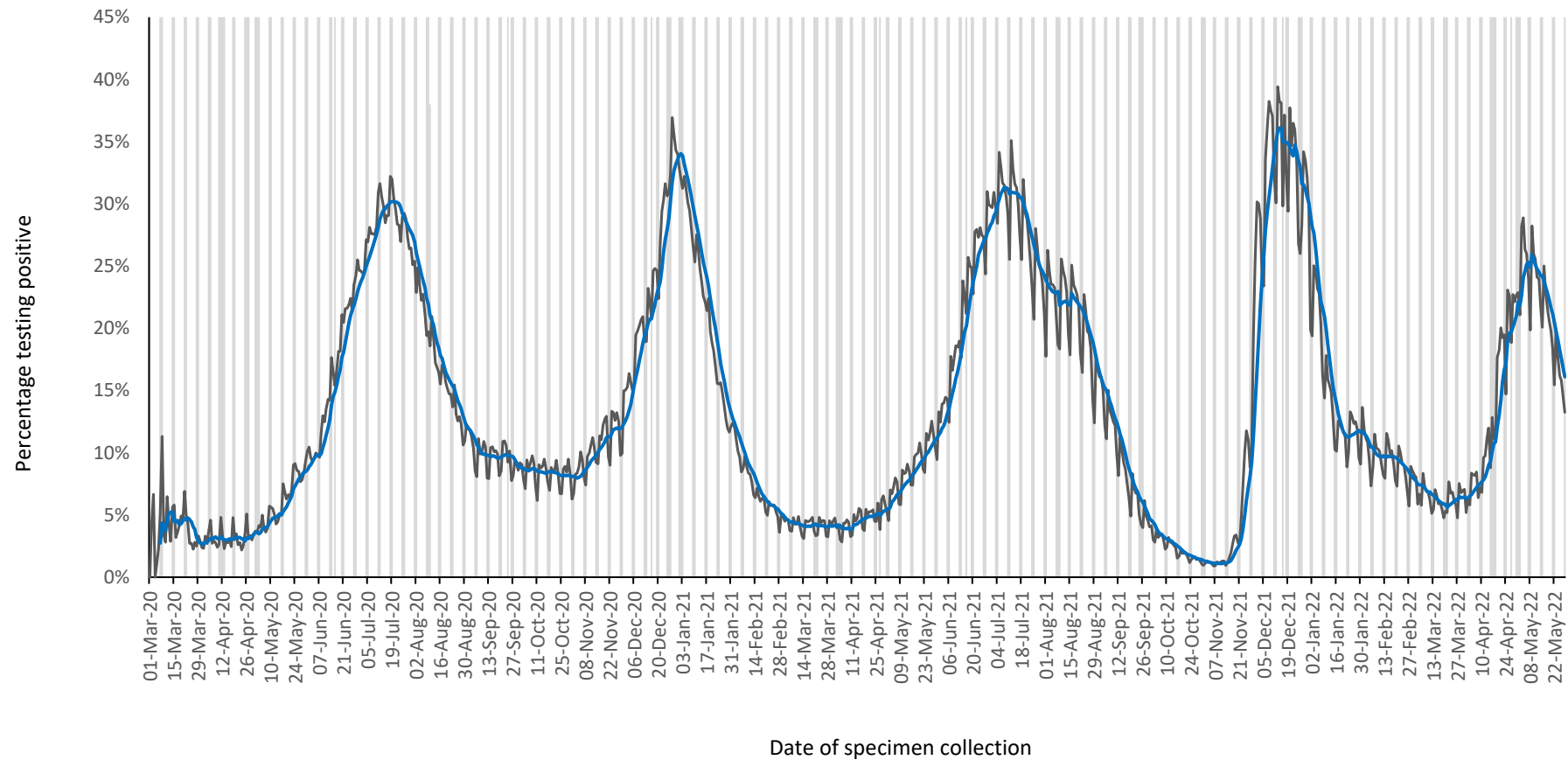
**Figure 1.** Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 4 October 2020 – 28 May 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays



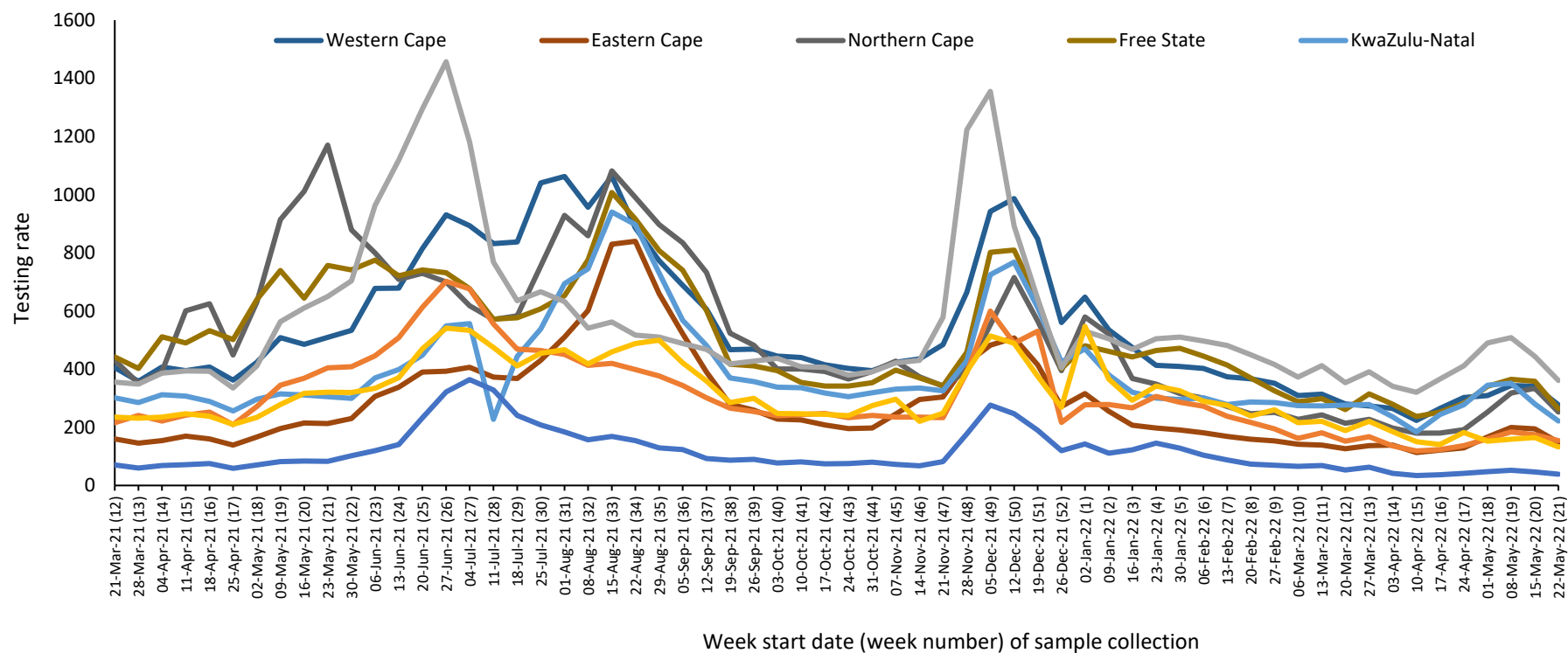
**Table 1.** Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021 – 28 May 2022

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	418301 (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	189731 (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	193978 (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	370991 (1.5)	88088	23.7
25	20-Jun-21	432622 (1.7)	118654	27.4
26	27-Jun-21	490252 (2.0)	146640	29.9
27	04-Jul-21	444061 (1.8)	141464	31.9
28	11-Jul-21	320775 (1.3)	100958	31.5
29	18-Jul-21	313235 (1.3)	88448	28.2
30	25-Jul-21	350769 (1.4)	88361	25.2
31	01-Aug-21	372323 (1.5)	88134	23.7
32	08-Aug-21	359625 (1.4)	83386	23.2
33	15-Aug-21	420947 (1.7)	95397	22.7
34	22-Aug-21	392618 (1.6)	78199	19.9
35	29-Aug-21	346110 (1.4)	55098	15.9
36	05-Sep-21	300489 (1.2)	38858	12.9
37	12-Sep-21	260675 (1.0)	24018	9.2

38	19-Sep-21	209091 (0.8)	14012	6.7
39	26-Sep-21	207824 (0.8)	9491	4.6
40	03-Oct-21	197903 (0.8)	6453	3.3
41	10-Oct-21	191735 (0.8)	5044	2.6
42	17-Oct-21	185608 (0.7)	3412	1.8
43	24-Oct-21	177207 (0.7)	2566	1.4
44	31-Oct-21	182933 (0.7)	2106	1.2
45	07-Nov-21	196681 (0.8)	2323	1.2
46	14-Nov-21	197174 (0.8)	4813	2.4
47	21-Nov-21	224596 (0.9)	18976	8.4
48	28-Nov-21	381994 (1.5)	98427	25.8
49	05-Dec-21	493256 (2.0)	175118	35.5
50	12-Dec-21	424494 (1.7)	154918	36.5
51	19-Dec-21	337096 (1.3)	117669	34.9
52	20-Dec-21	216564 (0.9)	66096	30.5
1	02-Jan-22	272531 (1.1)	61126	22.4
2	09-Jan-22	234371 (0.9)	35136	15.0
3	16-Jan-22	208441 (0.8)	24074	11.5
4	23-Jan-22	212552 (0.9)	25812	12.1
5	24-Jan-22	210104 (0.8)	22953	10.9
6	06-Feb-22	203119 (0.8)	20413	10.0
7	13-Feb-22	191175 (0.8)	19088	10.0
8	14-Feb-22	180727 (0.7)	16307	9.0
9	27-Feb-22	172679 (0.7)	13135	7.6
10	06-Mar-22	155374 (0.6)	10679	6.9
11	13-Mar-22	163580 (0.7)	9871	6.0
12	20-Mar-22	146264 (0.6)	9451	6.5
13	27-Mar-22	157248 (0.6)	10245	6.5
14	03-Apr-22	137845 (0.6)	10591	7.7
15	10-Apr-22	119832 (0.5)	12262	10.2
16	17-Apr-22	137687 (0.6)	24096	17.5
17	24-Apr-22	155529 (0.6)	33779	21.7
18	01-May-22	181277 (0.7)	47493	26.2
19	08-May-22	192737 (0.8)	48334	25.1
20	15-May-22	173301 (0.7)	37913	21.9
21	22-May-22	138975 (0.6)	23320	16.8
<b>Total</b>		<b>24,974,302 (100.0)</b>	<b>4,290,783</b>	



**Figure 2.** Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 28 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 – 28 May 2022

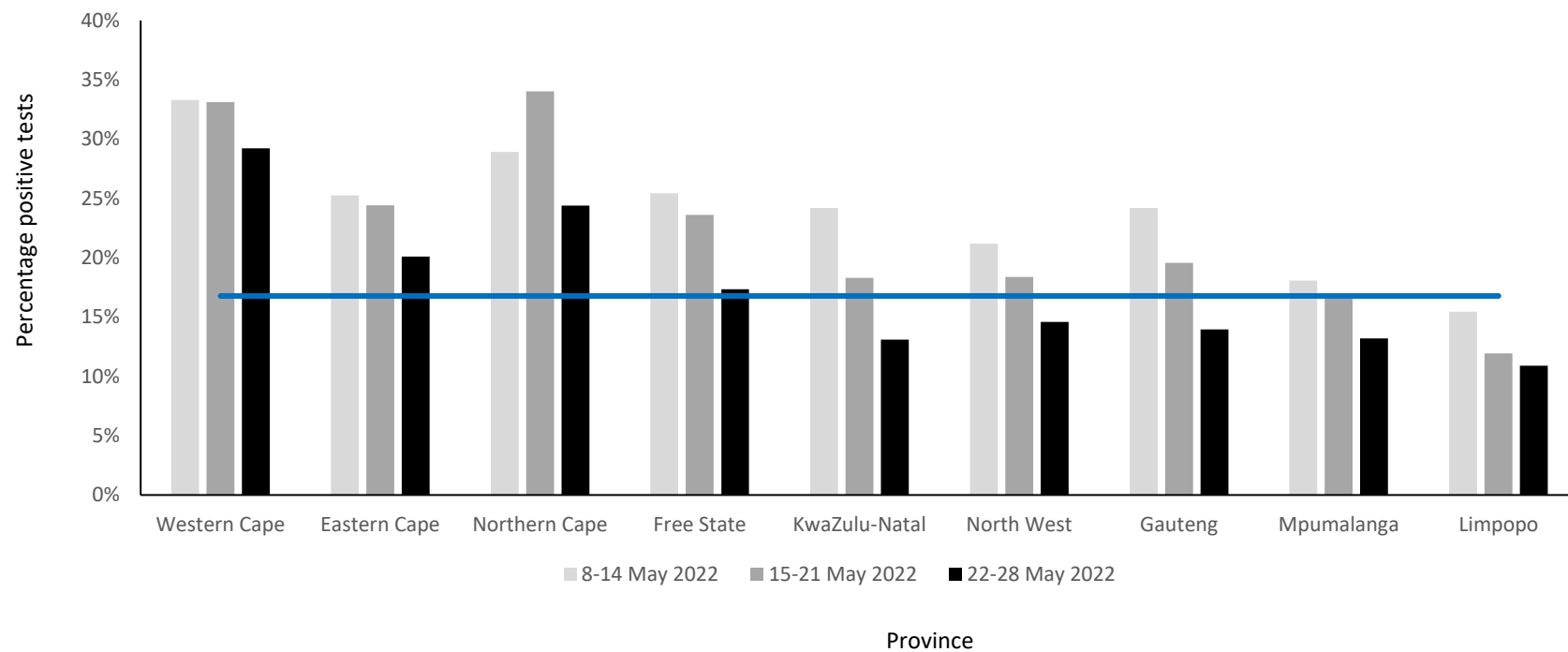
**Table 2.** Weekly number of tests and positive tests reported by province, South Africa, 8-28 May 2022

Province	Population <sup>a</sup>	8-14 May 2022		15-21 May 2022		22-28 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	24445	8137 (33.3)	24281	8038 (33.1)	19733	5764 (29.2)	277	-3.9%
Eastern Cape	6676590	13345	3370 (25.3)	13017	3178 (24.4)	9906	1992 (20.1)	148	-4.3%
Northern Cape	1303047	4141	1198 (28.9)	4356	1482 (34.0)	3285	801 (24.4)	252	-9.6%
Free State	2932441	10692	2718 (25.4)	10515	2484 (23.6)	7750	1344 (17.3)	264	-6.3%
KwaZulu-Natal	11513575	40444	9783 (24.2)	32251	5901 (18.3)	25488	3341 (13.1)	221	-5.2%
North West	4122854	7595	1609 (21.2)	7204	1325 (18.4)	6345	926 (14.6)	154	-3.8%
Gauteng	15810388	80383	19453 (24.2)	70227	13735 (19.6)	57103	7965 (13.9)	361	-5.6%
Mpumalanga	4743584	7567	1368 (18.1)	7804	1291 (16.5)	6286	830 (13.2)	133	-3.3%
Limpopo	5926724	3095	478 (15.4)	2776	331 (11.9)	2286	249 (10.9)	39	-1.0%
Unknown		1030	220 (21.4)	870	148 (17.0)	793	108 (13.6)		
<b>Total</b>	<b>60142978</b>	<b>192737</b>	<b>48334 (25.1)</b>	<b>173301</b>	<b>37913 (21.9)</b>	<b>138975</b>	<b>23320 (16.8)</b>	<b>231</b>	<b>-5.1%</b>

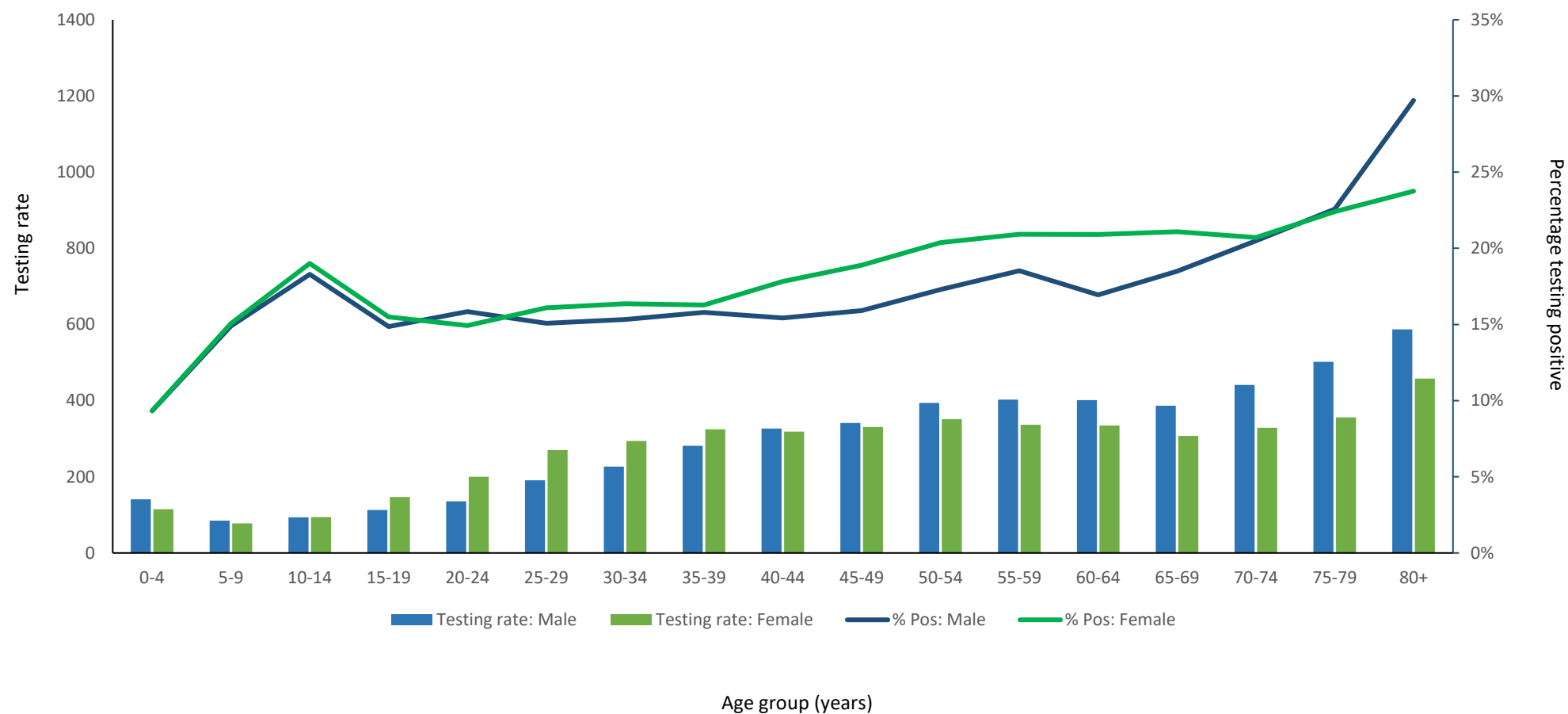
<sup>a</sup> 2021 Mid-year population Statistics SA

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

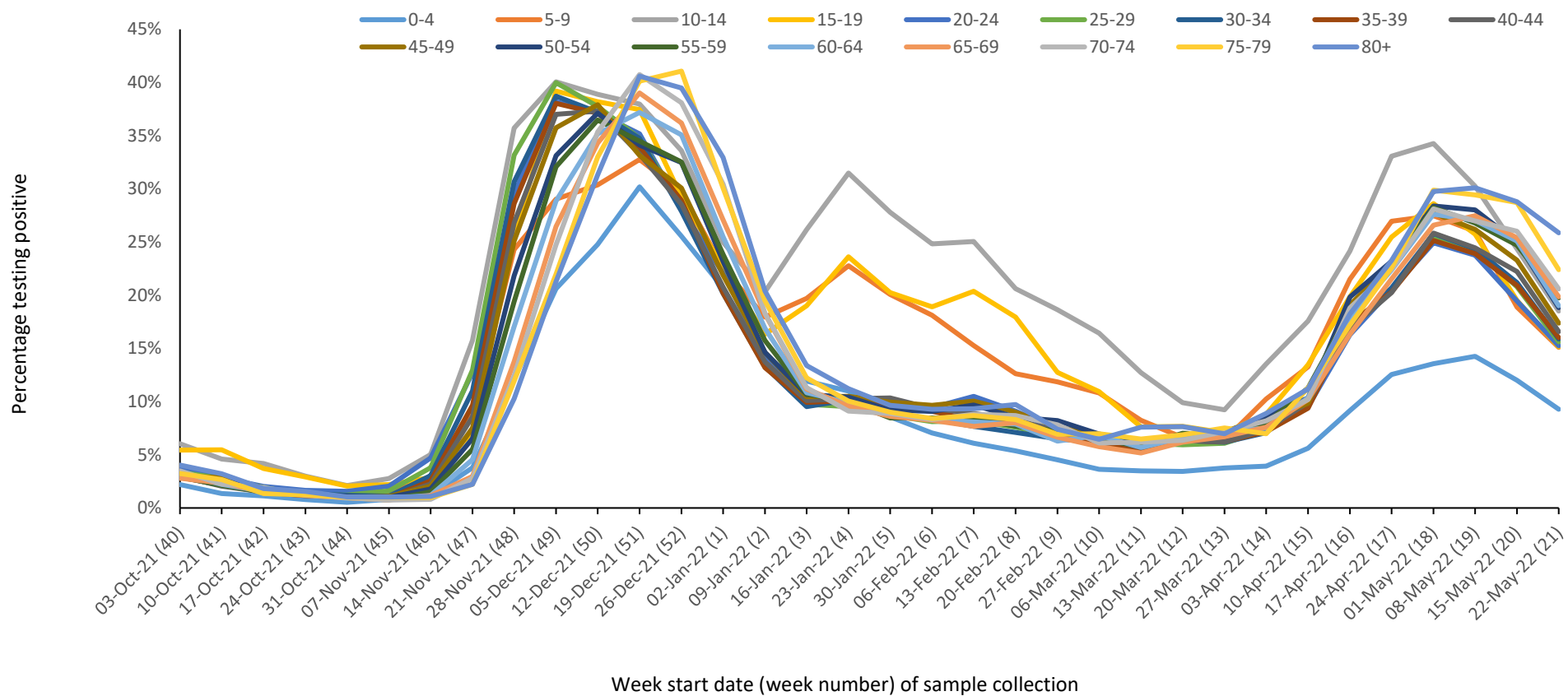




**Figure 4.** Weekly percentage testing positive by province, South Africa, 8-28 May 2022. The horizontal blue line shows the national mean for week 21, beginning 22 May 2022



**Figure 5.** Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 21, 22-28 May 2022



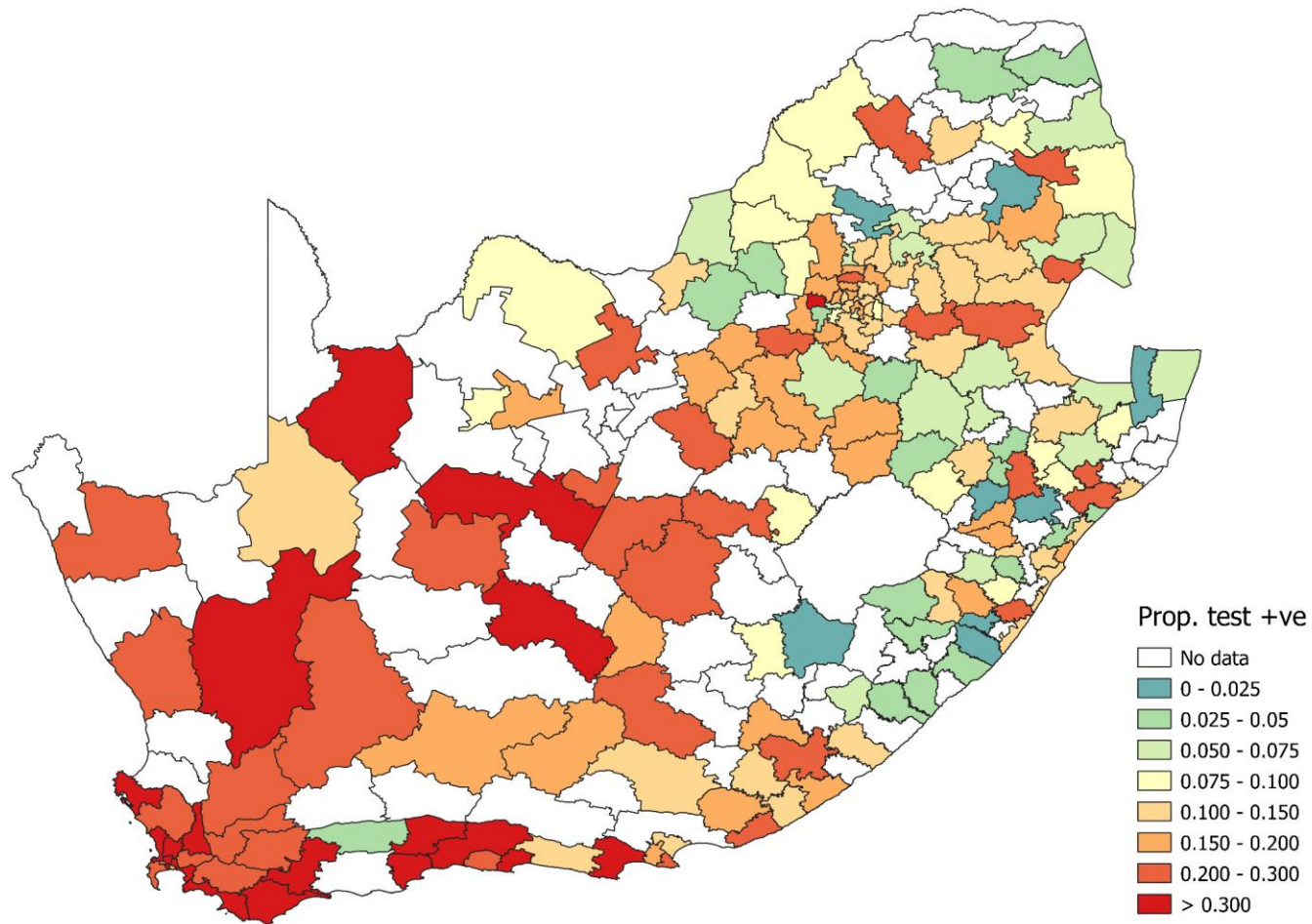
**Figure 6.** Percentage testing positive by age group and week of specimen collection, South Africa, 3 October 2021 – 28 May 2022



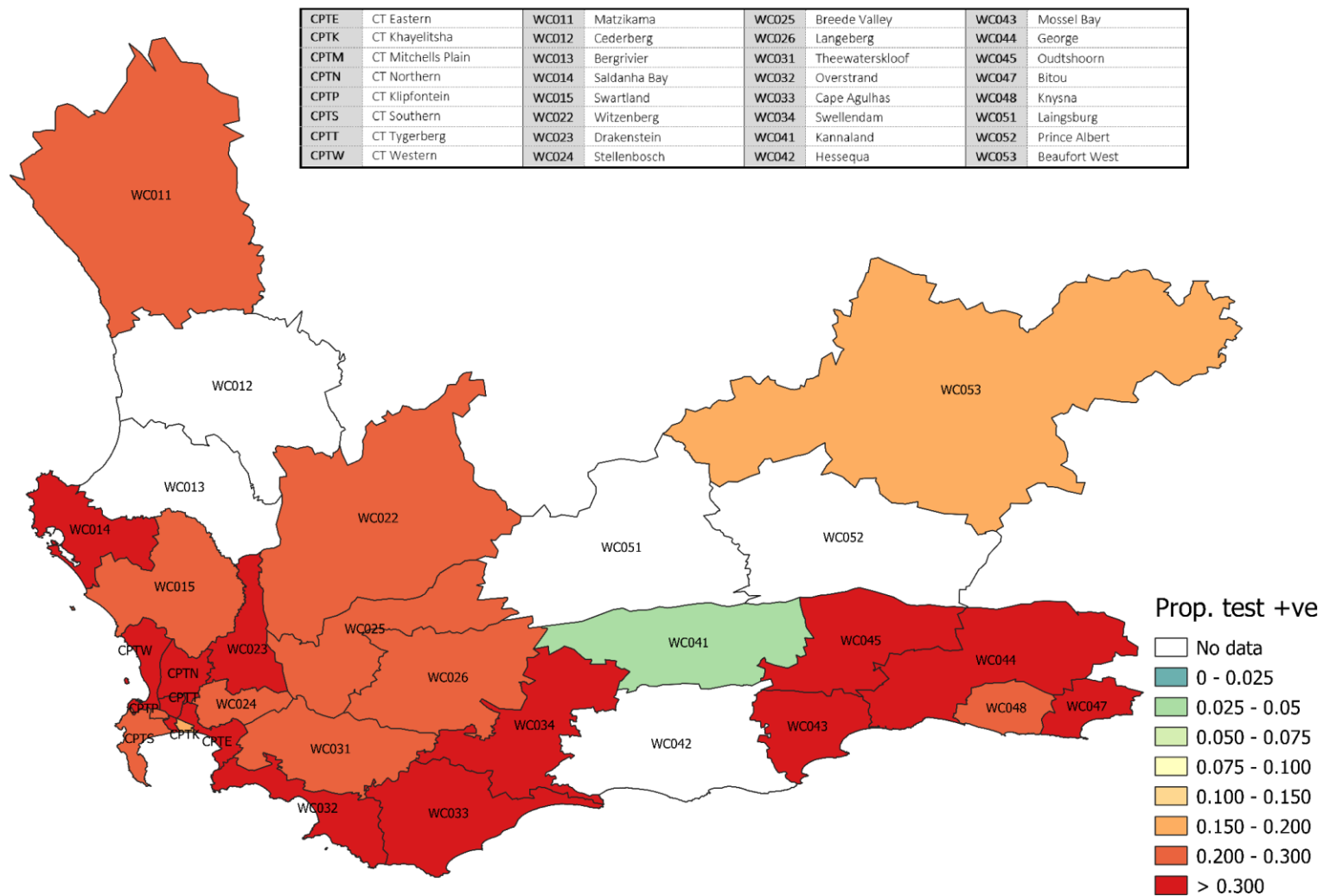
**Table 3.** Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 22-28 May 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Cape Agulhas	Western Cape	0.676 (0.559-0.793)	0.625 (0.522-0.727)
Randfontein	Gauteng	0.492 (0.457-0.526)	0.654 (0.628-0.680)
Hantam	Northern Cape	0.484 (0.388-0.580)	...
Saldanha Bay	Western Cape	0.403 (0.354-0.452)	0.510 (0.466-0.554)
George	Western Cape	0.398 (0.358-0.438)	0.357 (0.323-0.391)
Emthanjeni	Northern Cape	0.361 (0.227-0.495)	0.372 (0.272-0.472)
CT Northern	Western Cape	0.356 (0.331-0.381)	0.391 (0.368-0.414)
Kouga	Eastern Cape	0.341 (0.271-0.411)	0.304 (0.244-0.363)
Siyancuma	Northern Cape	0.338 (0.192-0.484)	...
Mossel Bay	Western Cape	0.332 (0.290-0.374)	0.346 (0.303-0.390)
CT Tygerberg	Western Cape	0.327 (0.308-0.345)	0.369 (0.351-0.387)
Overstrand	Western Cape	0.324 (0.275-0.374)	0.340 (0.295-0.386)
Swellendam	Western Cape	0.324 (0.237-0.411)	0.501 (0.421-0.581)
Drakenstein	Western Cape	0.319 (0.284-0.355)	0.425 (0.391-0.458)
Khara Hais	Northern Cape	0.315 (0.275-0.355)	0.280 (0.248-0.311)
Bitou	Western Cape	0.315 (0.211-0.418)	0.393 (0.306-0.479)
CT Mitchells Plain	Western Cape	0.314 (0.275-0.352)	0.367 (0.330-0.403)
CT Eastern	Western Cape	0.313 (0.285-0.341)	0.382 (0.355-0.408)
CT Western	Western Cape	0.313 (0.298-0.328)	0.366 (0.353-0.379)
Oudtshoorn	Western Cape	0.305 (0.230-0.381)	0.493 (0.425-0.562)
CT Southern	Western Cape	0.299 (0.275-0.322)	0.331 (0.308-0.354)
Knysna	Western Cape	0.295 (0.196-0.394)	0.345 (0.253-0.437)
Stellenbosch	Western Cape	0.293 (0.245-0.341)	0.393 (0.346-0.439)
Nelson Mandela Bay C	Eastern Cape	0.291 (0.276-0.306)	0.312 (0.299-0.324)
Witzenberg	Western Cape	0.287 (0.201-0.374)	0.613 (0.511-0.714)

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

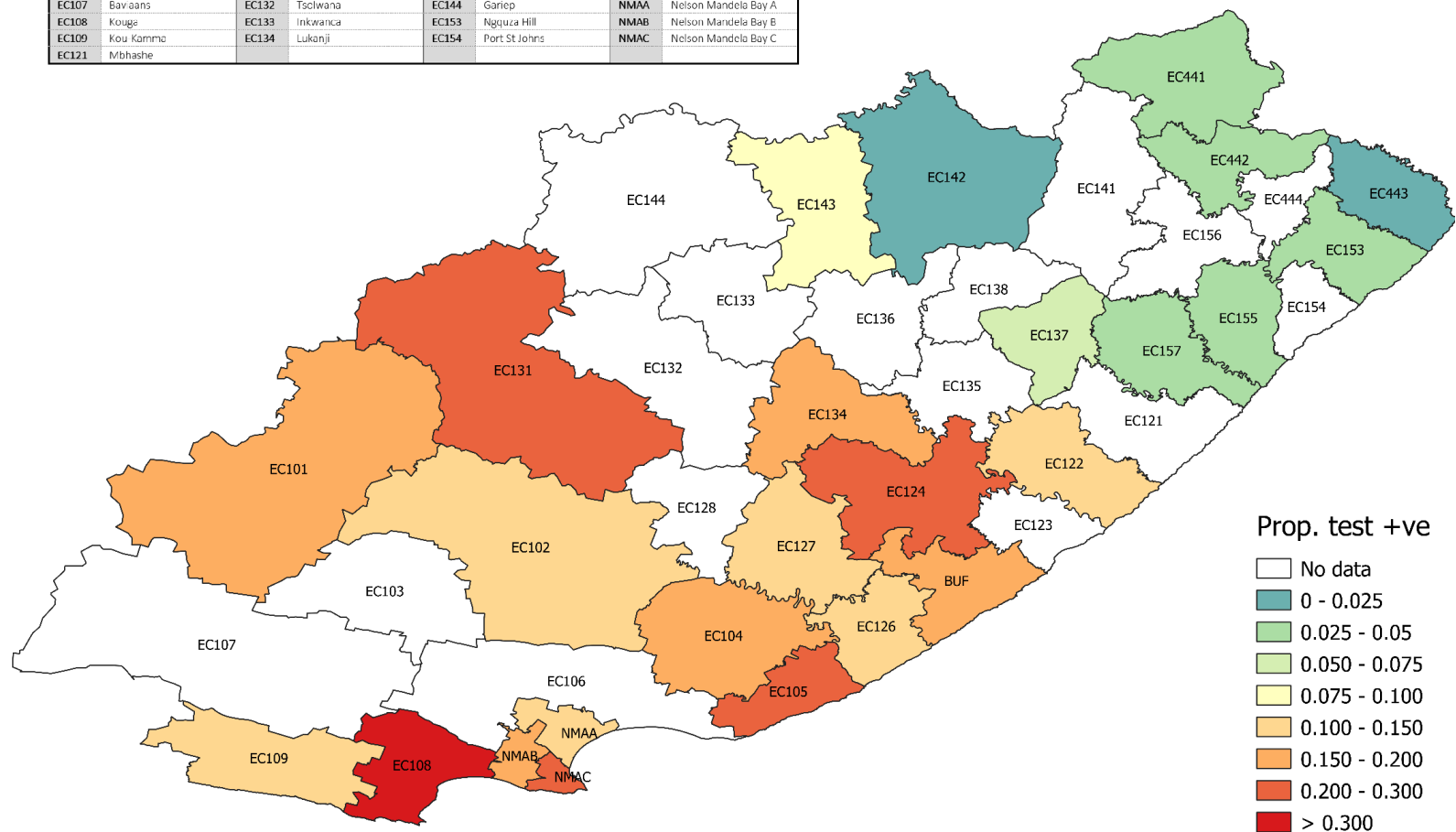


**Figure 7.** Proportion testing positive by health sub-district in South Africa for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

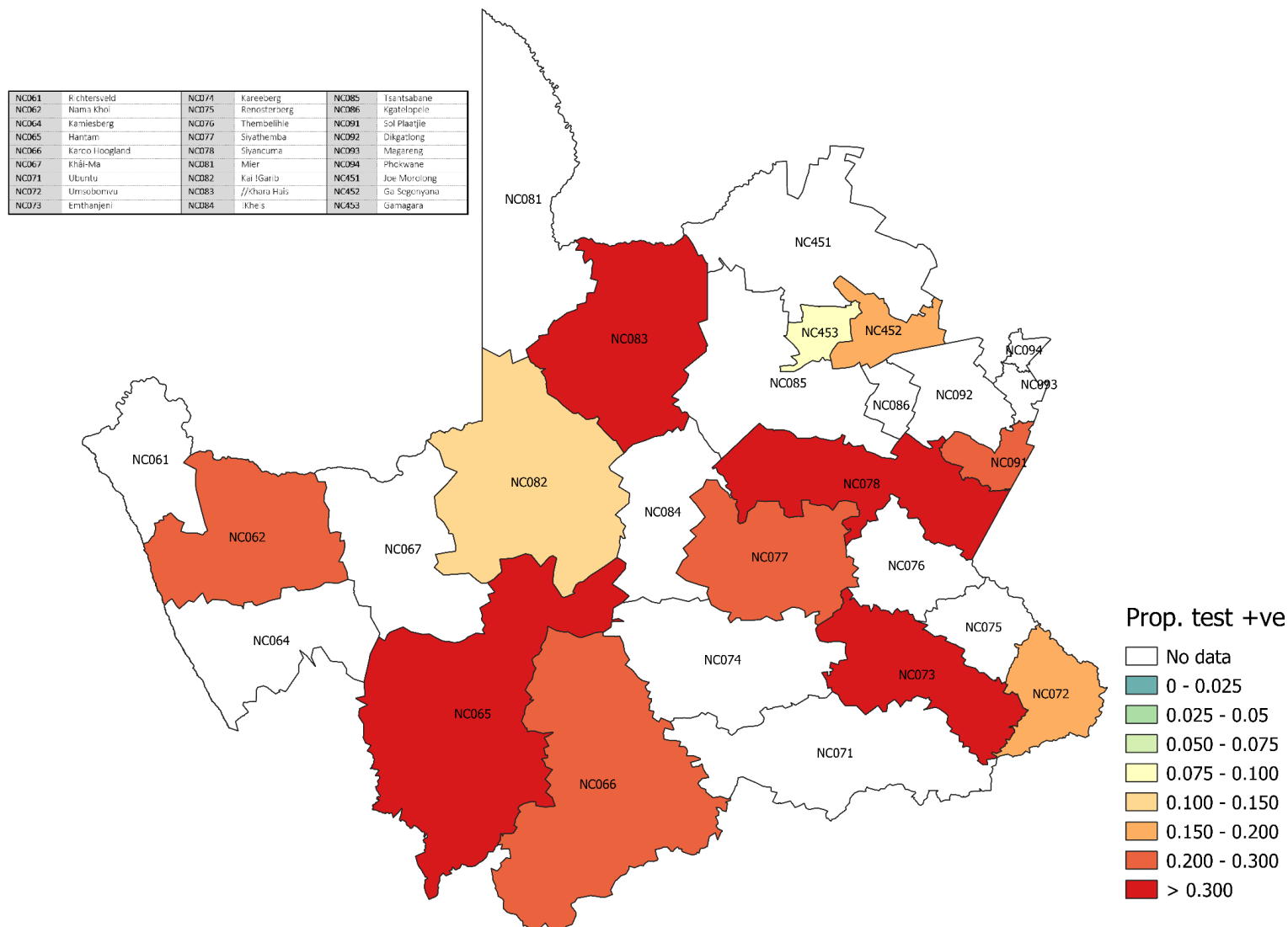


**Figure 8.** Proportion testing positive by health sub-district in the Western Cape Province for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

BUF	Buffalo City	EC122	Mngquma	EC135	Iritsika Yetliu	EC155	Nyanderi
EC101	Camdeboo	EC123	Great Kei	EC136	Emalahleni	EC156	Mhlontlo
EC102	Blue Crane Route	EC124	Amehlethi	EC137	Fingobos	EC157	King Sabata Dalindyebo
EC103	Ikwezi	EC126	Ngqushwa	EC138	Sakhisizwe	EC441	Matatiele
EC104	Makana	EC127	Nkonkobe	EC141	Elundini	EC442	Umtintshani
EC105	Ndlambe	EC128	Nxuba	EC142	Sencu	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	Kouge	EC133	Inkwanca	EC153	Ngqura Hill	NMAB	Nelson Mandela Bay B
EC109	Kou Kamma	EC134	Lukanji	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mbashe						



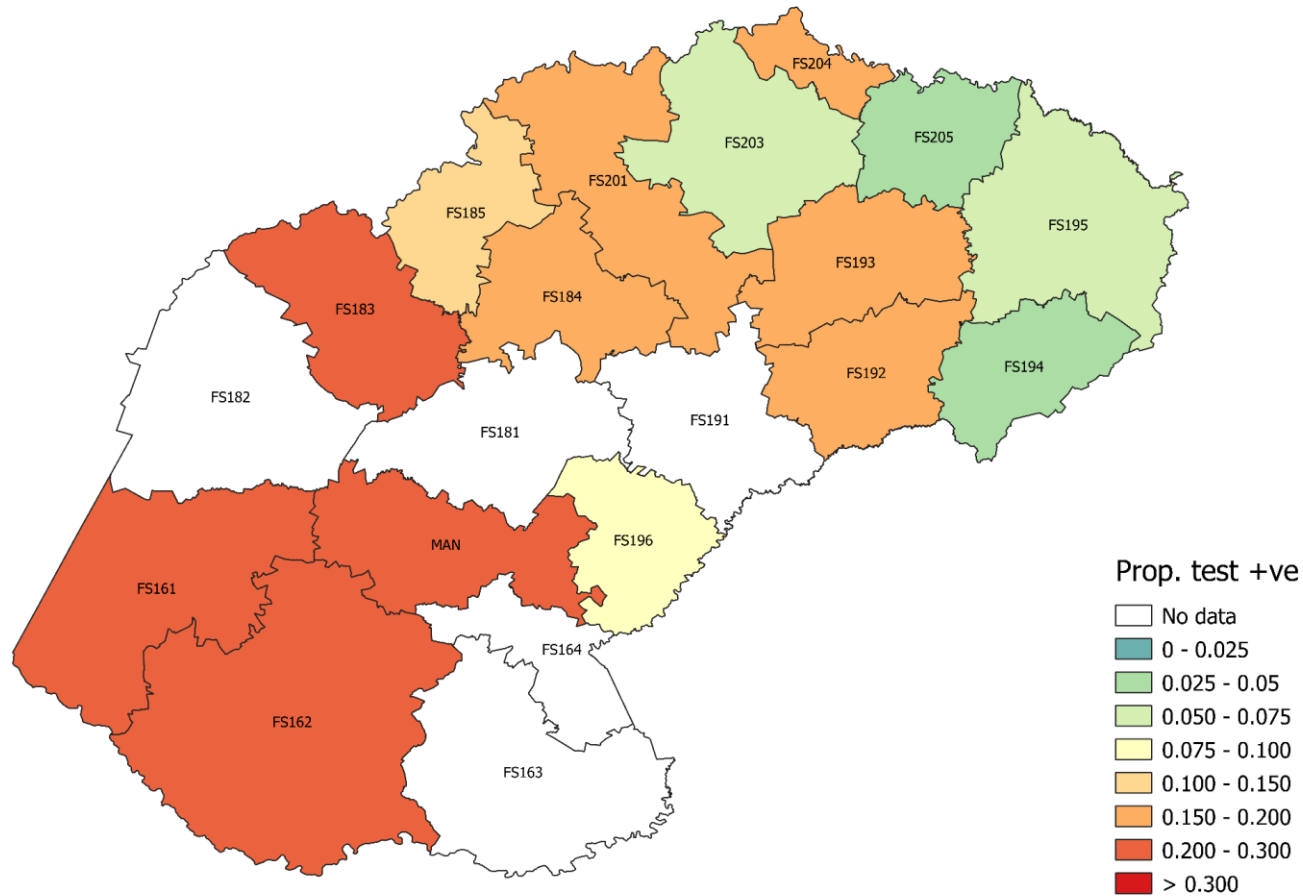
**Figure 9.** Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.



**Figure 10.** Proportion testing positive by health sub-district in Northern Cape Province for the week of 22-28 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%.

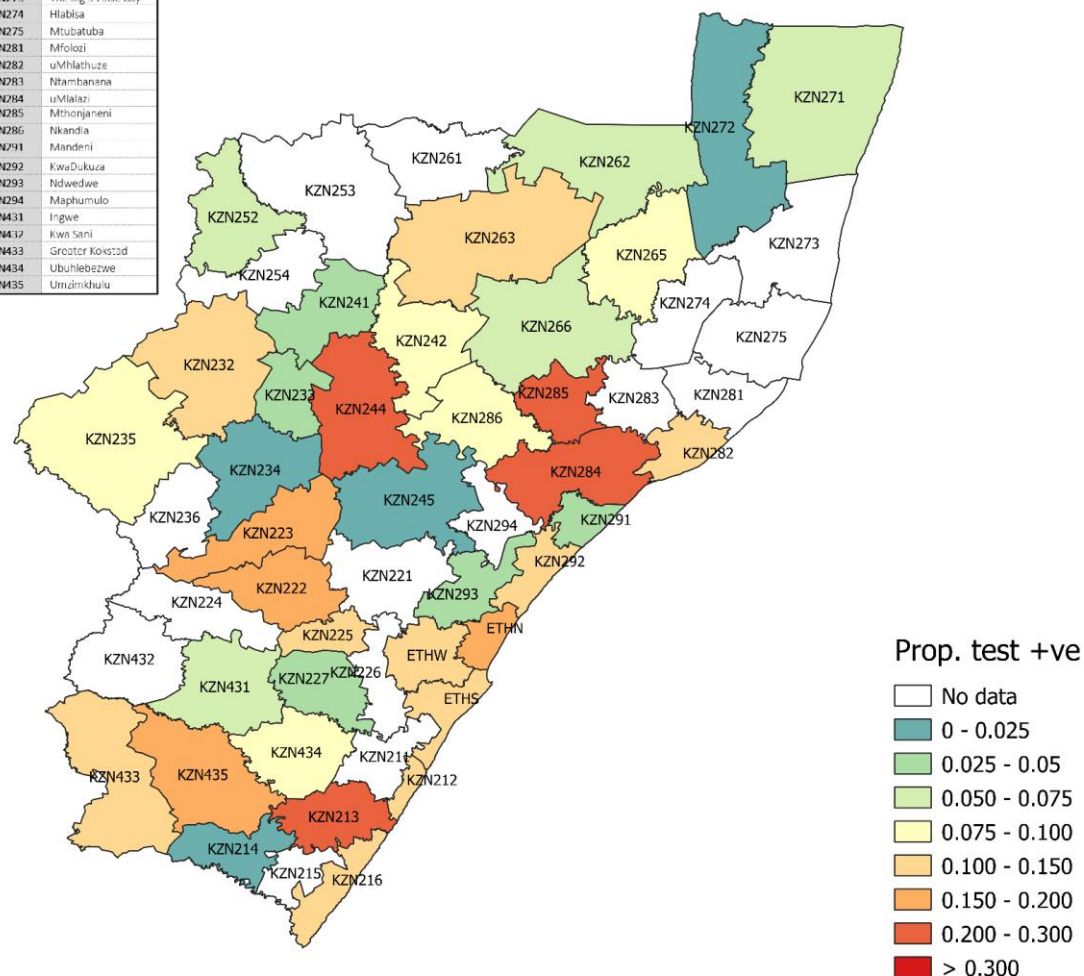


MAN	Mangaung	FS181	Masilonyana	FS191	Setso	FS196	Mantsopa
FS161	Letsemeng	FS182	Tokologo	FS192	Dihlabeng	FS201	Moghaka
FS162	Kopanong	FS183	Tswelopele	FS193	Nketoana	FS203	Ngwathe
FS163	Mohokare	FS184	Matjhabeng	FS194	Maluti a Phofung	FS204	Metsimaholo
FS164	Naledi	FS185	Nala	FS195	Phumelela	FS205	Mafube



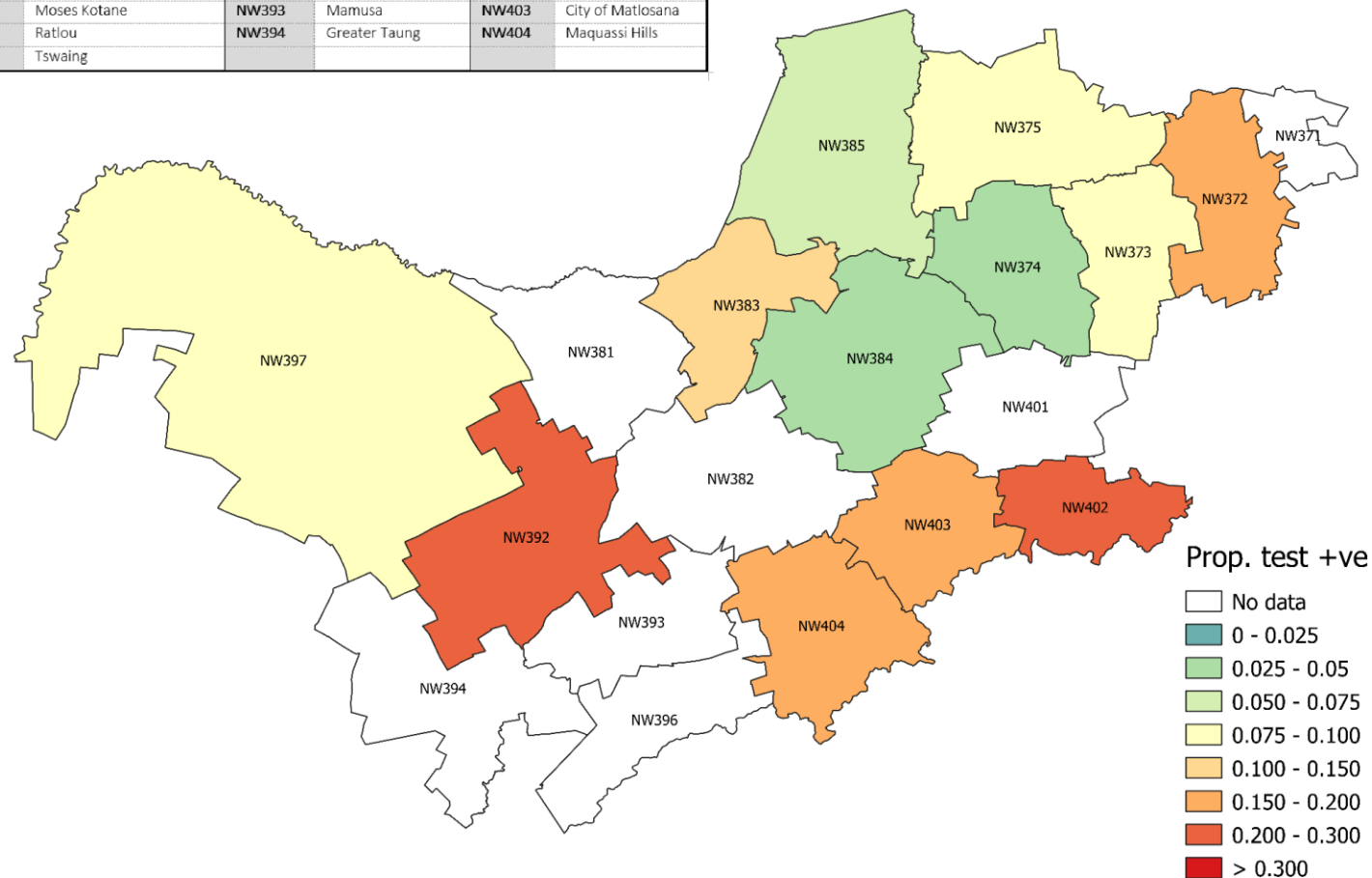
**Figure 11.** Proportion testing positive by health sub-district in Free State Province for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

ETHN	eThekweni North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekweni South	KZN234	Umtshezi	KZN274	Hiabisa
ETHS	eThekweni South	KZN235	Okhahlamba	KZN275	Mtubatuba
ETHW	eThekweni West	KZN236	Imibabane	KZN281	Mfolozi
KZN211	Vulamehlo	KZN241	Endumeni	KZN282	uMhlathuze
KZN212	Umdon	KZN242	Nqutu	KZN283	Ntambanana
KZN213	Umtshembe	KZN244	Mtsiwa	KZN284	uMlalazi
KZN214	uMthwabantu	KZN245	Umvoti	KZN285	Mthonjaneni
KZN215	Esiqoleni	KZN252	Newcastle	KZN286	Nkandla
KZN216	Hibiscus Coast	KZN253	Emadlangeni	KZN291	Mandeni
KZN221	uMshwathi	KZN254	Daniellouise	KZN292	KwaDukuza
KZN222	uMngeni	KZN261	eDumbe	KZN293	Ndwedwe
KZN223	Mpofana	KZN262	uPhongolo	KZN294	Maphumulo
KZN224	Impendle	KZN263	Abaqulusi	KZN331	Ingwe
KZN225	The Msimu	KZN265	Nongoma	KZN332	Kwa Sani
KZN226	Michambathini	KZN266	Ulundi	KZN333	Greater Kokstad
KZN227	Richmond	KZN271	Umhlaluyalanga	KZN334	Ubuhlebezwe
KZN232	Emnambithi/Ladysmith	KZN272	Jozini	KZN335	Umdimkhulu



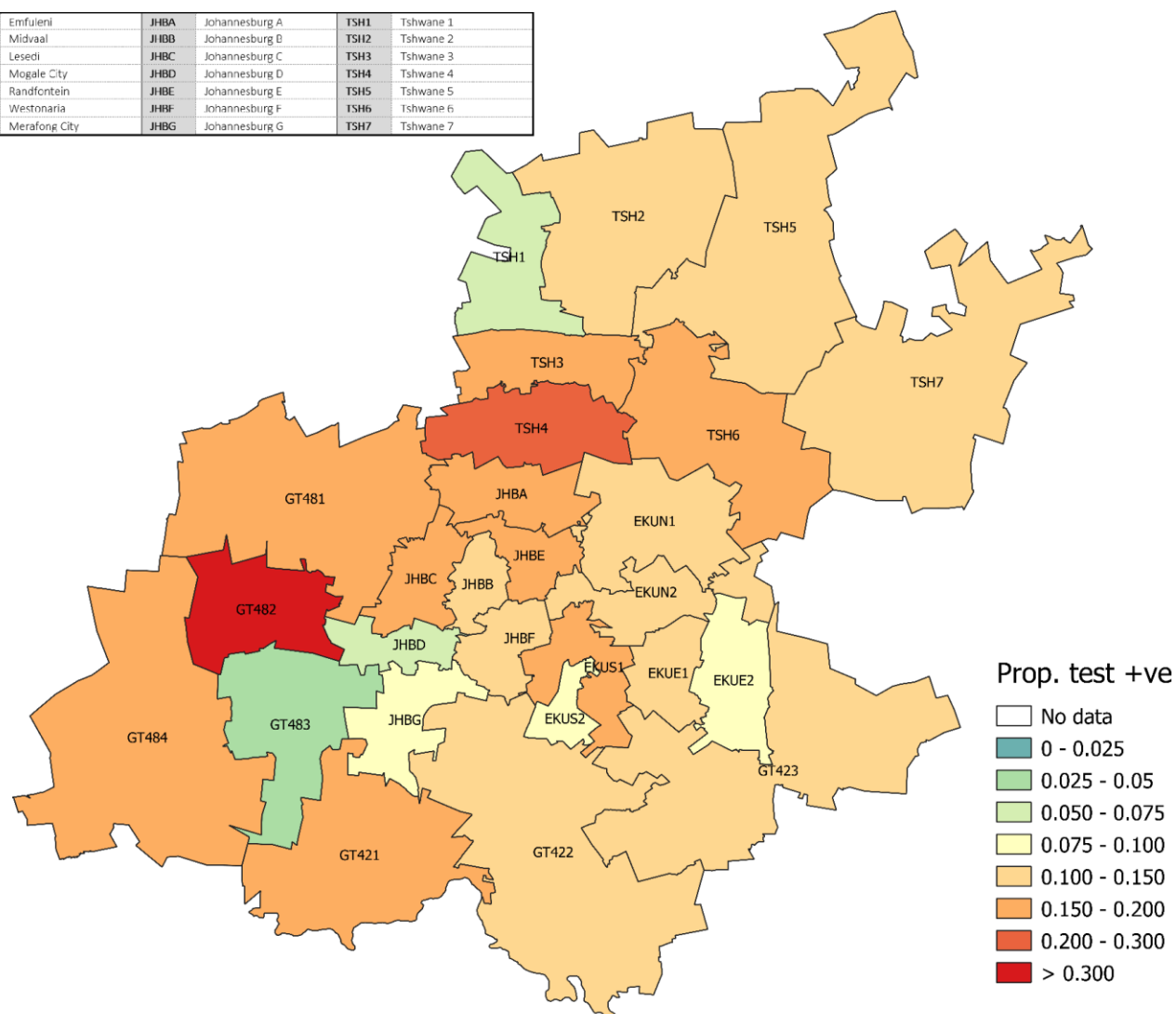
**Figure 12.** Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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				



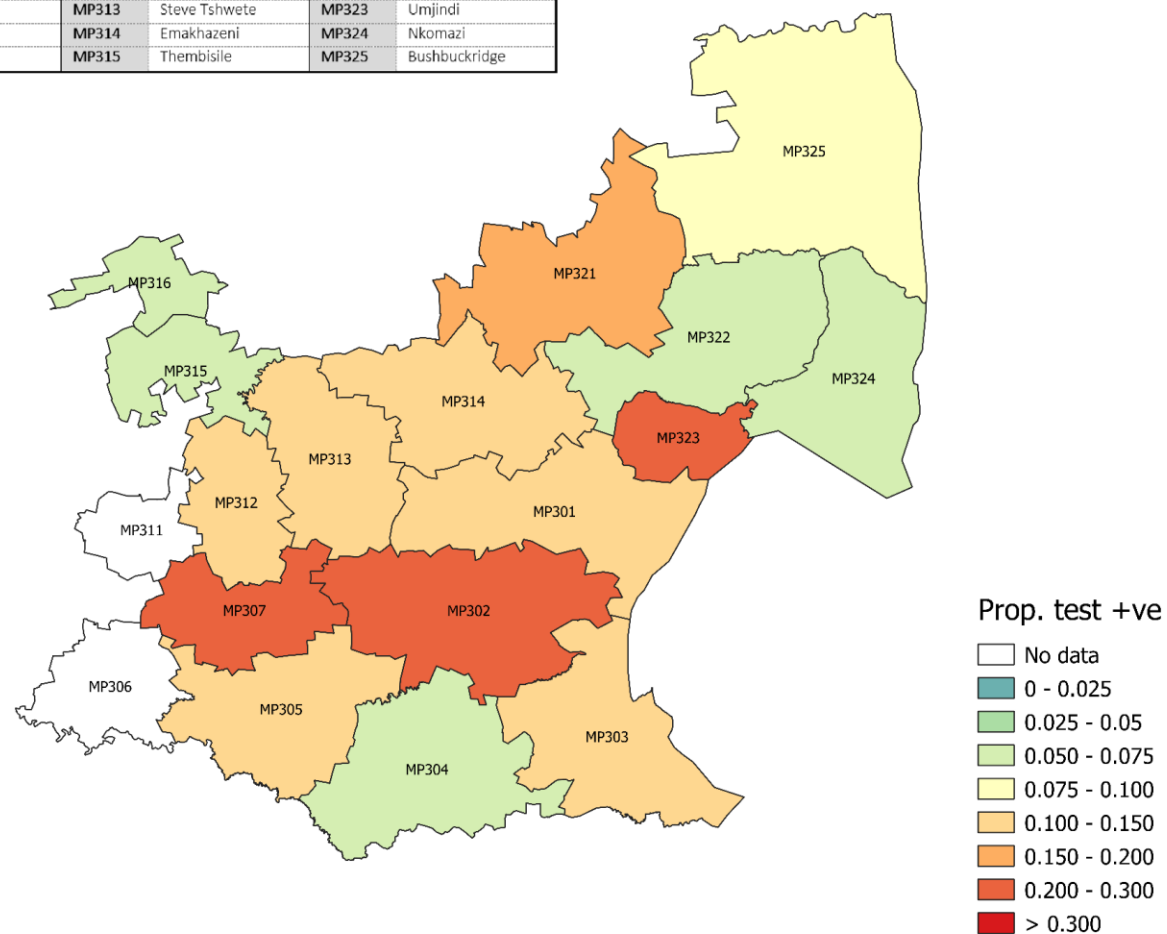
**Figure 13.** Proportion testing positive by health sub-district in North West Province for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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



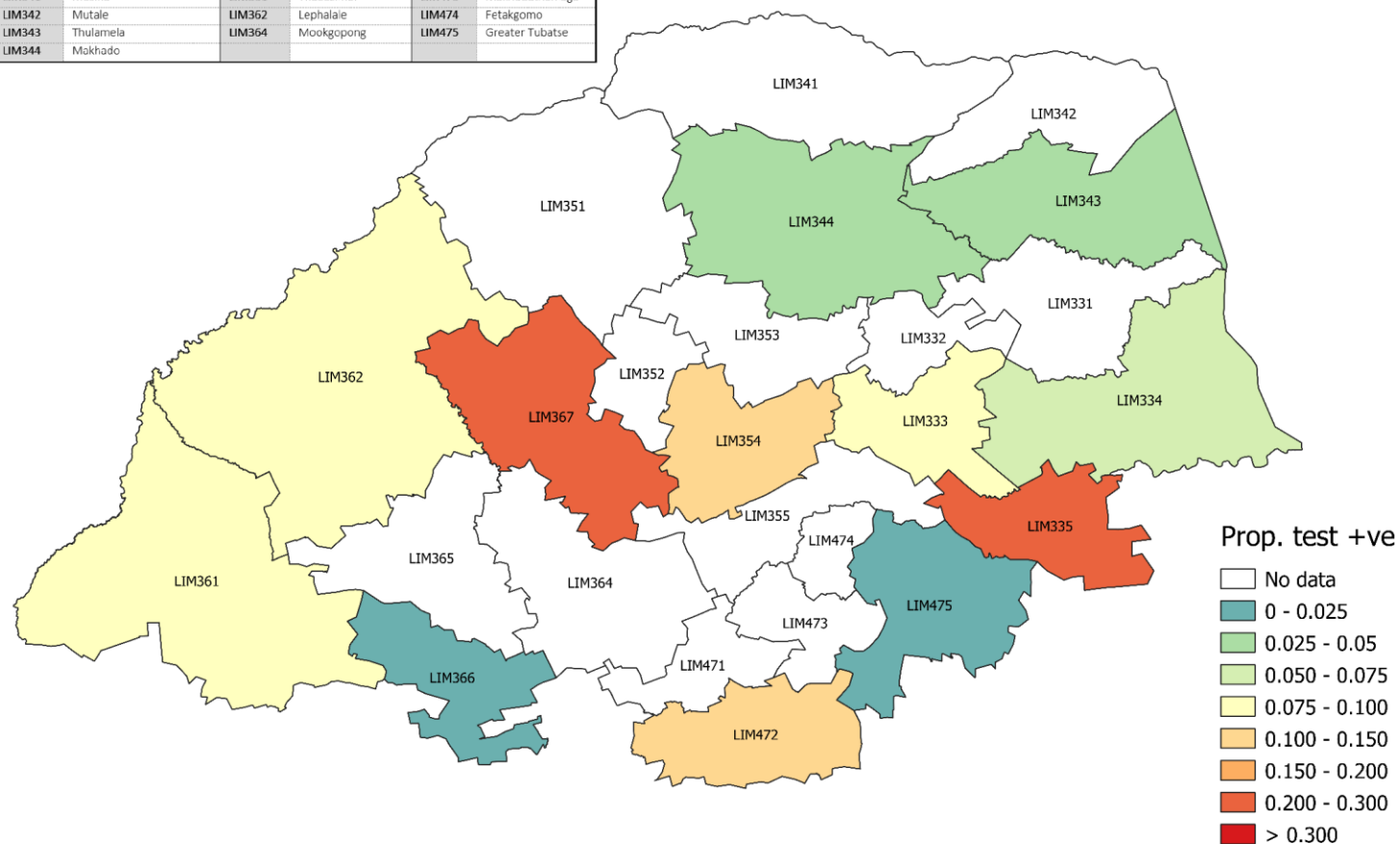
**Figure 14.** Proportion testing positive by health sub-district in Gauteng Province for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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	Umgjini
MP305	Lekwa	MP314	Emakhazeni	MP324	Nkomazi
MP306	Dipaleseng	MP315	Thembisile	MP325	Bushbuckridge

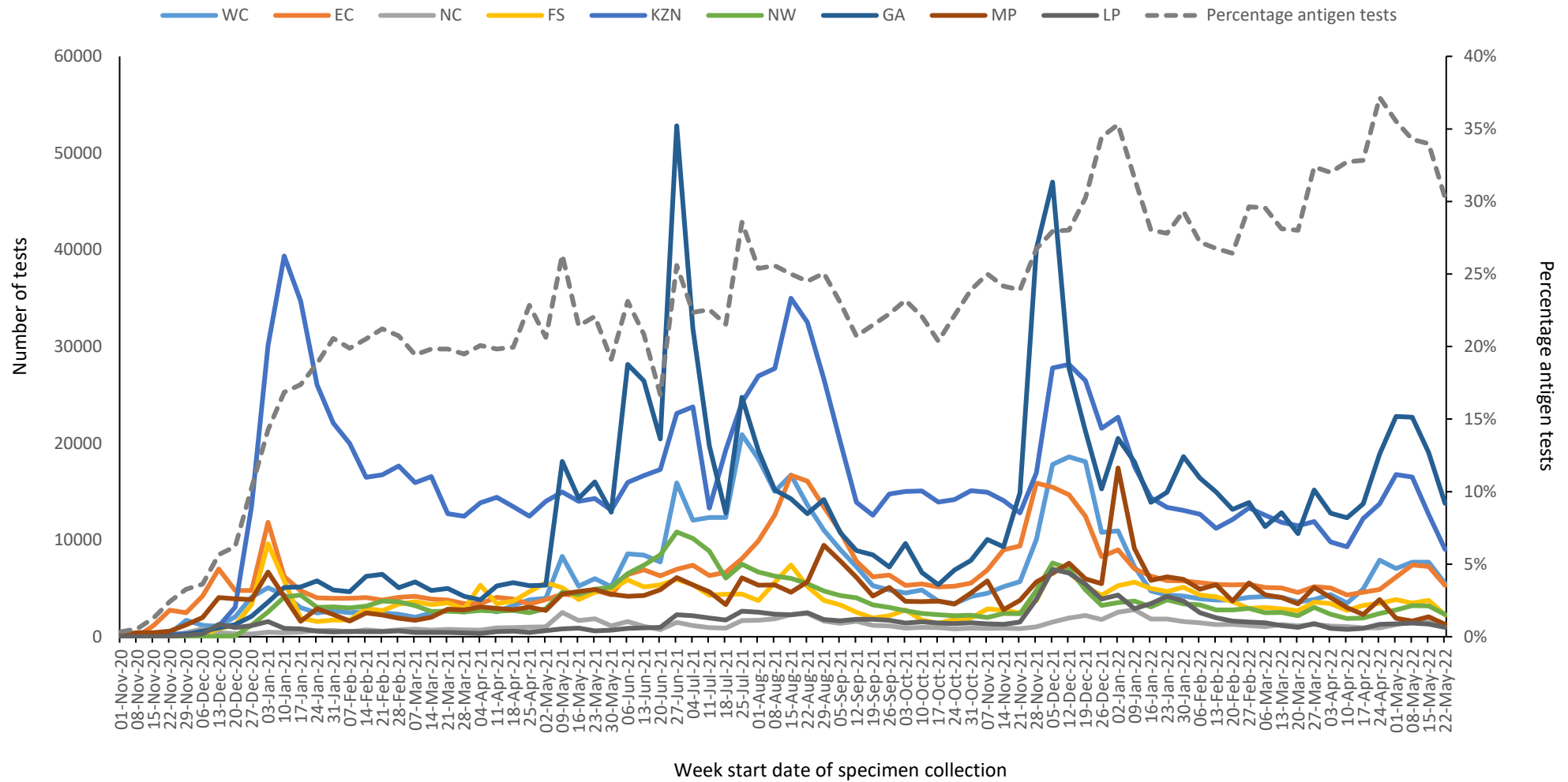


**Figure 15.** Proportion testing positive by health sub-district in Mpumalanga Province for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

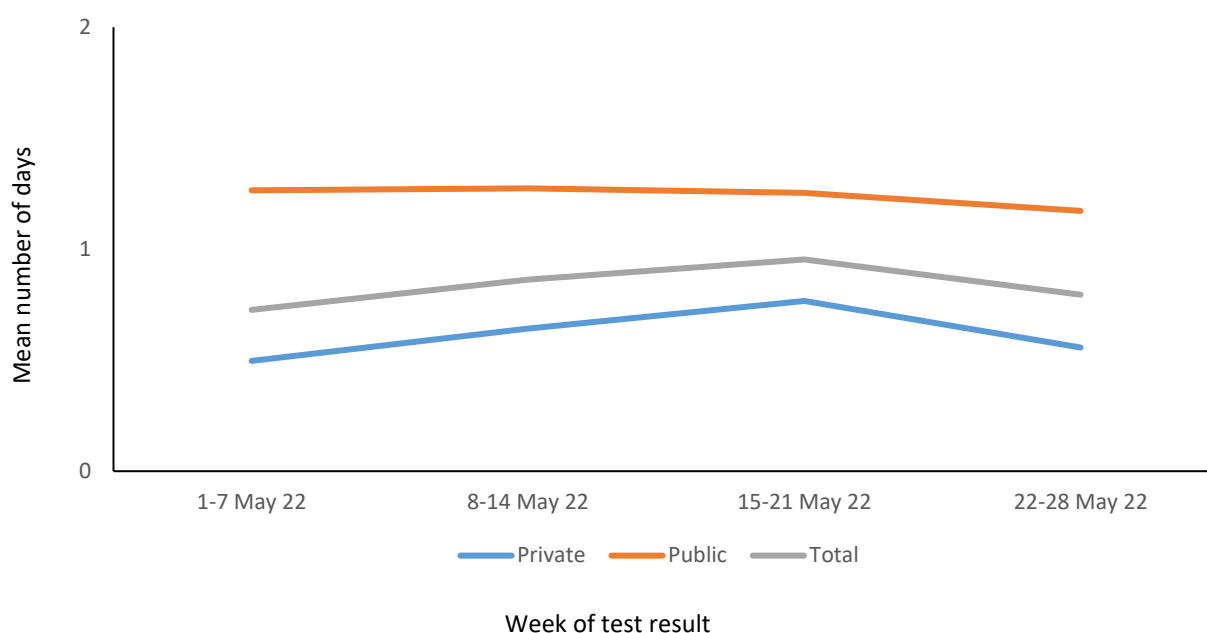
LIM331	Greater Giyani	LIM351	Blouberg	LIM365	Modimolle
LIM332	Greater Letaba	LIM352	Aganang	LIM366	Bela Bela
LIM333	Greater Tzaneen	LIM353	Molemole	LIM367	Mogalakwena
LIM334	Ba-Phalaborwa	LIM354	Polokwane	LIM471	Ephraim Mogale
LIM335	Maruleng	LIM355	Lepele-Nkumpi	LIM472	Elias Motsoaledi
LIM341	Musina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



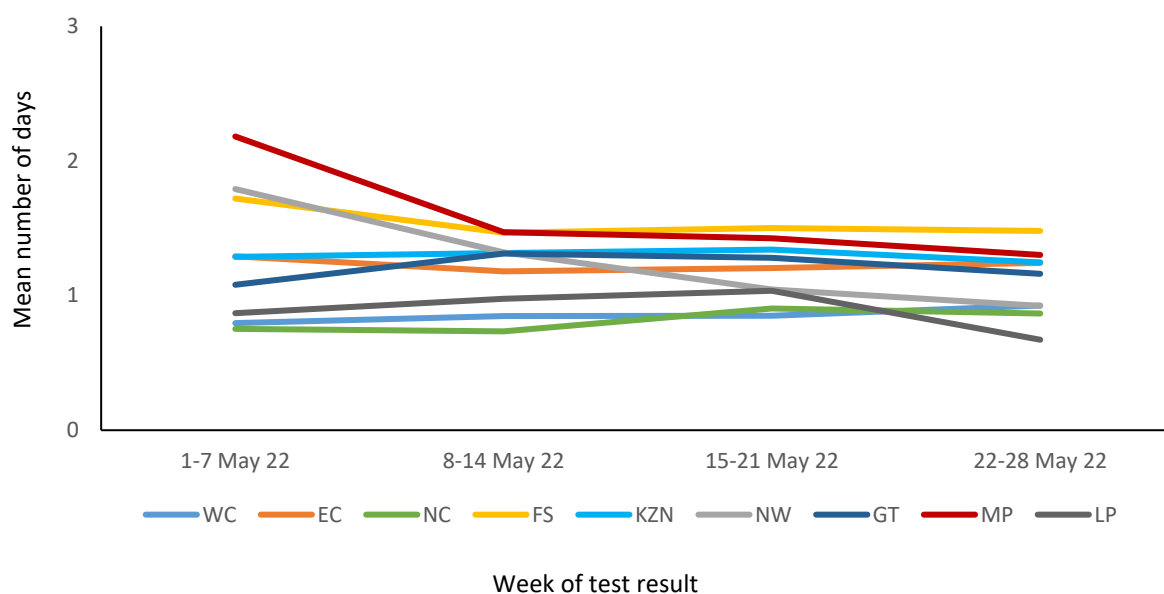
**Figure 16.** Proportion testing positive by health sub-district in Limpopo Province for the week of 22-28 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.



**Figure 17.** Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 28 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

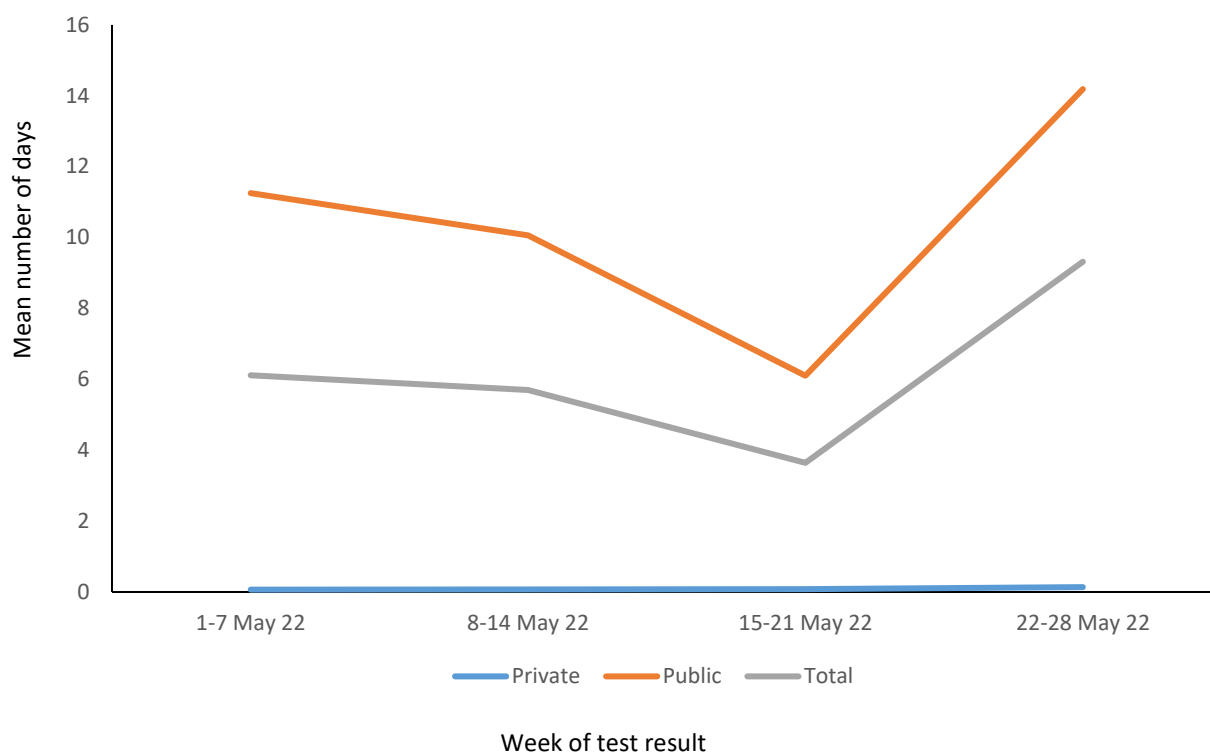


**Figure 18.** Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 1-28 May 2022.



**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, 1-28 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, 1-28 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 (NMCCS). 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 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.