

COVID-19 Weekly Testing Summary

Week 18 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 7 May 2022 (Week 18 of 2022).

Highlights:

- The number of tests reported in week 18 of 2022 (166,546: 113,254 PCR and 53,292 antigen tests) was 10.3% higher than the number of tests reported in the previous week.
- In week 18, the testing rate was 277 per 100,000 persons; highest in Gauteng (455 per 100,000 persons) and lowest in Limpopo (40 per 100,000 persons).
- In week 18, the percentage testing positive was 26.6%, which was 4.5% higher than the previous week.
- In week 18, compared to the previous week, the percentage testing positive increased in all provinces, except in Limpopo, where it was unchanged.
- The percentage testing positive in week 18 was highest in KwaZulu-Natal (30.3%), and was between 20-30% in the Western Cape, Gauteng, Northern Cape, Eastern Cape and Free State provinces. The percentage testing positive was between 15-20% in the North West, Mpumalanga and Limpopo.
- In week 18, the percentage testing positive was highest in the 10-14 years age group (34.6%).

Executive Summary:

- In the period 1 March 2020 through 7 May 2022, 24,433,634 tests for SARS-CoV-2 have been reported nationally: 20,109,182 PCR and 4,324,452 antigen tests.
- The number of tests reported in week 18 of 2022 (n= 166,546: 113,254 PCR and 53,292 antigen tests) was 10.3% higher than the number of tests reported in the previous week.
- Gauteng reported the largest proportion of tests (43.2%), followed by KwaZulu-Natal (22.1%) and Western Cape (12.5%).
- The overall testing rate increased from the previous week (251 per 100,000 persons in week 17 to 277 per 100,000 persons in week 18).
- In week 18, testing rates increased in the Western Cape, Gauteng, KwaZulu-Natal, Mpumalanga and Free State and were similar to the previous week in all other provinces. The testing rate was highest in Gauteng (455 per 100,000 persons) and lowest in Limpopo (40 per 100,000 persons).
- The testing rate in week 18 was highest in the ≥80 years age group (523 per 100,000 persons).
- In week 18, the percentage testing positive was 26.6%, which was 4.5% higher than the previous week (22.1% in week 17 to 26.6% in week 18, $P<0.001$).
- In the past week, the percentage testing positive increased by 3.1% in the public sector (15.8% in week 17 to 18.9% in week 18, $P<0.001$) and by 4.7% in the private sector (25.9% in week 17 to 30.6% in week 18, $P<0.001$).

- In week 18, compared to the previous week, the percentage testing positive increased in all provinces, except in Limpopo, where it was unchanged.
- The percentage testing positive in week 18 was highest in KwaZulu-Natal (30.3%), and was between 20-30% in the Western Cape, Gauteng, Northern Cape, Eastern Cape and Free State provinces. The percentage testing positive was between 15-20% in the North West, Mpumalanga and Limpopo.
- In week 18, health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=12), KwaZulu-Natal (n=5) and Gauteng (n=3).
- In week 18, the percentage testing positive remained the highest in the 10-14 years age group (34.6%), although an increase was not observed in this age group in the past week in comparison to all other age groups.
- Antigen tests accounted for 32.0% (53,292/166,546) of tests reported in week 18, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 18 the public sector accounted for 44.0% (23,443/53,292) of antigen tests reported. An increase in the number of antigen tests reported was observed in KwaZulu-Natal in the past week.
- The mean turnaround time for PCR tests reported in week 18 was 0.7 days; 1.3 days in the public sector and 0.5 days in the private sector. Turnaround times for public sector PCR tests decreased in Mpumalanga and were <2 days in all provinces except in Mpumalanga (2.2 days).
- The mean turnaround time for antigen tests reported in week 18 was 12.2 days in the public sector and 0.1 days in the private sector.

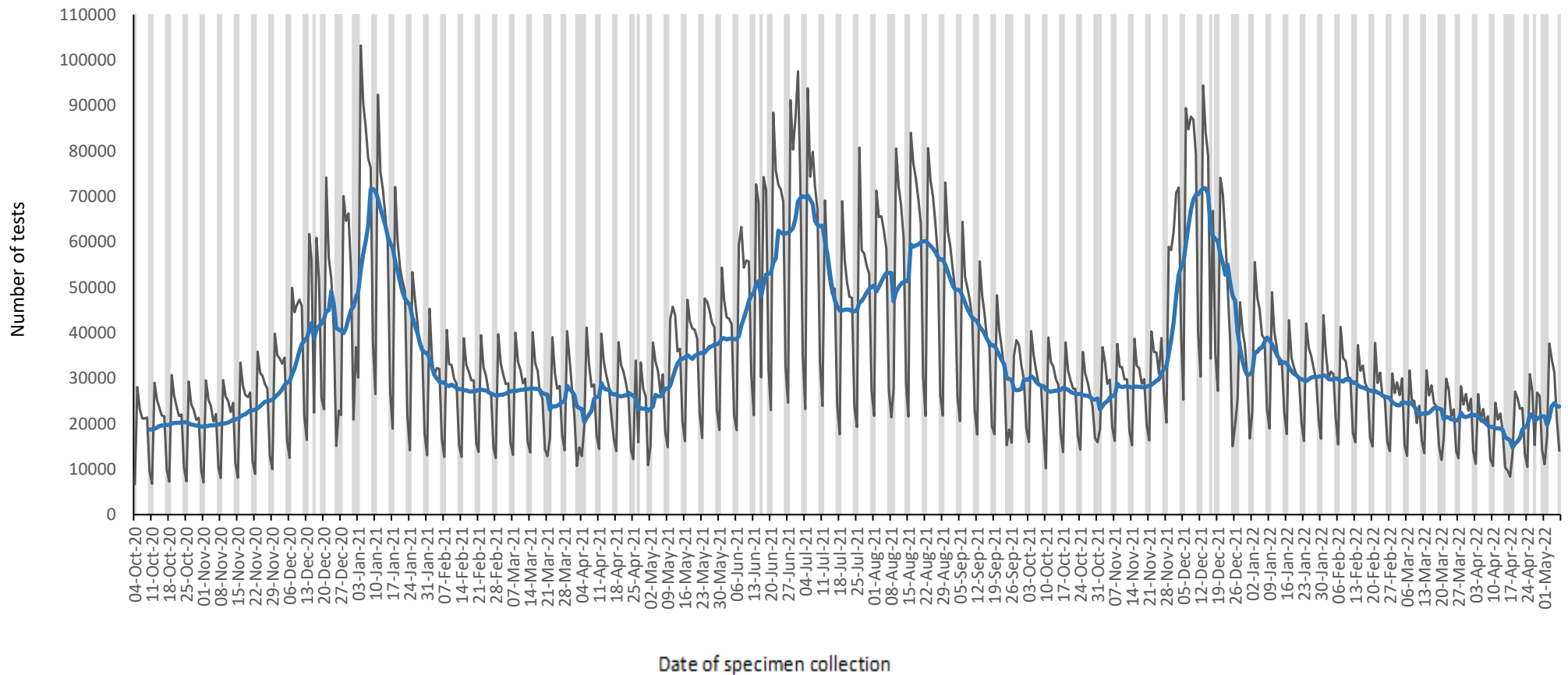


Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 4 October 2020 – 7 May 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays



Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021 – 7 May 2022

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
1	03-Jan-21	501386 (2.1)	151074	30.1
2	10-Jan-21	418299 (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 (0.8)	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 (0.8)	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 (0.8)	8847	4.8
16	18-Apr-21	184922 (0.8)	9471	5.1
17	25-Apr-21	160025 (0.7)	9183	5.7
18	02-May-21	193975 (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	270309 (1.1)	36106	13.4
23	06-Jun-21	337915 (1.4)	59453	17.6
24	13-Jun-21	370989 (1.5)	88086	23.7
25	20-Jun-21	432622 (1.8)	118654	27.4
26	27-Jun-21	490248 (2.0)	146638	29.9
27	04-Jul-21	444060 (1.8)	141464	31.9
28	11-Jul-21	320773 (1.3)	100958	31.5
29	18-Jul-21	313228 (1.3)	88447	28.2
30	25-Jul-21	350612 (1.4)	88359	25.2
31	01-Aug-21	372290 (1.5)	88130	23.7
32	08-Aug-21	359577 (1.5)	83381	23.2
33	15-Aug-21	420884 (1.7)	95389	22.7
34	22-Aug-21	392614 (1.6)	78198	19.9
35	29-Aug-21	346103 (1.4)	55095	15.9
36	05-Sep-21	300484 (1.2)	38857	12.9
37	12-Sep-21	260671 (1.1)	24018	9.2

38	19-Sep-21	209085 (0.9)	14011	6.7
39	26-Sep-21	207811 (0.9)	9491	4.6
40	03-Oct-21	197884 (0.8)	6450	3.3
41	10-Oct-21	191678 (0.8)	5044	2.6
42	17-Oct-21	185549 (0.8)	3412	1.8
43	24-Oct-21	177125 (0.7)	2566	1.4
44	31-Oct-21	182841 (0.7)	2106	1.2
45	07-Nov-21	196632 (0.8)	2321	1.2
46	14-Nov-21	197148 (0.8)	4810	2.4
47	21-Nov-21	224581 (0.9)	18974	8.4
48	28-Nov-21	381909 (1.6)	98393	25.8
49	05-Dec-21	493039 (2.0)	175044	35.5
50	12-Dec-21	424297 (1.7)	154863	36.5
51	19-Dec-21	337012 (1.4)	117632	34.9
52	20-Dec-21	216497 (0.9)	66060	30.5
1	02-Jan-22	272453 (1.1)	61093	22.4
2	09-Jan-22	234288 (1.0)	35117	15.0
3	16-Jan-22	208304 (0.9)	24028	11.5
4	23-Jan-22	212442 (0.9)	25796	12.1
5	24-Jan-22	209865 (0.9)	22936	10.9
6	06-Feb-22	203017 (0.8)	20391	10.0
7	13-Feb-22	191041 (0.8)	19069	10.0
8	14-Feb-22	180631 (0.7)	16280	9.0
9	27-Feb-22	172457 (0.7)	13123	7.6
10	06-Mar-22	155185 (0.6)	10665	6.9
11	13-Mar-22	163365 (0.7)	9860	6.0
12	20-Mar-22	145071 (0.6)	9439	6.5
13	27-Mar-22	153778 (0.6)	10215	6.6
14	03-Apr-22	135264 (0.6)	10556	7.8
15	10-Apr-22	116766 (0.5)	12236	10.5
16	17-Apr-22	134694 (0.6)	23959	17.8
17	24-Apr-22	150938 (0.6)	33286	22.1
18	01-May-22	166546 (0.7)	44334	26.6
Total		24,433,634 (100.0)	4,176,806	

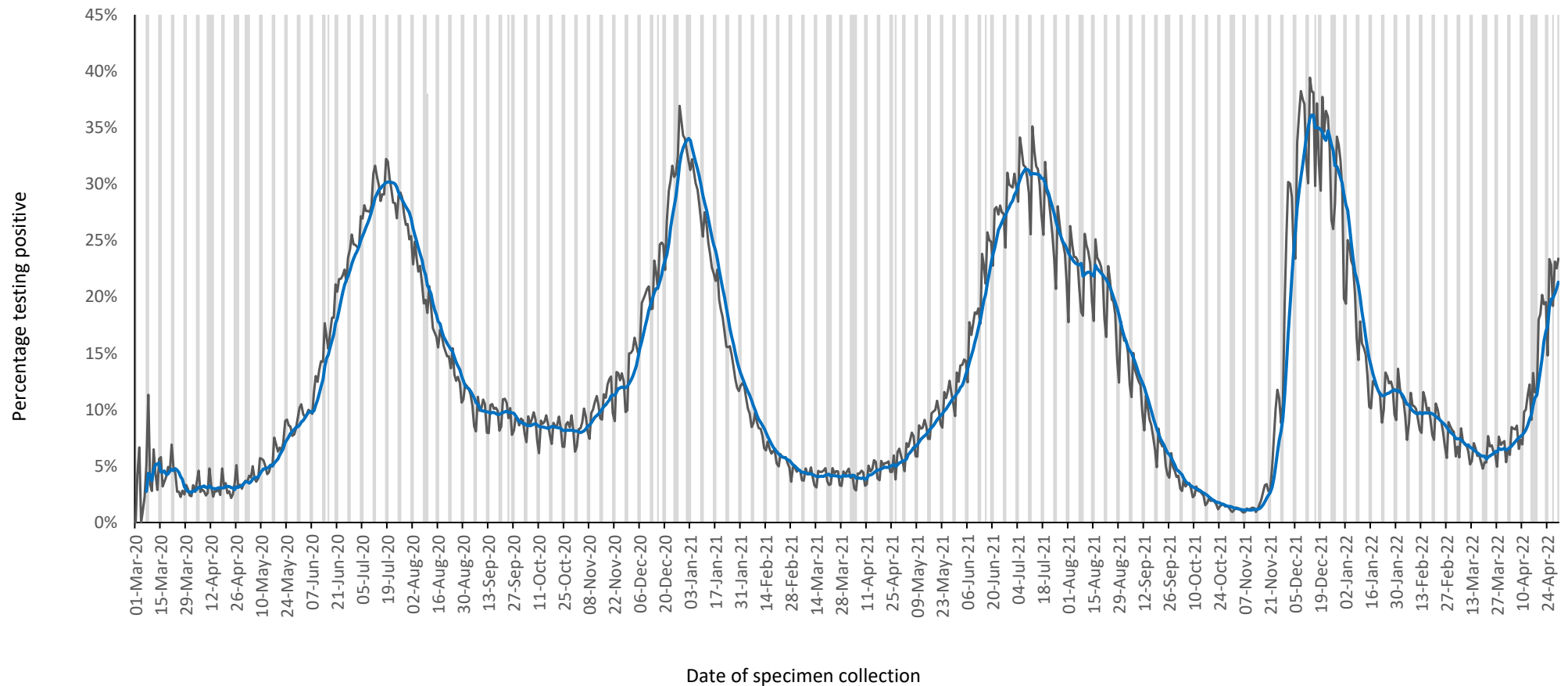


Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 7 May 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.



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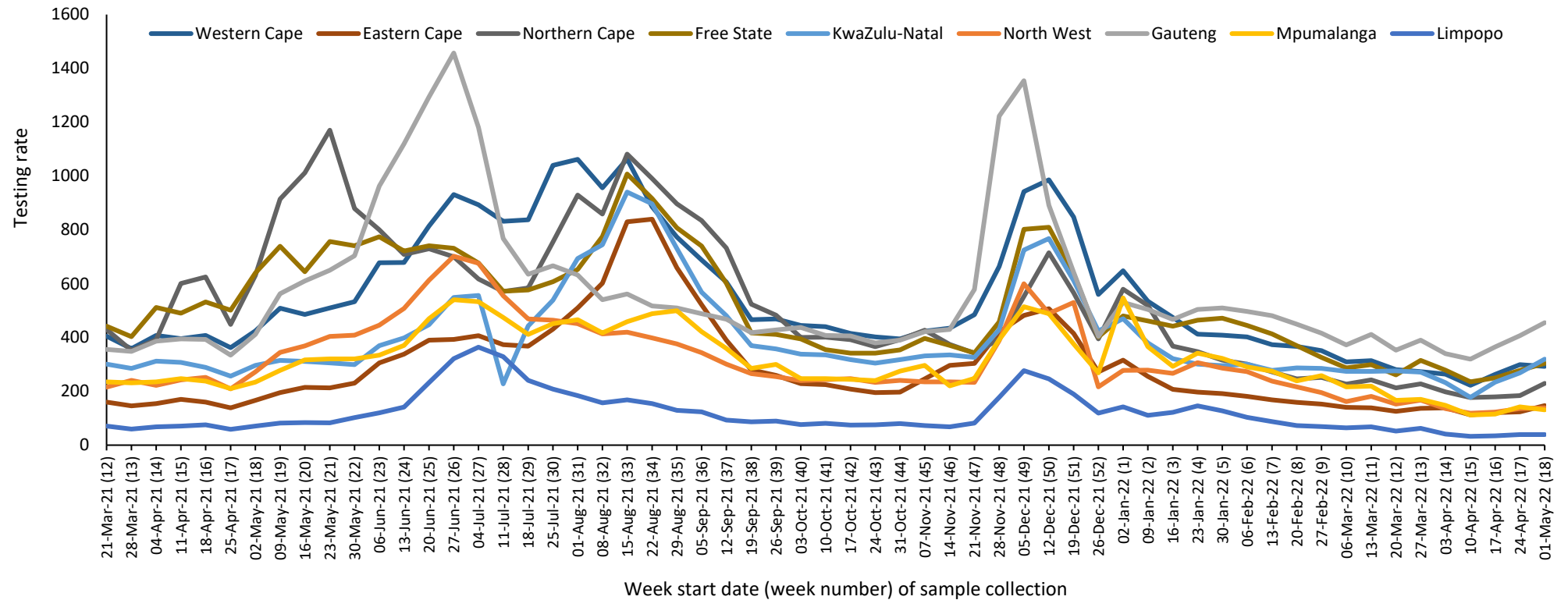


Figure 3. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 7 May 2022

Table 2. Weekly number of tests and positive tests reported by province, South Africa, 17 April – 7 May 2022

Province	Population ^a	17-23 Apr 2022		24-30 Apr 2022		1-7 May 2022		Testing rate per 100000	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	7113776	18734	3406 (18.2)	21272	4163 (19.6)	20793	6191 (29.8)	292	10.2%
Eastern Cape	6676590	8065	999 (12.4)	8250	1398 (16.9)	9805	2501 (25.5)	147	8.6%
Northern Cape	1303047	2343	248 (10.6)	2398	449 (18.7)	2996	768 (25.6)	230	6.9%
Free State	2932441	7339	665 (9.1)	8138	1309 (16.1)	8900	2161 (24.3)	304	8.2%
KwaZulu-Natal	11513575	26924	5415 (20.1)	30929	8298 (26.8)	36804	11144 (30.3)	320	3.5%
North West	4122854	5069	499 (9.8)	5595	777 (13.9)	5702	1046 (18.3)	138	4.5%
Gauteng	15810388	57694	11828 (20.5)	64313	15593 (24.2)	71868	18849 (26.2)	455	2.0%
Mpumalanga	4743584	5473	524 (9.6)	6739	774 (11.5)	6222	1041 (16.7)	131	5.2%
Limpopo	5926724	2076	227 (10.9)	2307	357 (15.5)	2354	392 (16.7)	40	1.2%
Unknown		977	148 (15.1)	997	168 (16.9)	1102	241 (21.9)		
Total	60142978	134694	23959 (17.8)	150938	33286 (22.1)	166546	44334 (26.6)	277	4.5%

^a 2021 Mid-year population Statistics SA

^b Current week compared to previous week

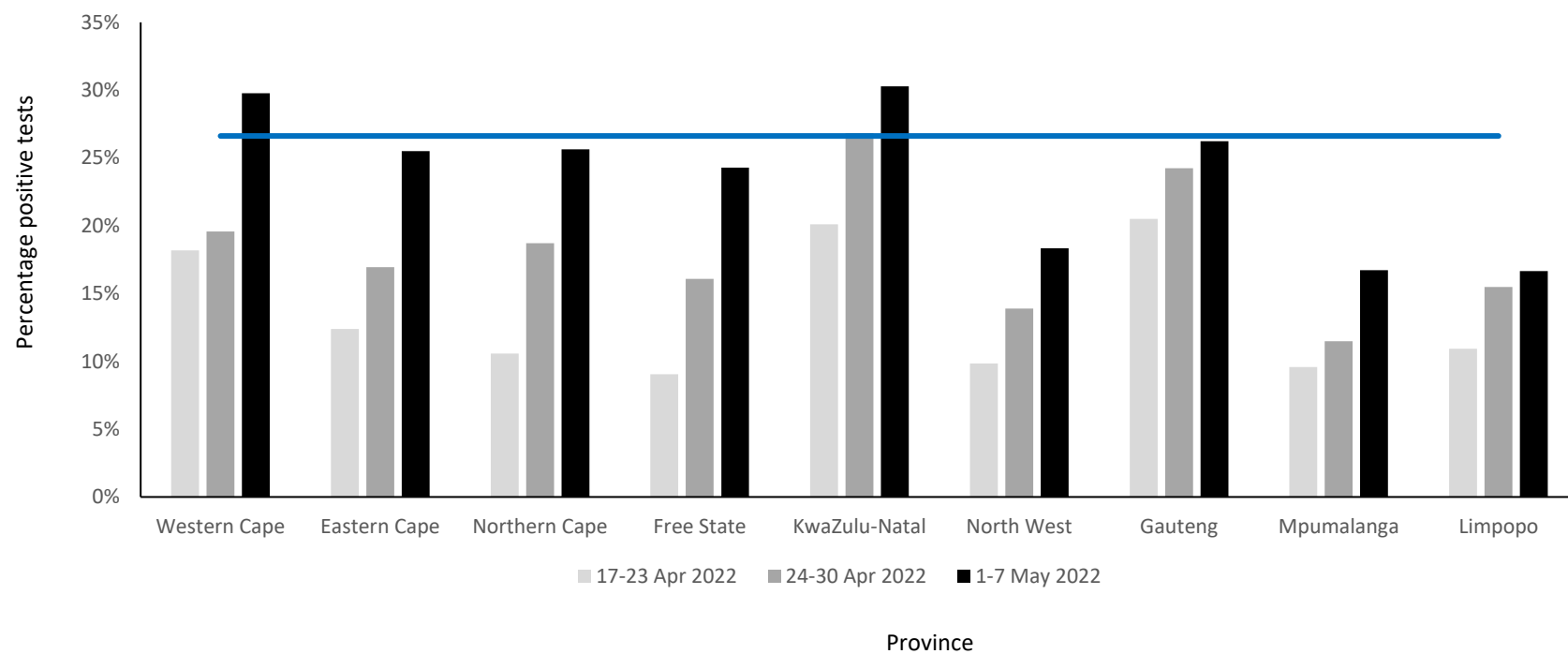


Figure 4. Weekly percentage testing positive by province, South Africa, 17 April – 7 May 2022. The horizontal blue line shows the national mean for week 18, beginning 1 May 2022



Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 18, 1-7 May 2022

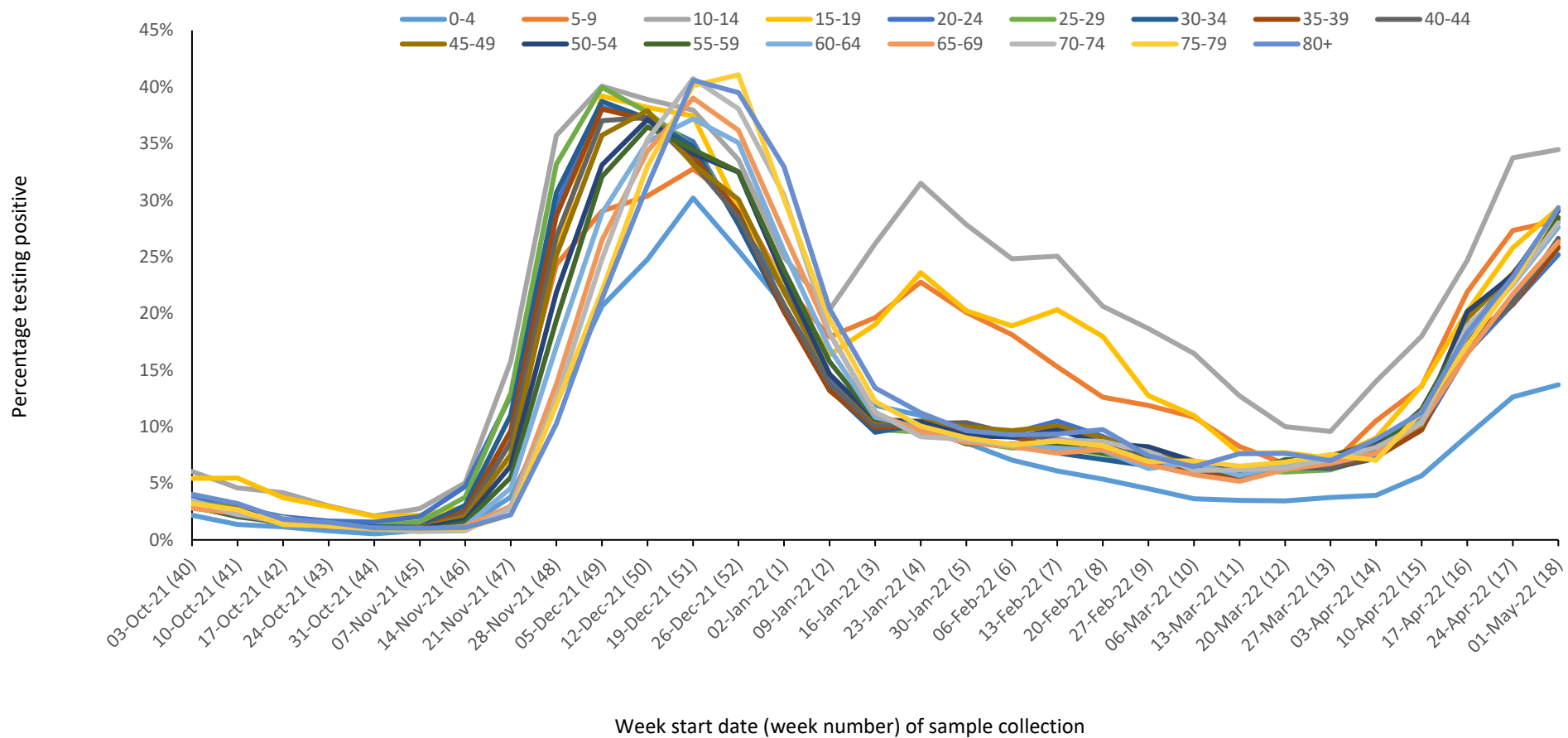


Figure 6. Percentage testing positive by age group and week of specimen collection, South Africa, 3 October 2021 – 7 May 2022



Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 1-7 May 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Randfontein	Gauteng	0.613 (0.586-0.640)	0.710 (0.684-0.736)
Tswelopele	Free State	0.431 (0.355-0.508)	0.222 (0.143-0.302)
Drakenstein	Western Cape	0.424 (0.386-0.462)	0.262 (0.226-0.298)
Oudtshoorn	Western Cape	0.411 (0.347-0.475)	0.445 (0.363-0.527)
CT Northern	Western Cape	0.402 (0.377-0.427)	0.329 (0.303-0.354)
Saldanha Bay	Western Cape	0.399 (0.350-0.448)	0.342 (0.293-0.392)
Camdeboo	Eastern Cape	0.394 (0.293-0.495)	0.116 (0.035-0.198)
eThekweni North	KwaZulu-Natal	0.382 (0.368-0.396)	0.397 (0.382-0.413)
CT Tygerberg	Western Cape	0.379 (0.359-0.399)	0.257 (0.238-0.275)
Matzikama	Western Cape	0.378 (0.301-0.454)	0.190 (0.113-0.268)
Inxuba Yethemba	Eastern Cape	0.376 (0.280-0.471)	0.236 (0.093-0.379)
uMlalazi	KwaZulu-Natal	0.371 (0.234-0.508)	0.084 (0.000-0.195)
Tshwane 4	Gauteng	0.369 (0.346-0.392)	0.351 (0.327-0.375)
CT Eastern	Western Cape	0.365 (0.339-0.392)	0.293 (0.265-0.321)
Bitou	Western Cape	0.360 (0.261-0.459)	0.213 (0.131-0.294)
Johannesburg C	Gauteng	0.358 (0.344-0.371)	0.341 (0.326-0.356)
Kopanong	Free State	0.356 (0.241-0.472)	0.183 (0.084-0.281)
eThekweni West	KwaZulu-Natal	0.356 (0.339-0.372)	0.356 (0.337-0.375)
KwaDukuza	KwaZulu-Natal	0.355 (0.332-0.379)	0.327 (0.302-0.352)
Cape Agulhas	Western Cape	0.354 (0.217-0.492)	0.593 (0.444-0.742)
Breede Valley	Western Cape	0.351 (0.301-0.401)	0.271 (0.222-0.320)
uMngeni	KwaZulu-Natal	0.348 (0.307-0.389)	0.321 (0.275-0.368)
Swellendam	Western Cape	0.347 (0.254-0.441)	0.364 (0.238-0.490)
CT Western	Western Cape	0.335 (0.320-0.350)	0.258 (0.243-0.272)
Emthanjeni	Northern Cape	0.334 (0.206-0.461)	0.072 (0.000-0.168)

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

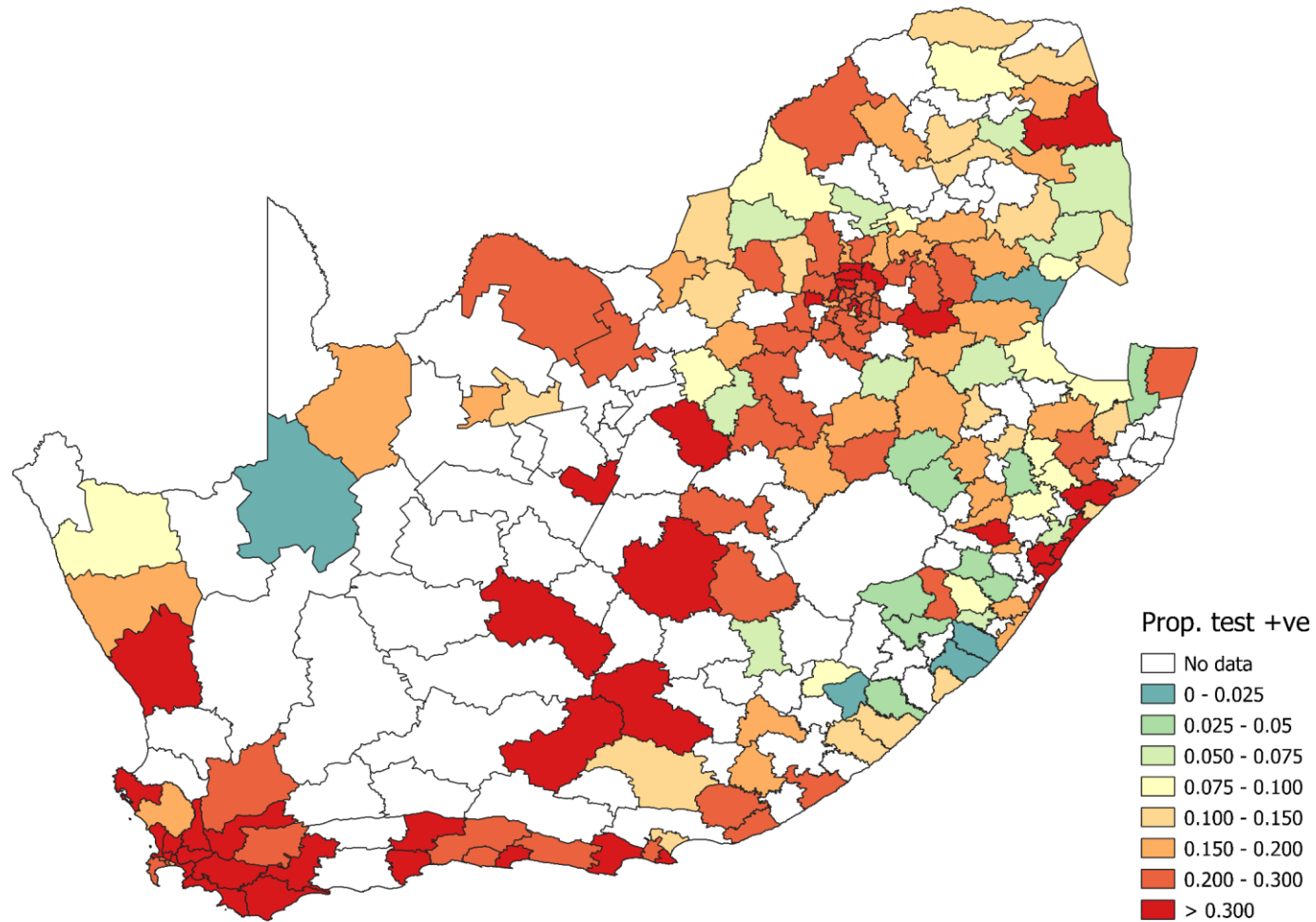


Figure 7. Proportion testing positive by health sub-district in South Africa for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

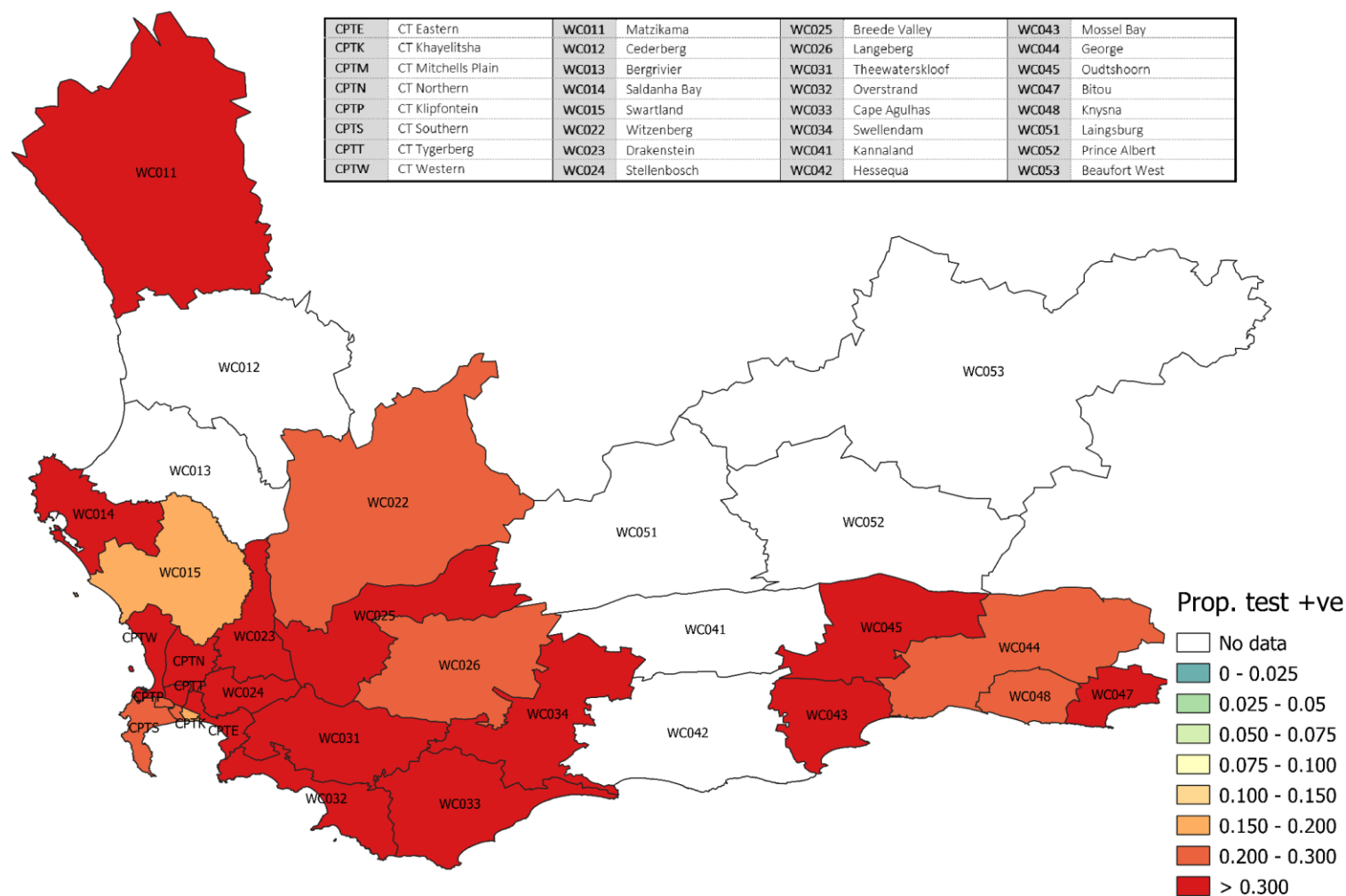


Figure 8. Proportion testing positive by health sub-district in the Western Cape Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

BUF	Buffalo City	EC122	Mnqomo	EC135	Intsika Yethu	EC155	Nyandeni
EC101	Camdeboo	EC123	Great Kriel	EC136	Emalahleni	EC156	Mnlonlolo
EC102	Blue Crane Route	EC124	Amahathi	EC137	Engcobo	EC157	King Sabata Dalindyebo
EC103	Ikwezi	EC126	Nqushwa	EC138	Sakhisizwe	EC441	Matatiele
EC104	Makana	EC127	Nkonkobe	EC141	Elundini	EC442	Umtimvubu
EC105	Ndlambe	EC128	Nxuba	EC142	Senqu	EC443	Mbizana
EC106	Sundays River Valley	EC131	Inxuba Yethemba	EC143	Maletswai	EC444	Ntabenkulu
EC107	Baviaans	EC132	Tsolwana	EC144	Gariep	NMAA	Nelson Mandela Bay A
EC108	Kouga	EC133	Inkwanca	EC153	Nqunza Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukanyil	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mbhashe						

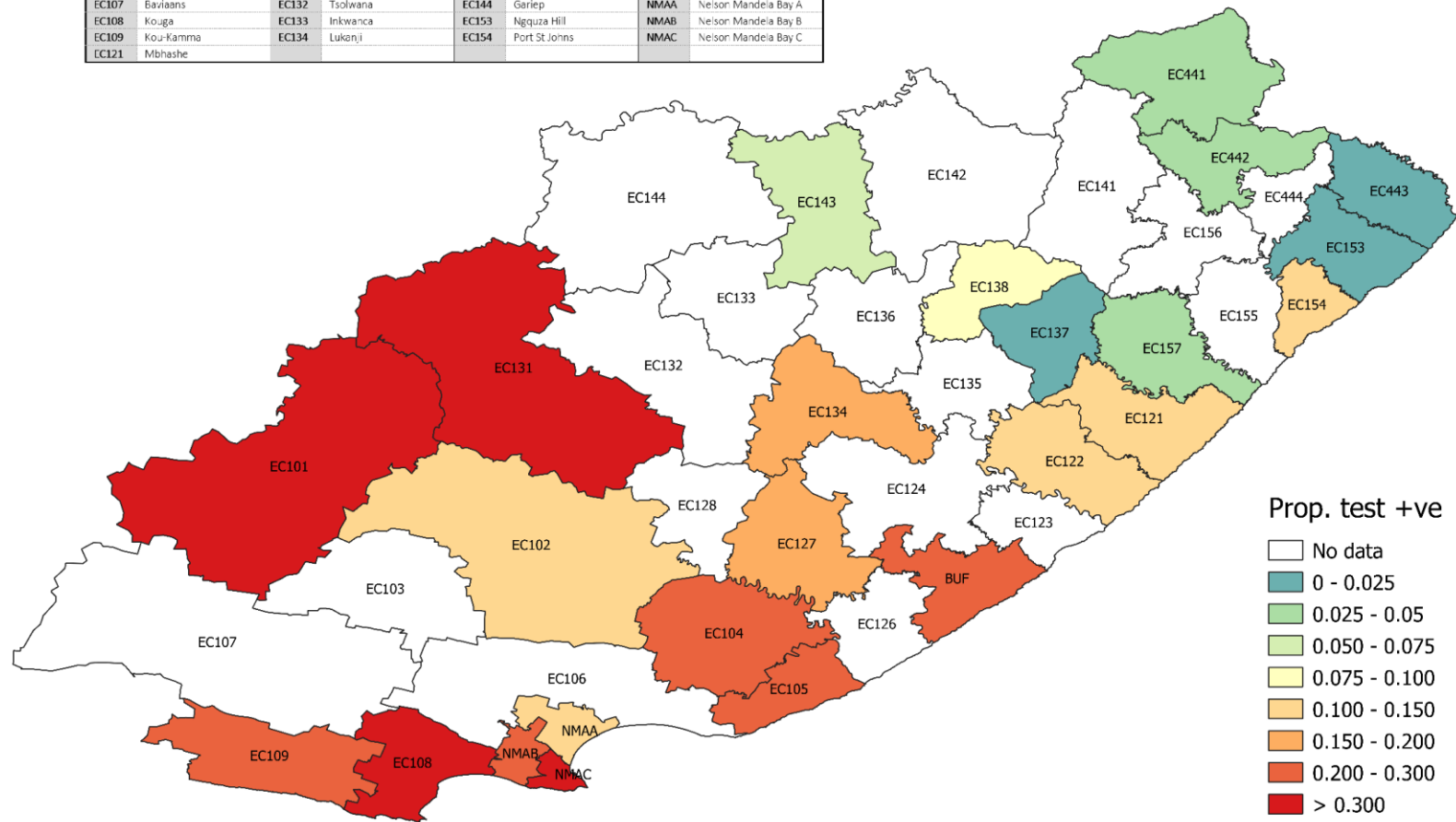


Figure 9. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

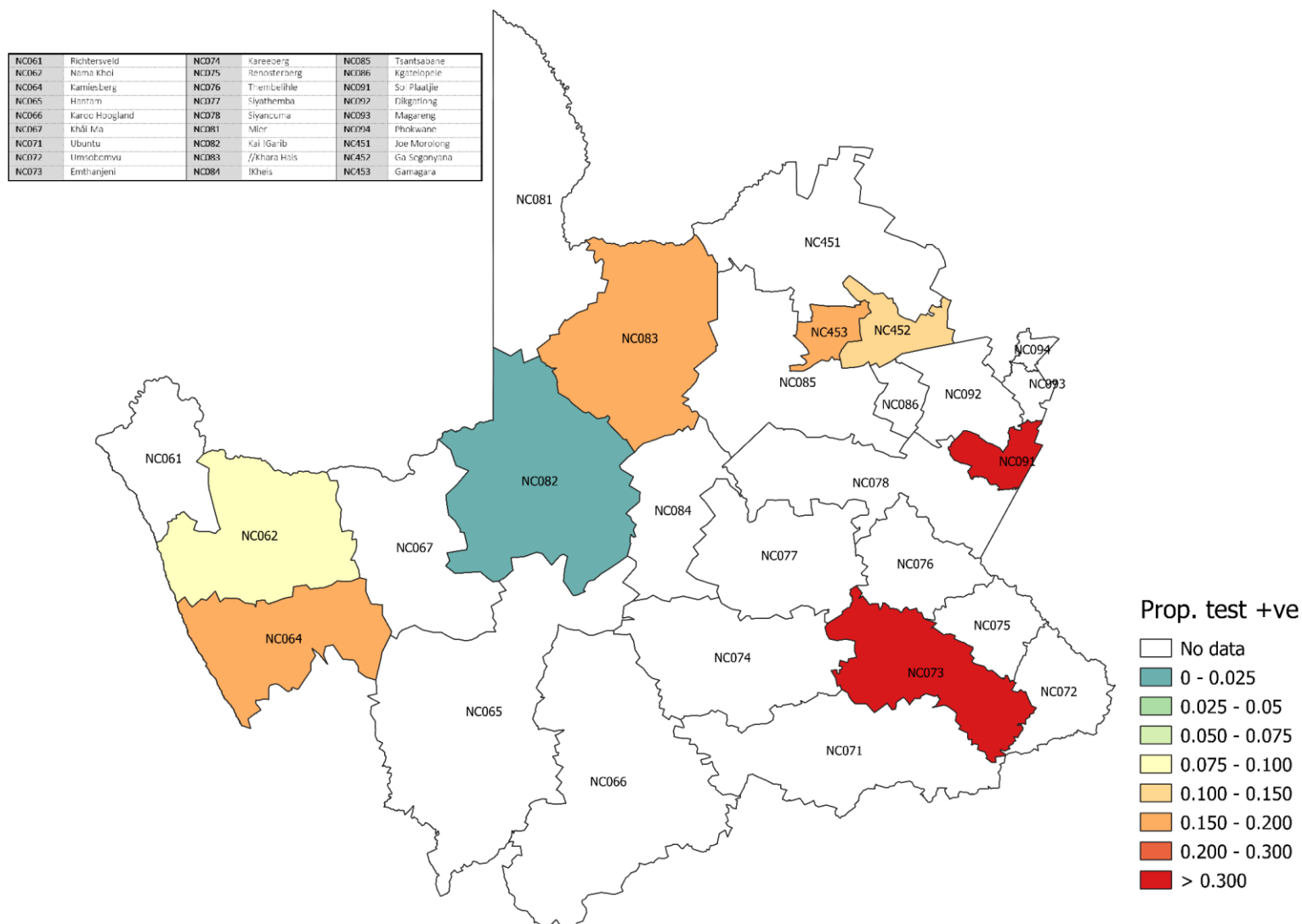


Figure 10. Proportion testing positive by health sub-district in Northern Cape Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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

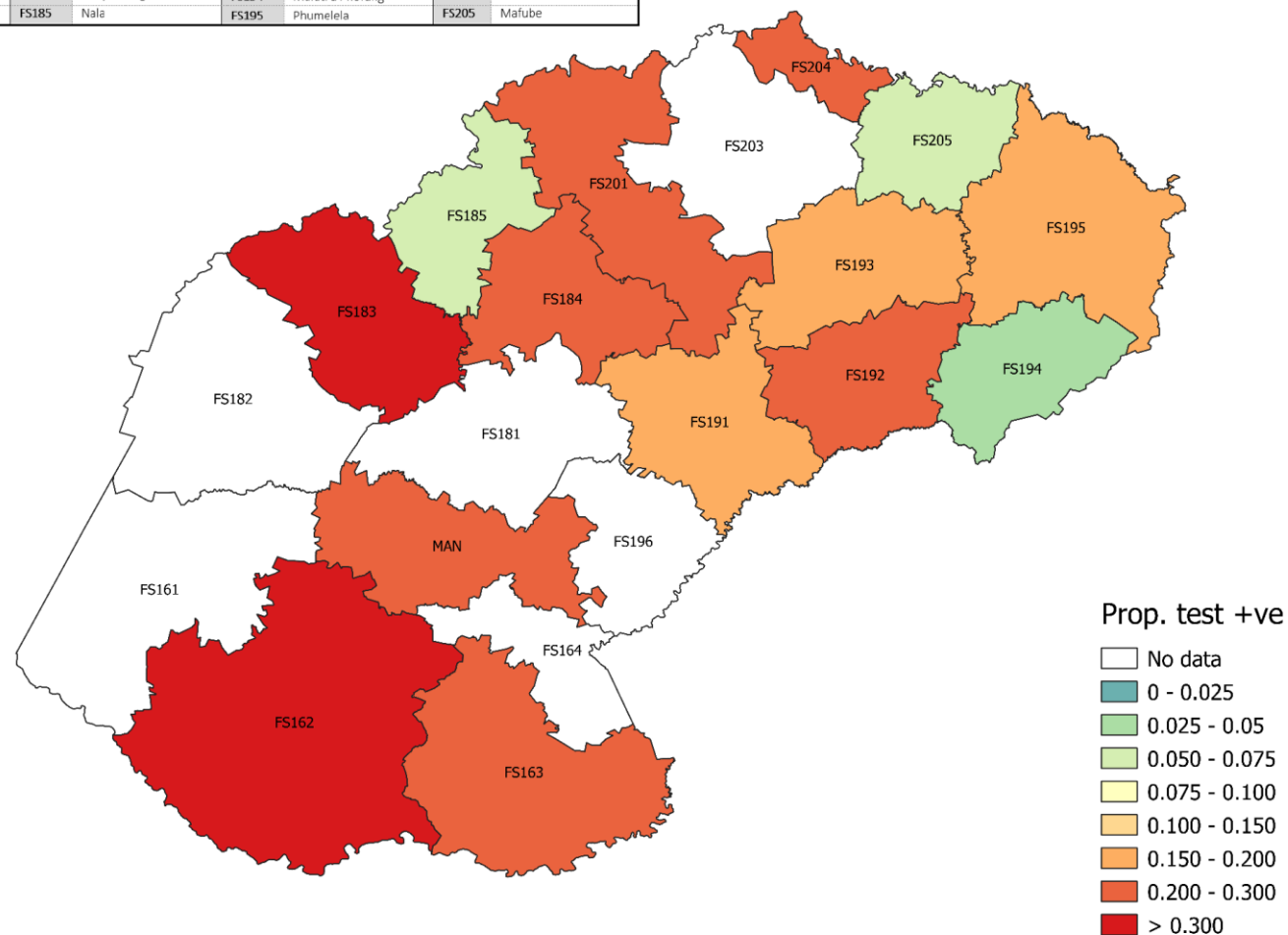


Figure 11. Proportion testing positive by health sub-district in Free State Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

ETHN	eThekweni North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekweni South	KZN234	Umtshezi	KZN274	Hlabisa
ETHS	eThekweni South	KZN235	Okhahlamba	KZN275	Mtubatuba
ETHW	eThekweni West	KZN236	Imbabazane	KZN281	Mfolozi
KZN211	Vulamehlo	KZN241	Endumeni	KZN282	uMhlathuze
KZN212	Umdoni	KZN242	Nqutu	KZN283	Ntambanana
KZN213	Umzumbe	KZN244	Msinga	KZN284	uMlalazi
KZN214	uMuziwabantu	KZN245	Umvoti	KZN285	Mthonjaneni
KZN215	Ezingoleni	KZN252	Newcastle	KZN286	Nkandla
KZN216	Hibiscus Coast	KZN253	Emadlangeni	KZN291	Mandeni
KZN221	uMshwathi	KZN254	Dannhauser	KZN292	KwaDukuza
KZN222	uMngeni	KZN261	eDumbe	KZN293	Ndwedwe
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	Umkimkhulu

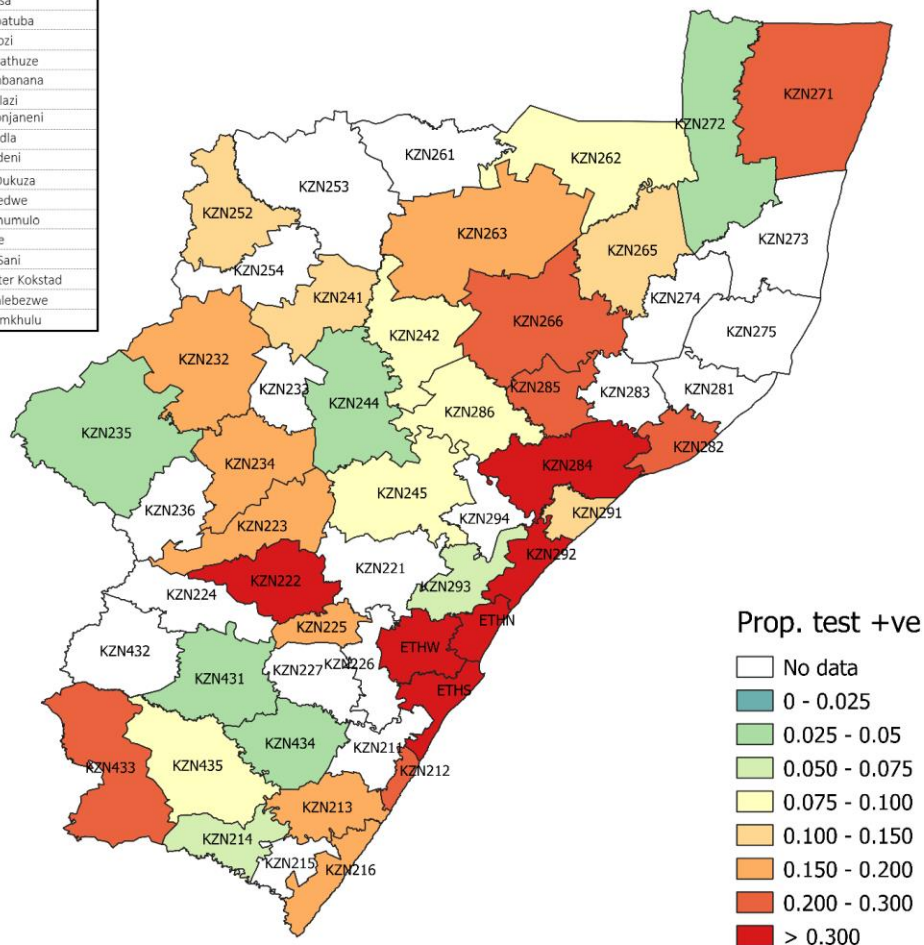


Figure 12. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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				

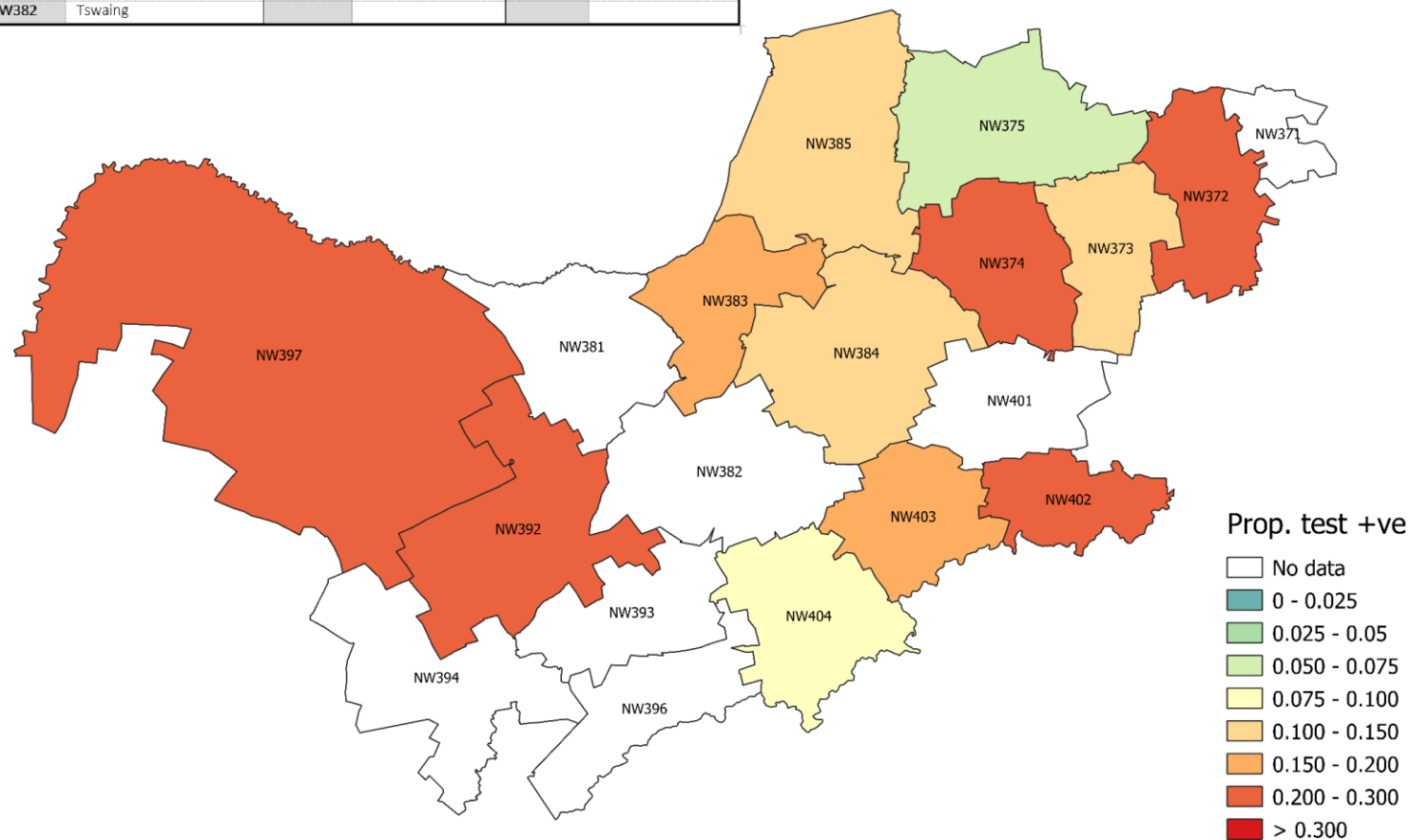


Figure 13. Proportion testing positive by health sub-district in North West Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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	Rancfontein	JHBE	Johannesburg E	TSH5	Tshwane 5
EKUS2	Ekurhuleni South 2	GT483	Wcstoria	JHBF	Johannesburg F	TSH6	Tshwane 6
		GT484	Merafong City	JHBG	Johannesburg G	TSH7	Tshwane 7

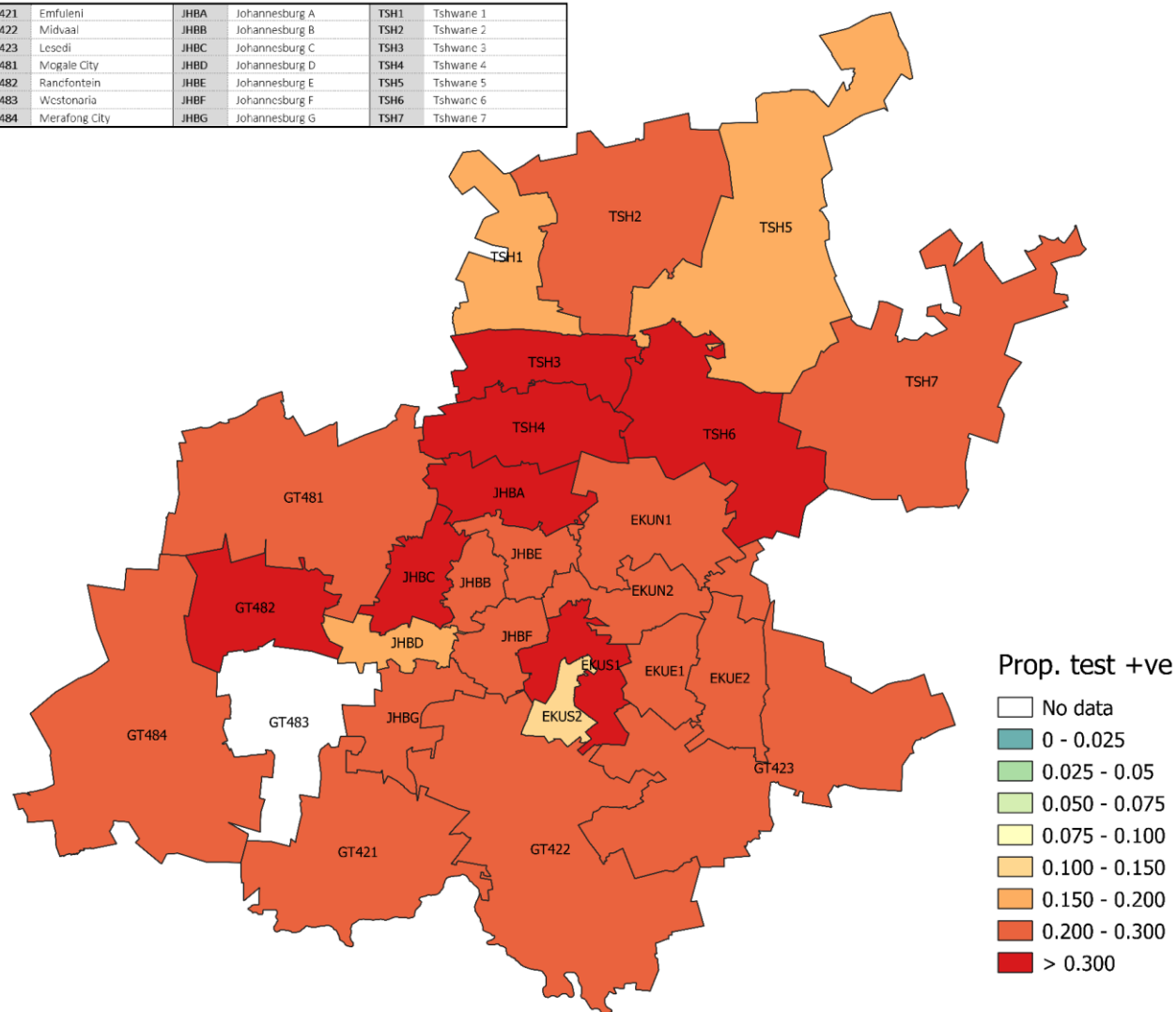


Figure 14. Proportion testing positive by health sub-district in Gauteng Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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

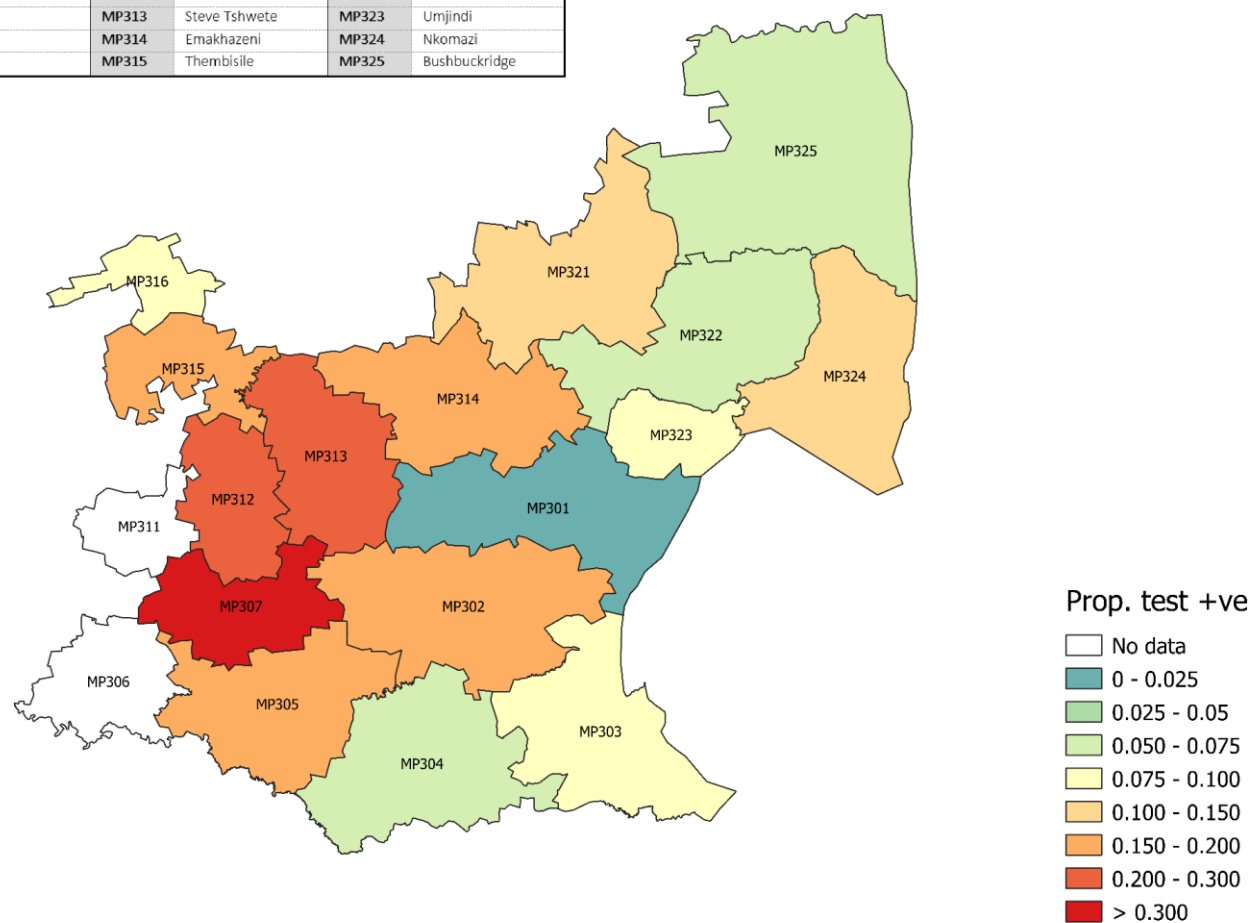


Figure 15. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

LIM331	Greater Giyani	LIM351	Blouberg	LIM365	Modimolle
LIM332	Greater Tzaneen	LIM352	Aganang	LIM366	Bela-Bela
LIM333	Greater Tzaneen	LIM353	Molemole	LIM367	Mogale City
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 Tzaneen
LIM344	Makhado				

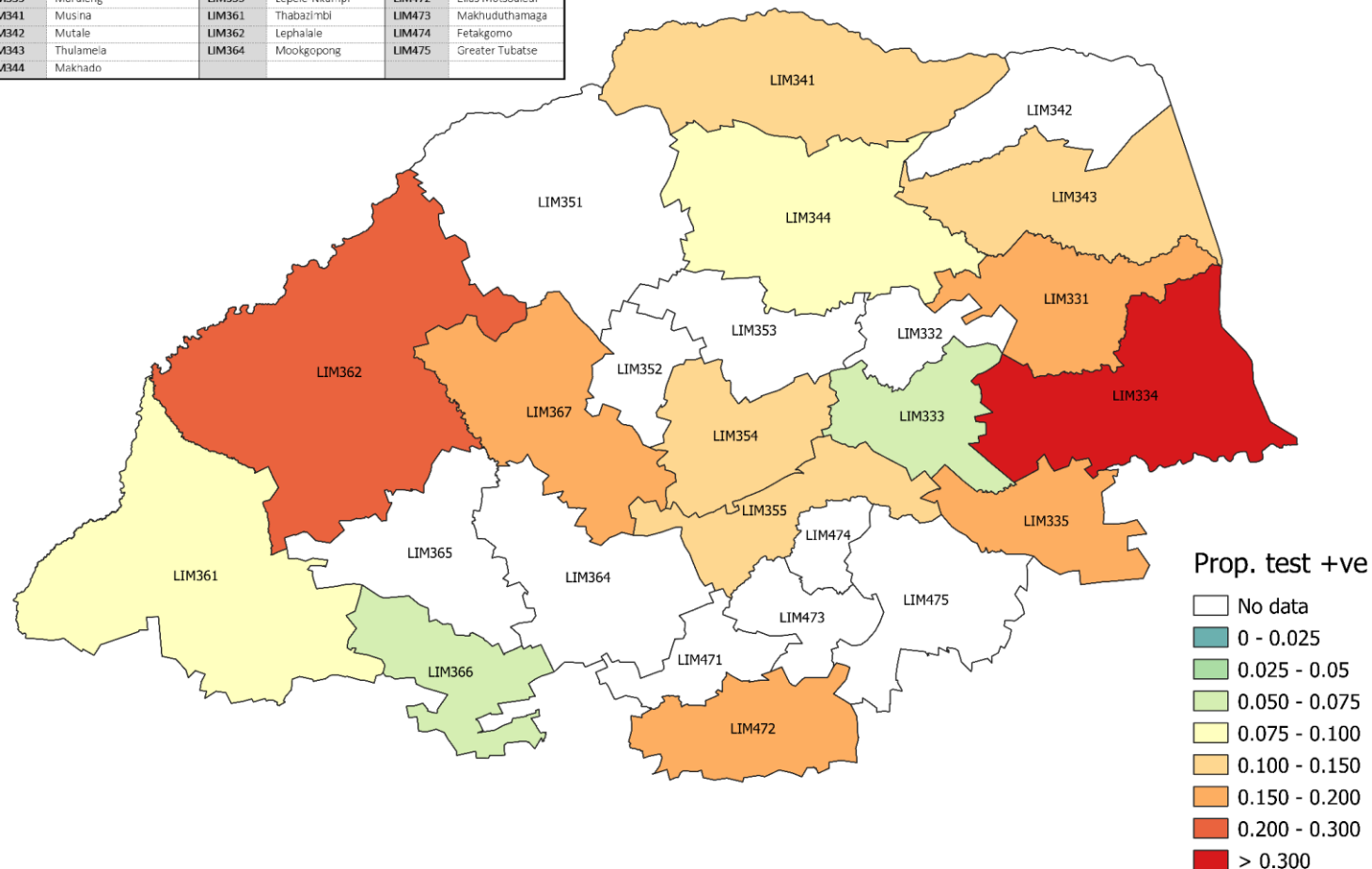


Figure 16. Proportion testing positive by health sub-district in Limpopo Province for the week of 1-7 May 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

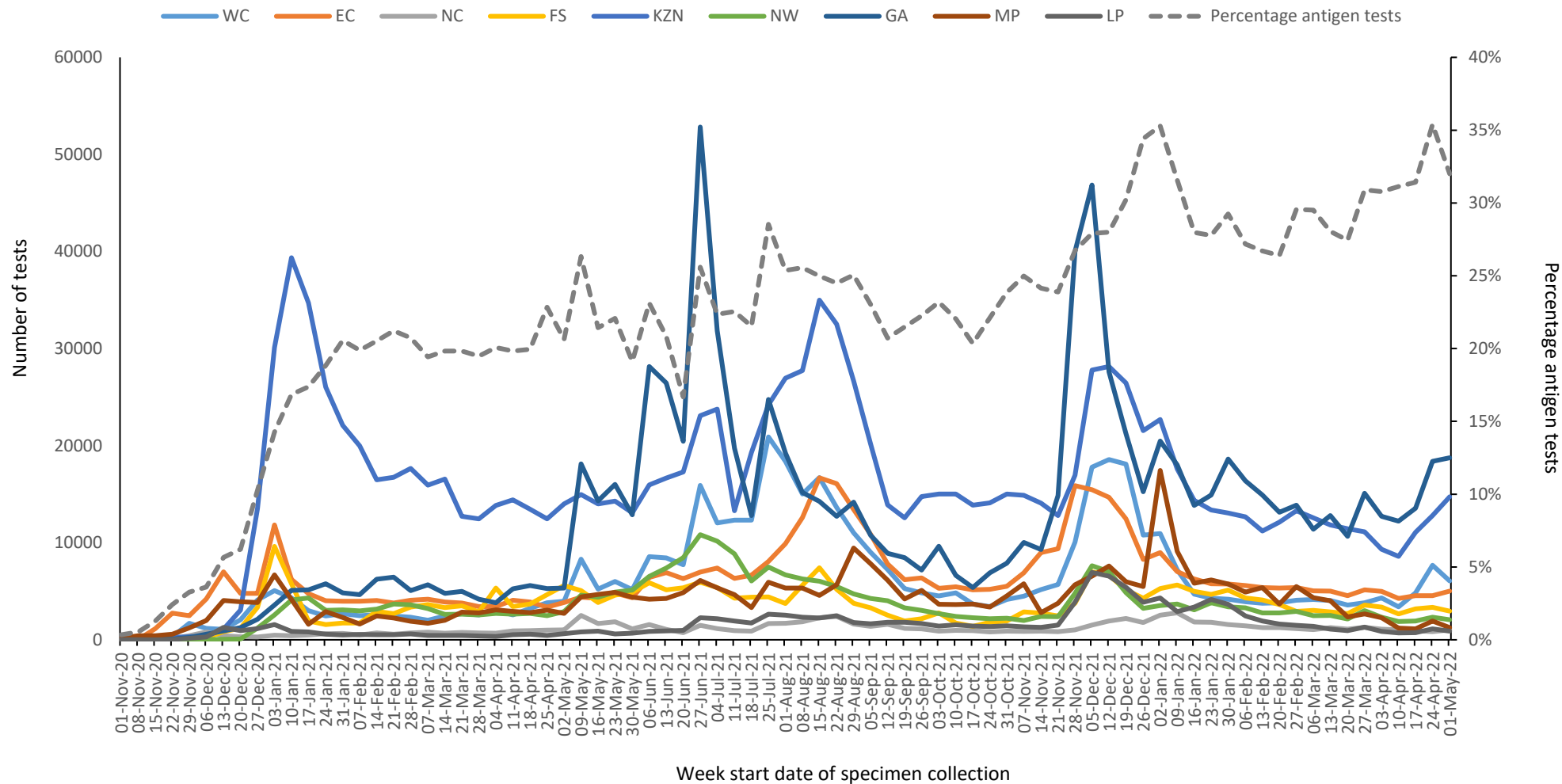


Figure 17. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 7 May 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

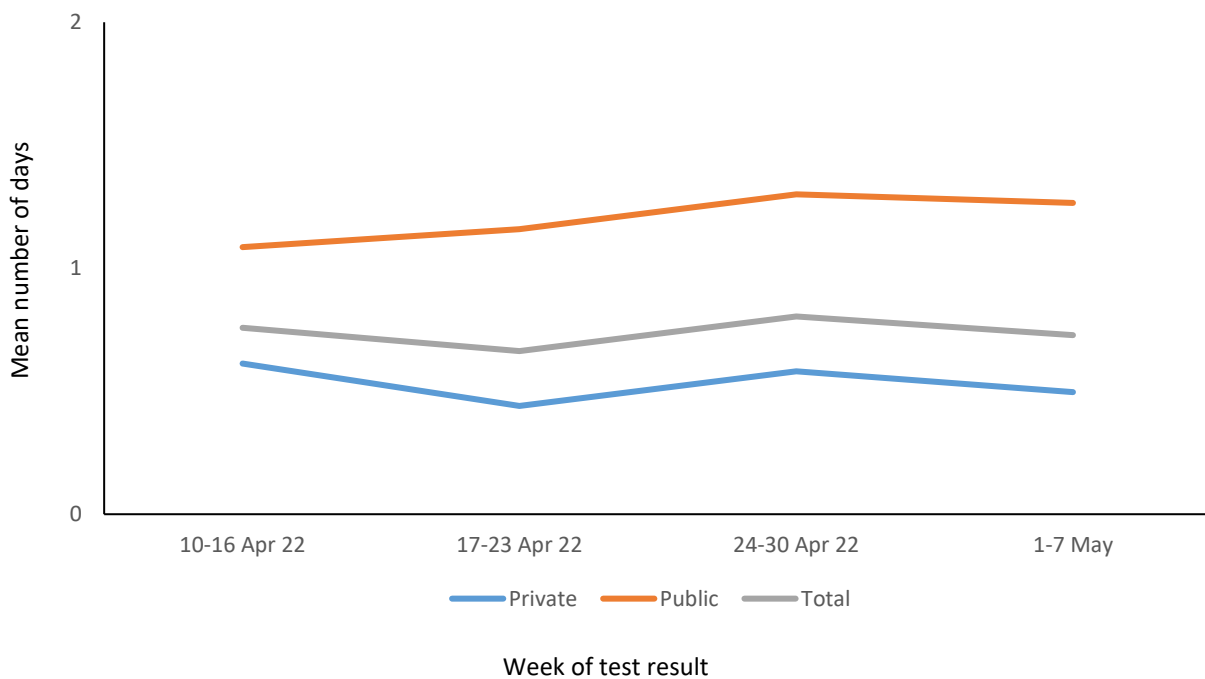


Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 10 April – 7 May 2022.

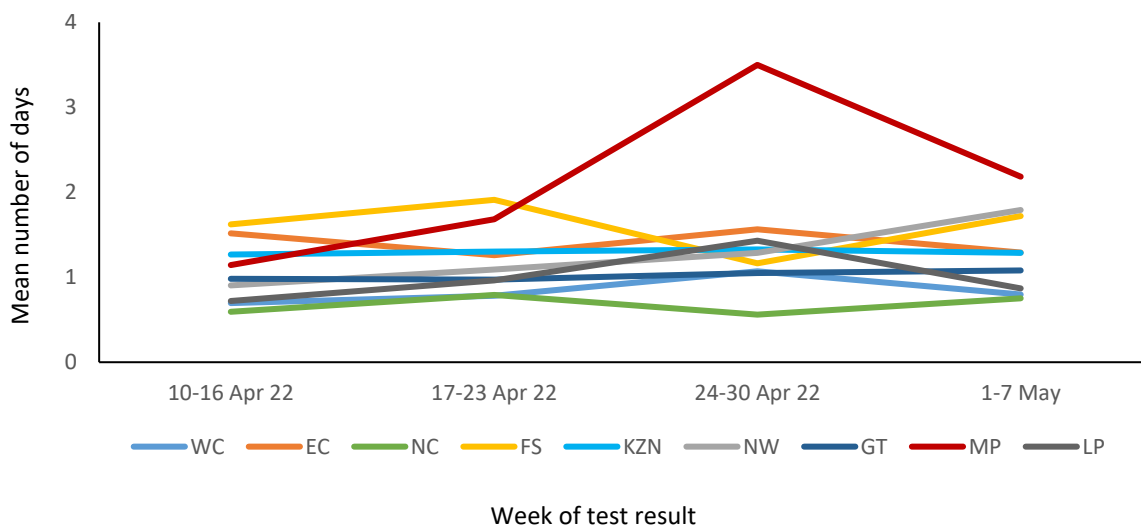


Figure 19. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 10 April – 7 May 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

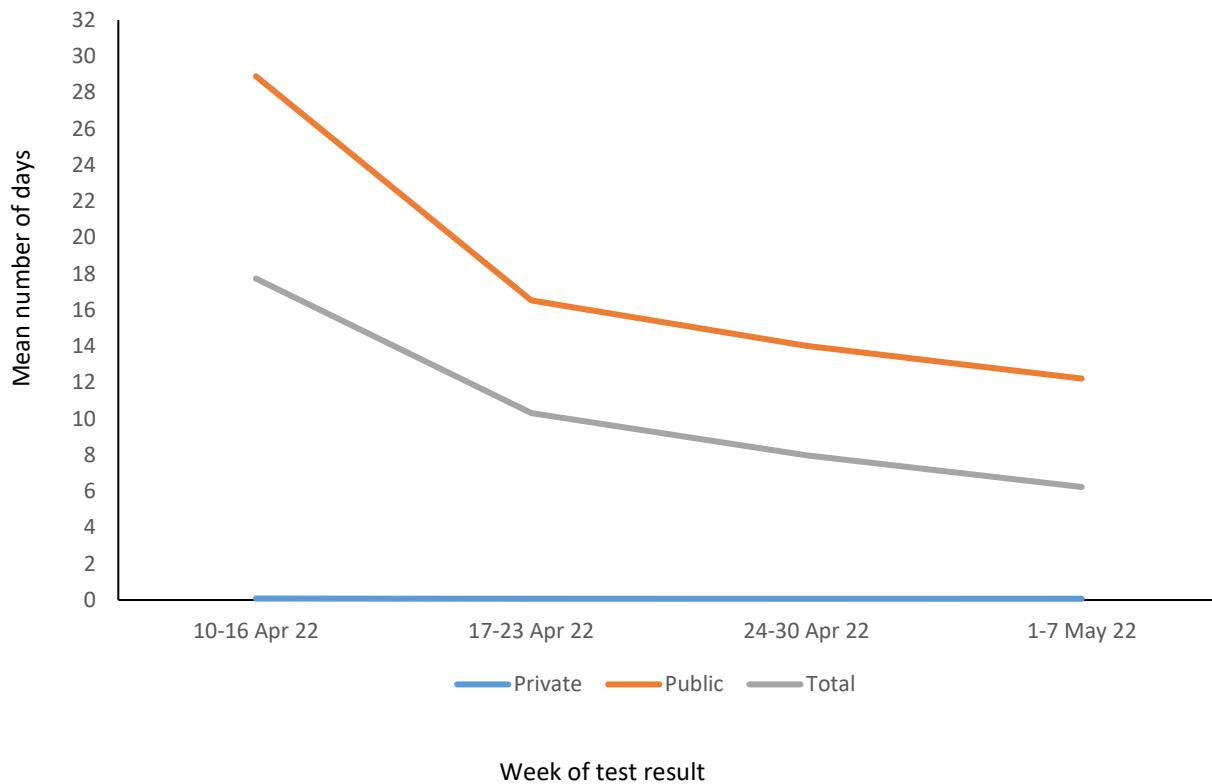


Figure 20. Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 10 April – 7 May 2022.

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 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. 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 95% 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.