

COVID-19 Weekly Testing Summary

Week 17 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 30 April 2022 (Week 17 of 2022).

Highlights:

- The number of tests reported in week 17 of 2022 (141,799: 95,502 PCR and 46,297 antigen tests) was slightly higher than the number of tests reported in the previous week.
- In week 17, the testing rate was 236 per 100,000 persons; highest in Gauteng (386 per 100,000 persons) and lowest in Limpopo (34 per 100,000 persons).
- In week 17, the percentage testing positive was 22.2%, which was 4.4% higher than the previous week.
- In week 17, compared to the previous week, the percentage testing positive increased in all provinces, except in the Western Cape, where it was unchanged.
- The percentage testing positive in week 17 was highest in KwaZulu-Natal (26.7%), followed by Gauteng (24.5%) and the Northern Cape (20.4%). The percentage testing positive was between 10-20% in all other provinces.
- In week 17, the percentage testing positive increased in all age groups and was highest in the 10-14 years age group (34.2%).

Executive Summary:

- In the period 1 March 2020 through 30 April 2022, 24,252,282 tests for SARS-CoV-2 have been reported nationally: 19,993,726 PCR and 4,258,556 antigen tests.
- The number of tests reported in week 17 of 2022 (n= 141,799: 95,502 PCR and 46,297 antigen tests) was slightly higher than the number of tests reported in the previous week.
- Gauteng reported the largest proportion of tests (43.1%), followed by KwaZulu-Natal (20.9%) and Western Cape (14.6%).
- The overall testing rate increased slightly from the previous week (223 per 100,000 persons in week 16 to 236 per 100,000 persons in week 17).
- In week 17, testing rates increased in the Western Cape, Gauteng and KwaZulu-Natal and were similar to the previous week in all other provinces. The testing rate was highest in Gauteng (386 per 100,000 persons) and lowest in Limpopo (34 per 100,000 persons).
- The testing rate in week 17 was highest in the ≥80 years age group (450 per 100,000 persons).
- In week 17, the percentage testing positive was 22.2%, which was 4.4% higher than the previous week (17.8% in week 16 to 22.2% in week 17, $P<0.001$).
- In the past week, the percentage testing positive increased by 3.5% in the public sector (11.9% in week 16 to 15.4% in week 17, $P<0.001$) and by 4.6% in the private sector (21.3% in week 16 to 25.9% in week 17, $P<0.001$).

- In week 17, compared to the previous week, the percentage testing positive increased in all provinces, except in the Western Cape, where it was unchanged.
- The percentage testing positive in week 17 was highest in KwaZulu-Natal (26.7%), followed by Gauteng (24.5%) and the Northern Cape (20.4%). The percentage testing positive was between 10-20% in all other provinces.
- In week 17, health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=10), Gauteng (n=8) and KwaZulu-Natal (n=4).
- In week 17, an increase in the percentage testing positive was observed across all age groups and was highest in the 10-14 years age group (34.2%).
- Antigen tests accounted for 32.6% (46,297/141,799) of tests reported in week 17, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 17 the public sector accounted for 43.2% (19,992/46,297) of antigen tests reported. An increase in the number of antigen tests reported was observed in the Western Cape and KwaZulu-Natal in the past week.
- The mean turnaround time for PCR tests reported in week 17 was 0.8 days; 1.3 days in the public sector and 0.6 days in the private sector. Turnaround times for public sector PCR tests decreased in the Free State and increased in Mpumalanga. Turnaround times were <2 days in all provinces except in Mpumalanga (3.5 days).
- The mean turnaround time for antigen tests reported in week 17 was 15.1 days in the public sector and 0.1 days in the private sector.

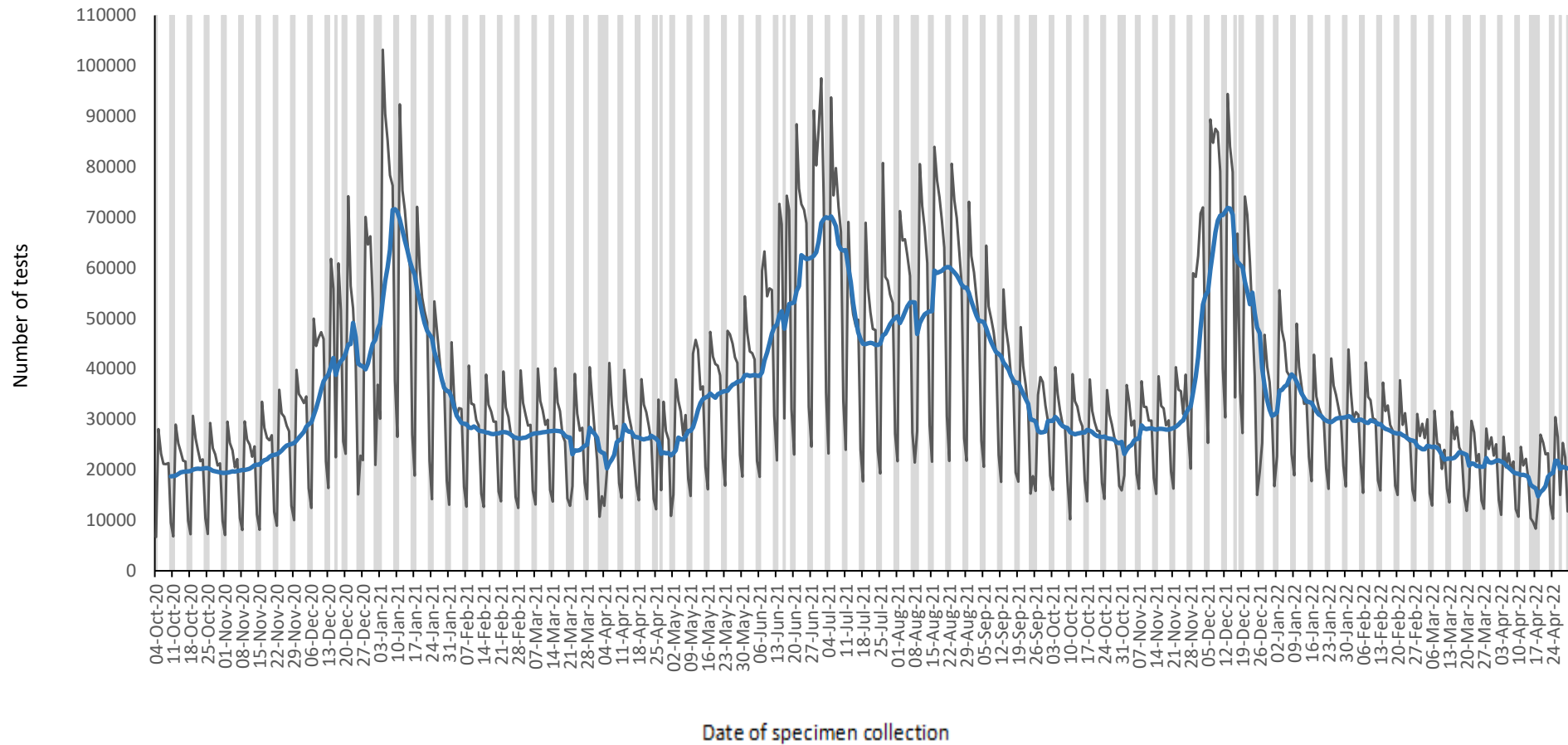


Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 4 October 2020 – 30 April 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays



Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021 – 30 April 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 (1.4)	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	185526 (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	193973 (0.8)	13463	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	370988 (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	443860 (1.8)	141464	31.9
28	11-Jul-21	320773 (1.3)	100958	31.5
29	18-Jul-21	313102 (1.3)	88447	28.2
30	25-Jul-21	350604 (1.4)	88359	25.2
31	01-Aug-21	372289 (1.5)	88129	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	300482 (1.2)	38856	12.9
37	12-Sep-21	260671 (1.1)	24018	9.2

38	19-Sep-21	209062 (0.9)	14011	6.7
39	26-Sep-21	207769 (0.9)	9491	4.6
40	03-Oct-21	197831 (0.8)	6450	3.3
41	10-Oct-21	191671 (0.8)	5044	2.6
42	17-Oct-21	185548 (0.8)	3412	1.8
43	24-Oct-21	177125 (0.7)	2566	1.4
44	31-Oct-21	182840 (0.8)	2105	1.2
45	07-Nov-21	196631 (0.8)	2321	1.2
46	14-Nov-21	196835 (0.8)	4810	2.4
47	21-Nov-21	224581 (0.9)	18974	8.4
48	28-Nov-21	381907 (1.6)	98391	25.8
49	05-Dec-21	493016 (2.0)	175040	35.5
50	12-Dec-21	424286 (1.7)	154855	36.5
51	19-Dec-21	337007 (1.4)	117629	34.9
52	20-Dec-21	216491 (0.9)	66060	30.5
1	02-Jan-22	272446 (1.1)	61089	22.4
2	09-Jan-22	234140 (1.0)	35115	15.0
3	16-Jan-22	208299 (0.9)	24028	11.5
4	23-Jan-22	212420 (0.9)	25796	12.1
5	24-Jan-22	209623 (0.9)	22934	10.9
6	06-Feb-22	202975 (0.8)	20388	10.0
7	13-Feb-22	191024 (0.8)	19067	10.0
8	14-Feb-22	180459 (0.7)	16275	9.0
9	27-Feb-22	172425 (0.7)	13122	7.6
10	06-Mar-22	155147 (0.6)	10660	6.9
11	13-Mar-22	162321 (0.7)	9856	6.1
12	20-Mar-22	144146 (0.6)	9433	6.5
13	27-Mar-22	152918 (0.6)	10208	6.7
14	03-Apr-22	134988 (0.6)	10535	7.8
15	10-Apr-22	116566 (0.5)	12211	10.5
16	17-Apr-22	133887 (0.6)	23806	17.8
17	24-Apr-22	141799 (0.6)	31548	22.2
Total		24,252,282 (100.0)	4,130,472	

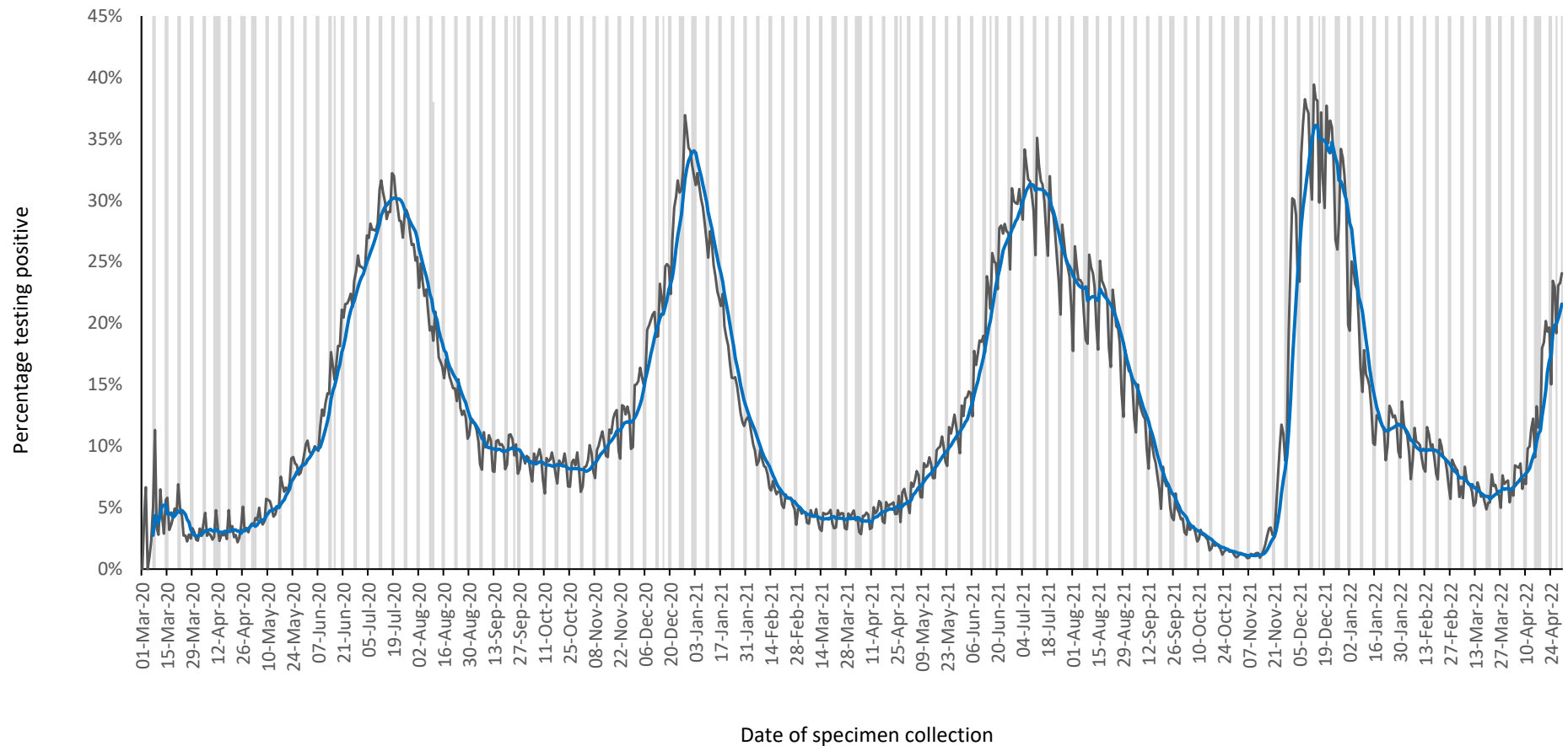


Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 30 April 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

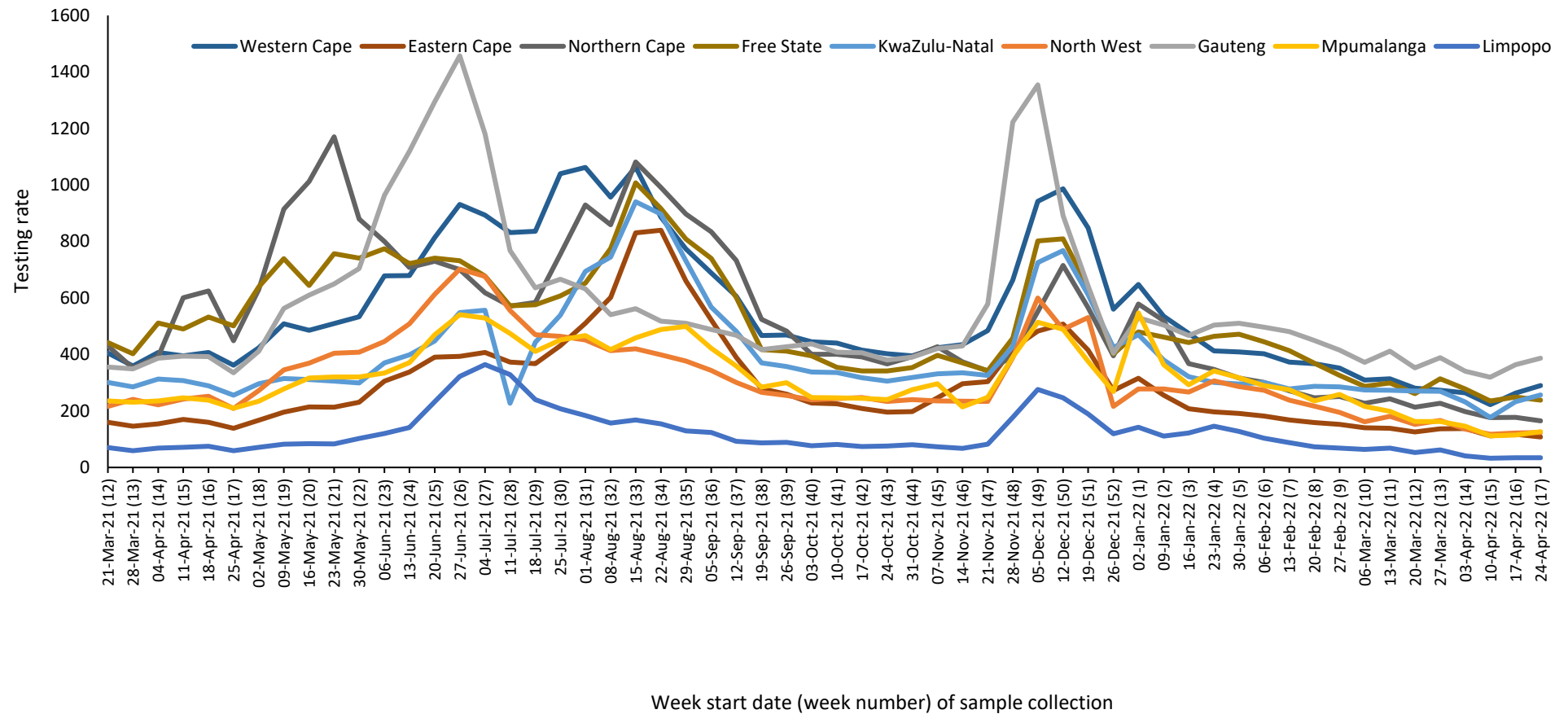


Figure 3. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 30 April 2022

Table 2. Weekly number of tests and positive tests reported by province, South Africa, 10-30 April 2022

Province	Population ^a	10-16 Apr 2022		17-23 Apr 2022		24-30 Apr 2022		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	7113776	15810	2287 (14.5)	18709	3401 (18.2)	20635	3904 (18.9)	290	0.7%
Eastern Cape	6676590	7462	606 (8.1)	7859	979 (12.5)	7199	1244 (17.3)	108	4.8%
Northern Cape	1303047	2301	109 (4.7)	2310	247 (10.7)	2149	439 (20.4)	165	9.7%
Free State	2932441	6897	288 (4.2)	7305	659 (9.0)	6997	1219 (17.4)	239	8.4%
KwaZulu-Natal	11513575	20377	2211 (10.9)	26748	5351 (20.0)	29583	7908 (26.7)	257	6.7%
North West	4122854	4841	230 (4.8)	5013	494 (9.9)	5087	679 (13.3)	123	3.5%
Gauteng	15810388	50499	6002 (11.9)	57461	11785 (20.5)	61095	14969 (24.5)	386	4.0%
Mpumalanga	4743584	5307	268 (5.0)	5456	521 (9.5)	6014	718 (11.9)	127	2.4%
Limpopo	5926724	1937	102 (5.3)	2049	221 (10.8)	2044	300 (14.7)	34	3.9%
Unknown		1135	108 (9.5)	977	148 (15.1)	996	168 (16.9)		
Total	60142978	116566	12211 (10.5)	133887	23806 (17.8)	141799	31548 (22.2)	236	4.4%

^a 2021 Mid-year population Statistics SA

^b Current week compared to previous week

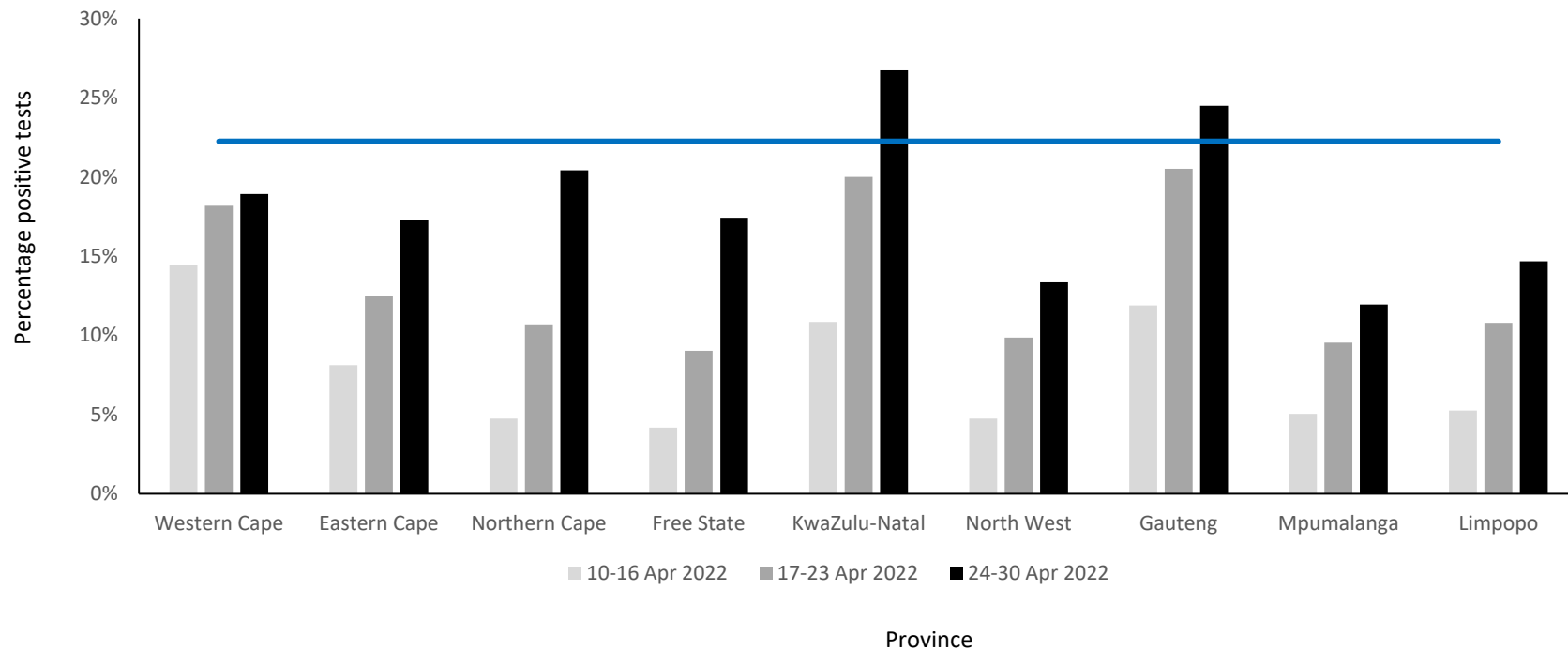


Figure 4. Weekly percentage testing positive by province, South Africa, 10-30 April 2022. The horizontal blue line shows the national mean for week 17, beginning 24 April 2022



Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 17, 24-30 April 2022

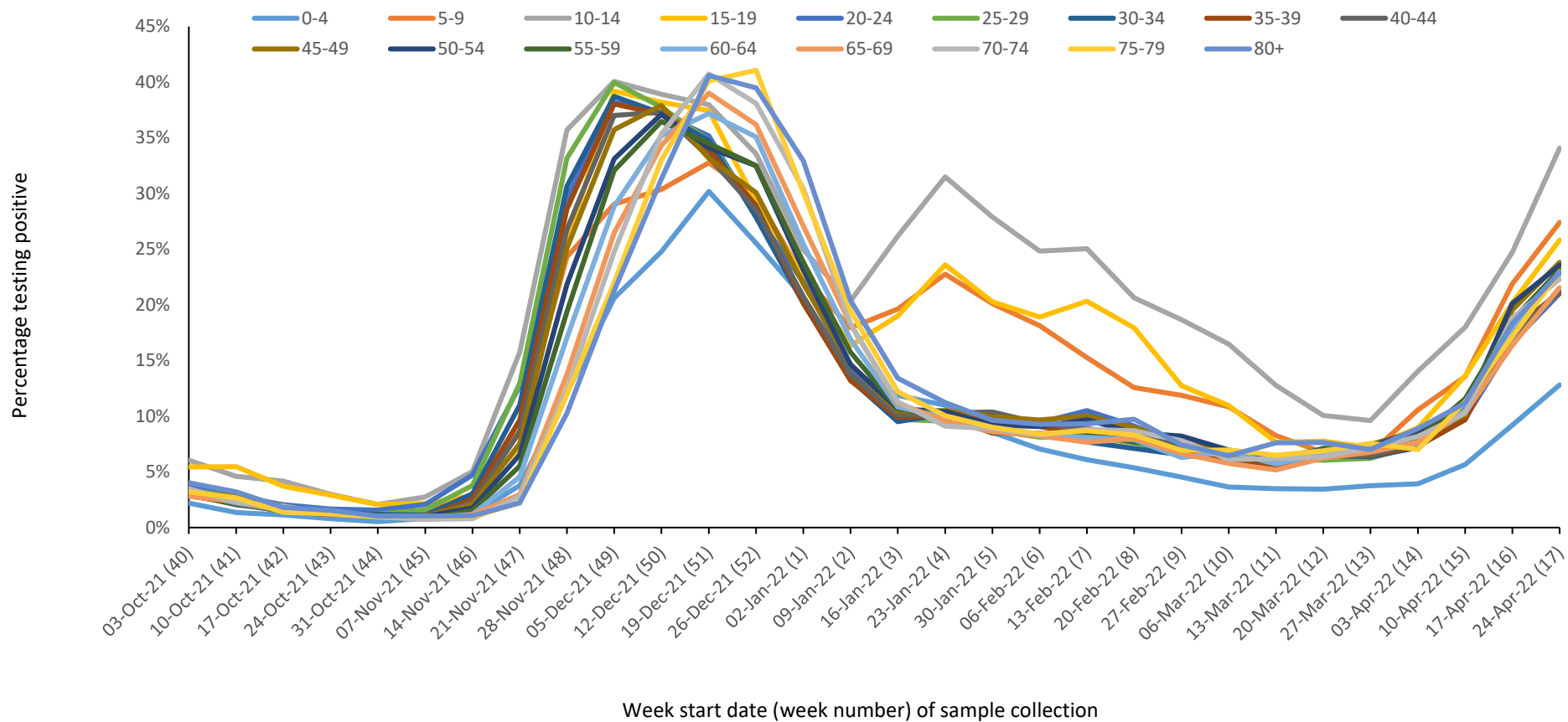


Figure 6. Percentage testing positive by age group and week of specimen collection, South Africa, 3 October 2021 – 30 April 2022

Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 24-30 April 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Randfontein	Gauteng	0.668 (0.639-0.698)	0.575 (0.537-0.613)
Oudtshoorn	Western Cape	0.440 (0.354-0.526)	0.214 (0.123-0.306)
Tshwane 5	Gauteng	0.434 (0.342-0.526)	0.292 (0.146-0.438)
eThekweni North	KwaZulu-Natal	0.400 (0.385-0.416)	0.218 (0.200-0.235)
Witzenberg	Western Cape	0.391 (0.253-0.528)	...
eThekweni West	KwaZulu-Natal	0.356 (0.337-0.375)	0.166 (0.146-0.186)
Swellendam	Western Cape	0.352 (0.227-0.478)	0.181 (0.066-0.296)
Tshwane 4	Gauteng	0.350 (0.326-0.374)	0.160 (0.136-0.184)
Saldanha Bay	Western Cape	0.344 (0.294-0.394)	0.217 (0.164-0.271)
Johannesburg C	Gauteng	0.335 (0.320-0.350)	0.185 (0.169-0.201)
Tshwane 7	Gauteng	0.334 (0.243-0.425)	0.152 (0.073-0.232)
KwaDukuza	KwaZulu-Natal	0.333 (0.308-0.358)	0.167 (0.139-0.194)
Knysna	Western Cape	0.328 (0.233-0.423)	0.112 (0.049-0.174)
Theewaterskloof	Western Cape	0.326 (0.233-0.420)	0.070 (0.000-0.163)
CT Northern	Western Cape	0.324 (0.298-0.350)	0.229 (0.204-0.255)
Moqhaka	Free State	0.318 (0.237-0.398)	0.047 (0.002-0.093)
Emfuleni	Gauteng	0.310 (0.292-0.328)	0.156 (0.138-0.173)
Stellenbosch	Western Cape	0.308 (0.258-0.358)	0.190 (0.143-0.237)
Greater Giyani	Limpopo	0.298 (0.161-0.435)	...
Langeberg	Western Cape	0.296 (0.148-0.445)	0.224 (0.085-0.363)
Tshwane 2	Gauteng	0.293 (0.262-0.324)	0.143 (0.116-0.170)
CT Eastern	Western Cape	0.291 (0.263-0.319)	0.221 (0.193-0.250)
uMngeni	KwaZulu-Natal	0.291 (0.244-0.338)	0.078 (0.046-0.110)
Ramotshere Moiloa	North West	0.287 (0.170-0.405)	0.026 (0.000-0.075)
Tshwane 6	Gauteng	0.285 (0.269-0.301)	0.139 (0.125-0.153)

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

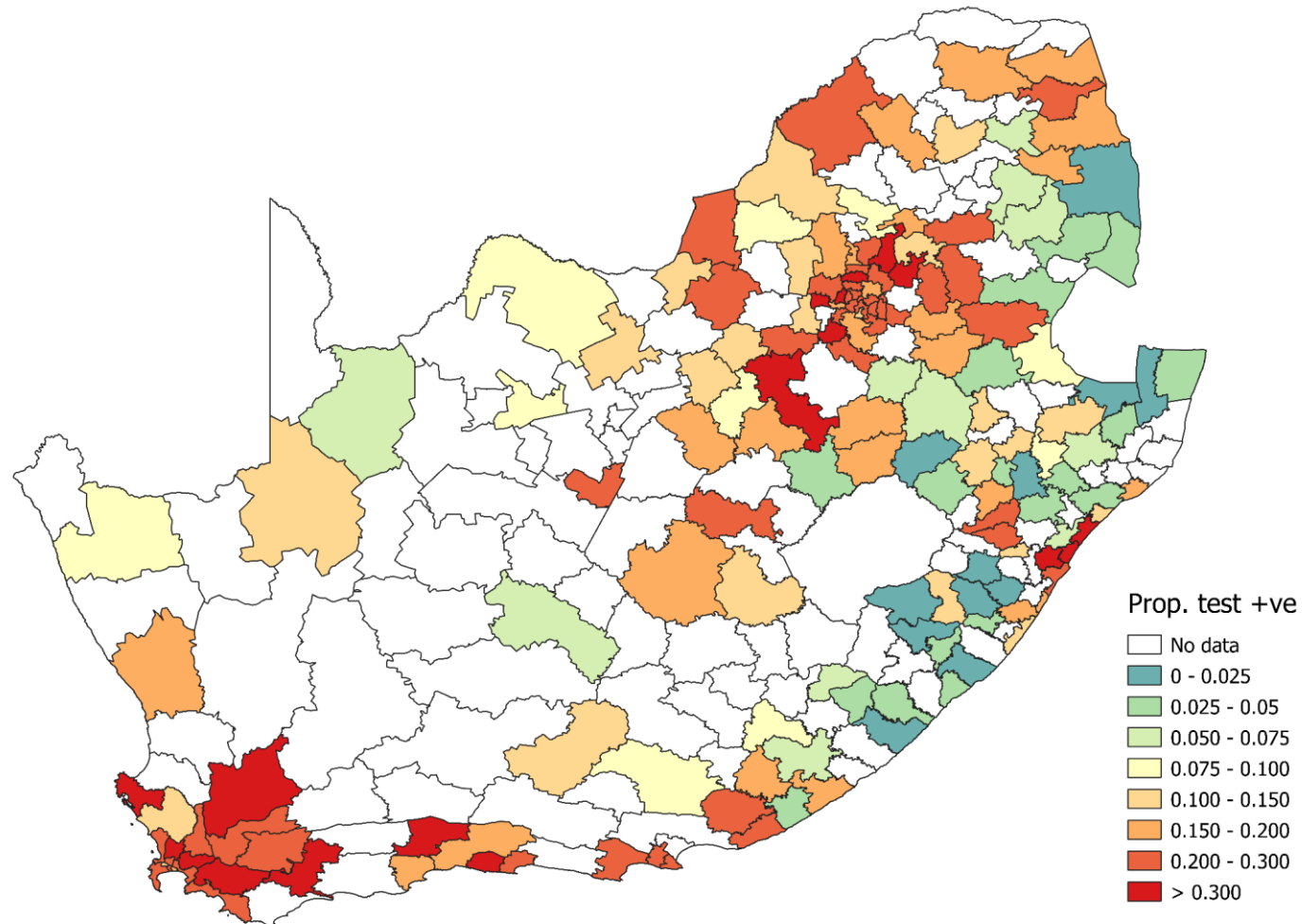


Figure 7. Proportion testing positive by health sub-district in South Africa for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

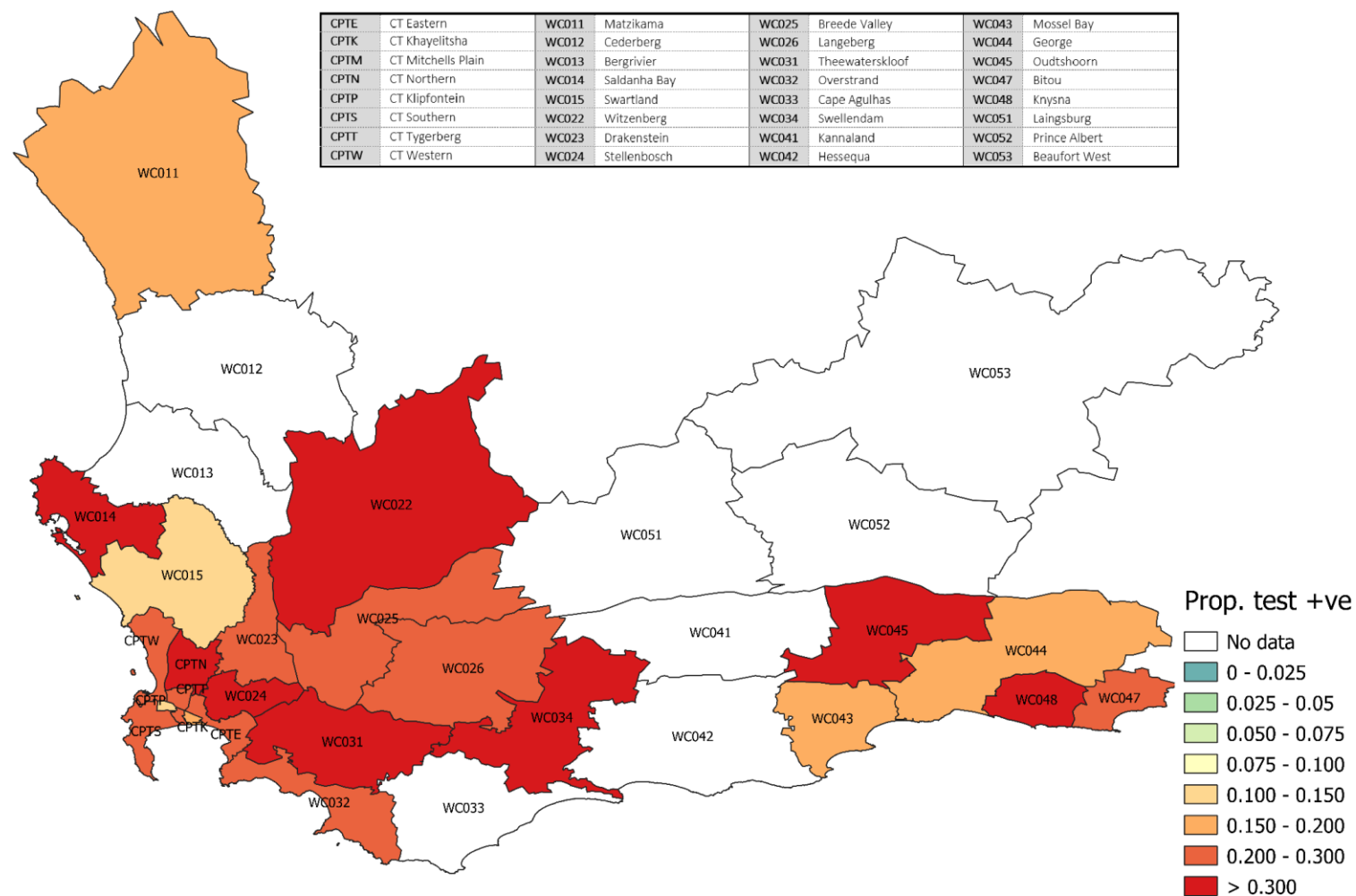


Figure 8. Proportion testing positive by health sub-district in the Western Cape Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

BUF	Buffalo City	EC122	Mnquma	EC135	Intsika Yethu	EC155	Nyandeni
EC101	Camdeboo	EC123	Great Kei	EC136	Emalahleni	EC156	Mhlontlo
EC102	Blue Crane Route	EC124	Amahlathi	EC137	Engcobo	EC157	King Sabata Dalindyebo
EC103	Ikwezi	EC126	Ngqushwa	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	Inkwanca	EC153	Ngqiza Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukanji	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mbhashe						

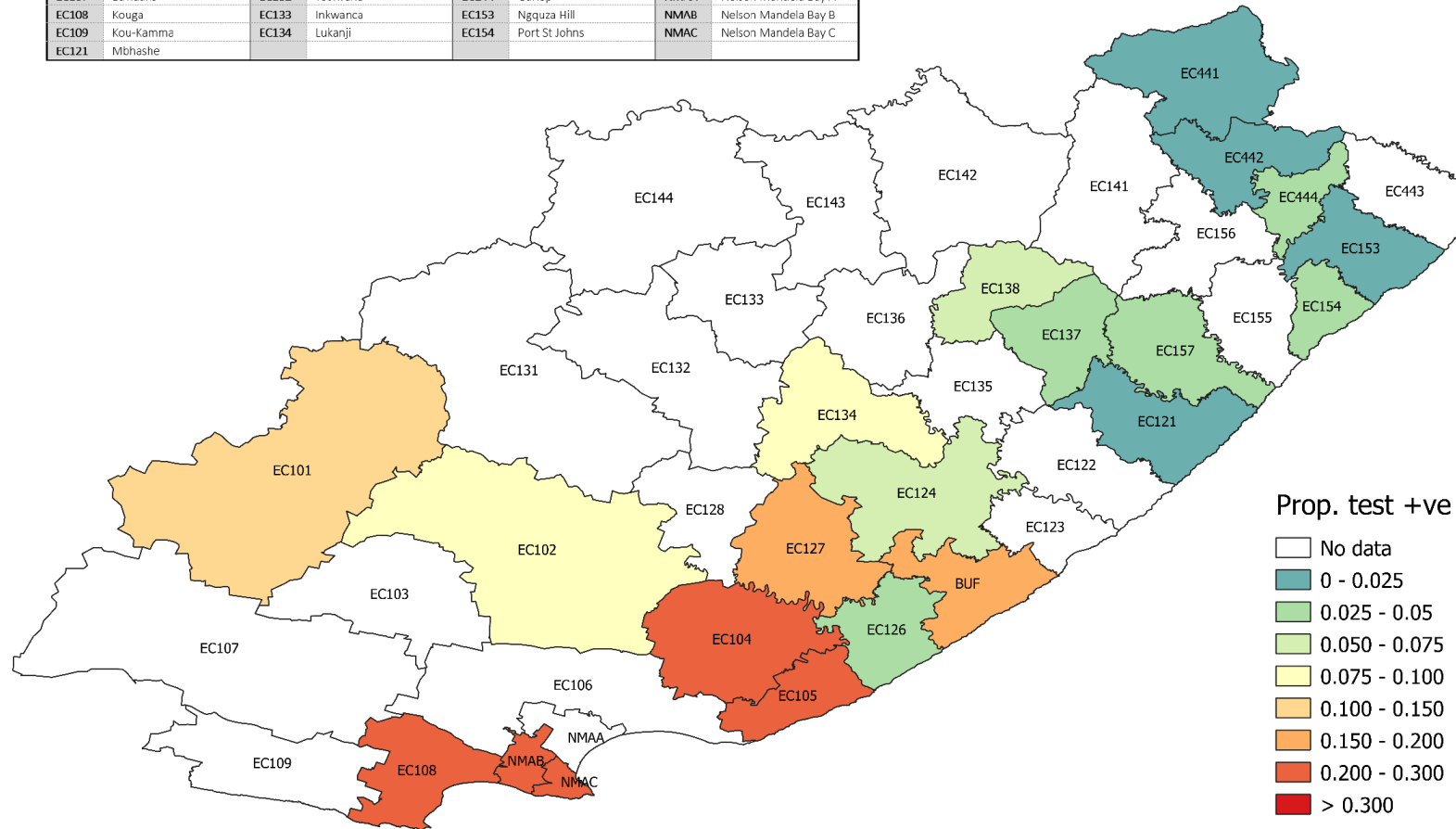


Figure 9. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

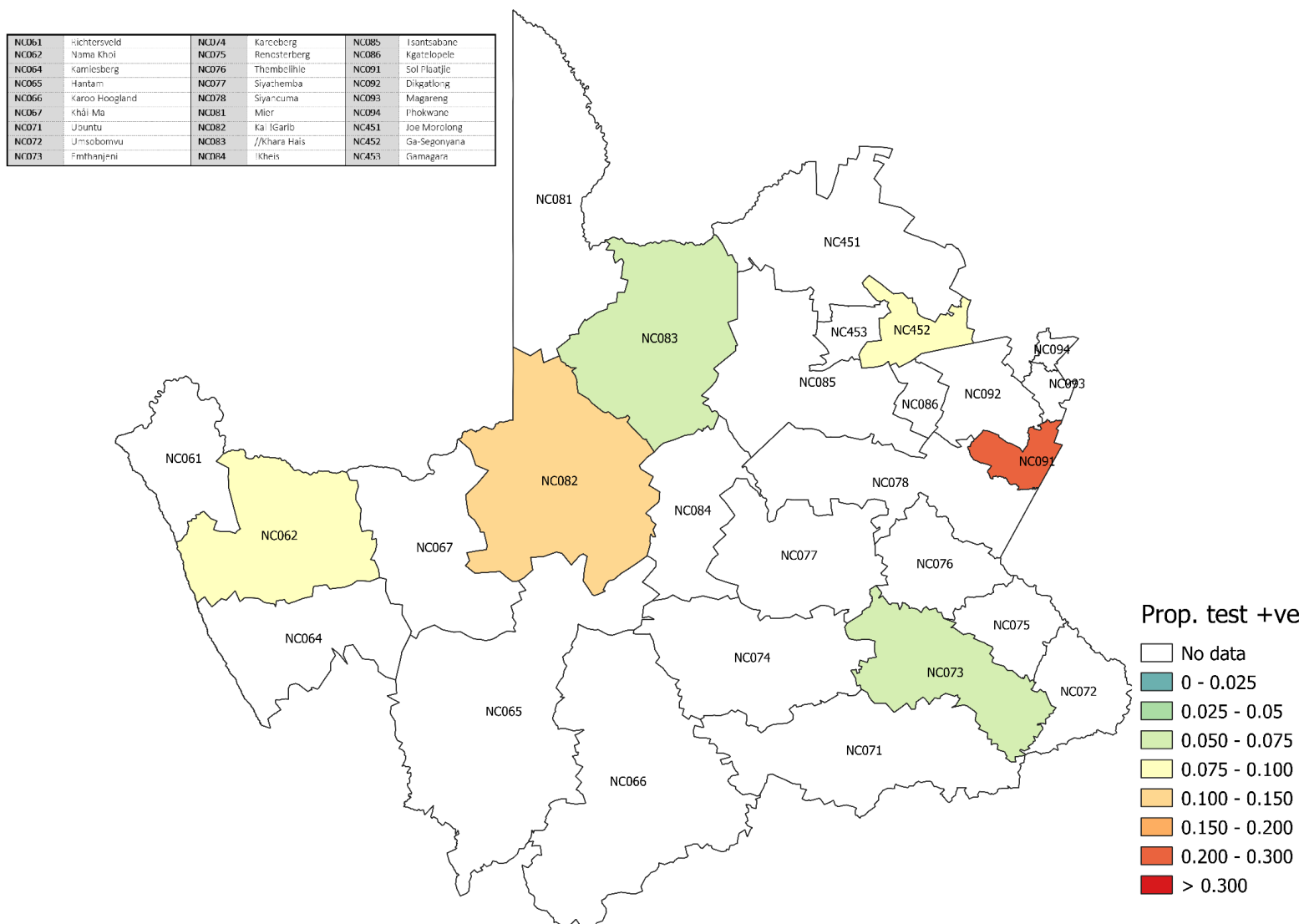


Figure 10. Proportion testing positive by health sub-district in Northern Cape Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

MAN	Mangaung	FS181	Masilonyana	FS191	Setsoto	FS196	Manitsopa
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

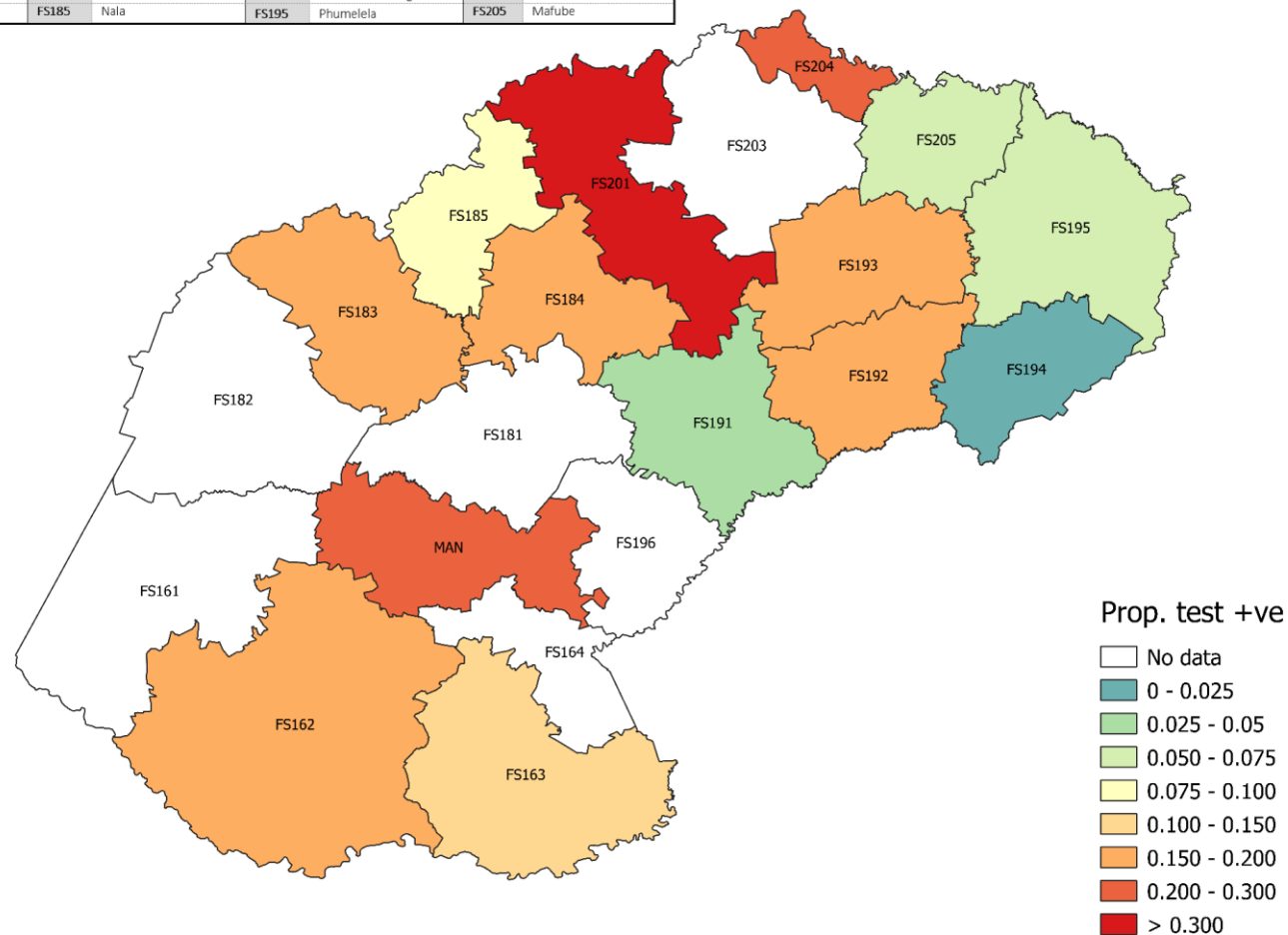


Figure 11. Proportion testing positive by health sub-district in Free State Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

ETHN	eThekwin North	KZN233	Indaka	KZN273	The Big 5 False Bay
LIIBS	eThekwin South	KZN234	Umtshezi	KZN274	Illaia
ETHS	eThekwin South	KZN235	Oxshamba	KZN275	Mtubatuba
ETHW	eThekwin West	KZN236	Imbabezane	KZN281	Mfolozi
KZN211	Vulamehlo	KZN241	Endumeni	KZN287	uMhathuze
KZN212	Umdoni	KZN242	Nqutu	KZN283	Ntampanana
KZN213	Umkumbi	KZN244	Mzinga	KZN284	uMlalazi
KZN214	uMuziwabantu	KZN245	Umvoti	KZN285	Mthorjaneni
KZN215	Ezingoleni	KZN252	Newcastle	KZN286	Nkandla
KZN216	Hlabisa Coast	KZN253	Emadlangeni	KZN291	Mandoni
KZN221	uMshwathi	KZN254	Dannhauser	KZN292	KwaDukuza
KZN222	uMngeni	KZN261	eDumbe	KZN293	Ndwedwe
KZN223	Mpofana	KZN262	uPhongolo	KZN294	Maohumulo
KZN224	Impendle	KZN263	Abaqulusi	KZN431	Ingwe
KZN225	The Mauduzi	KZN265	Nongoma	KZN432	Kwa-Sani
KZN226	Mkhambathini	KZN266	Ulundi	KZN433	Greater Kokstad
KZN227	Richmond	KZN271	Umlabuyalingana	KZN434	Ubuhlebezwe
KZN232	Emnambithi/Ladysmith	KZN272	Jozini	KZN435	Umtzimkhulu

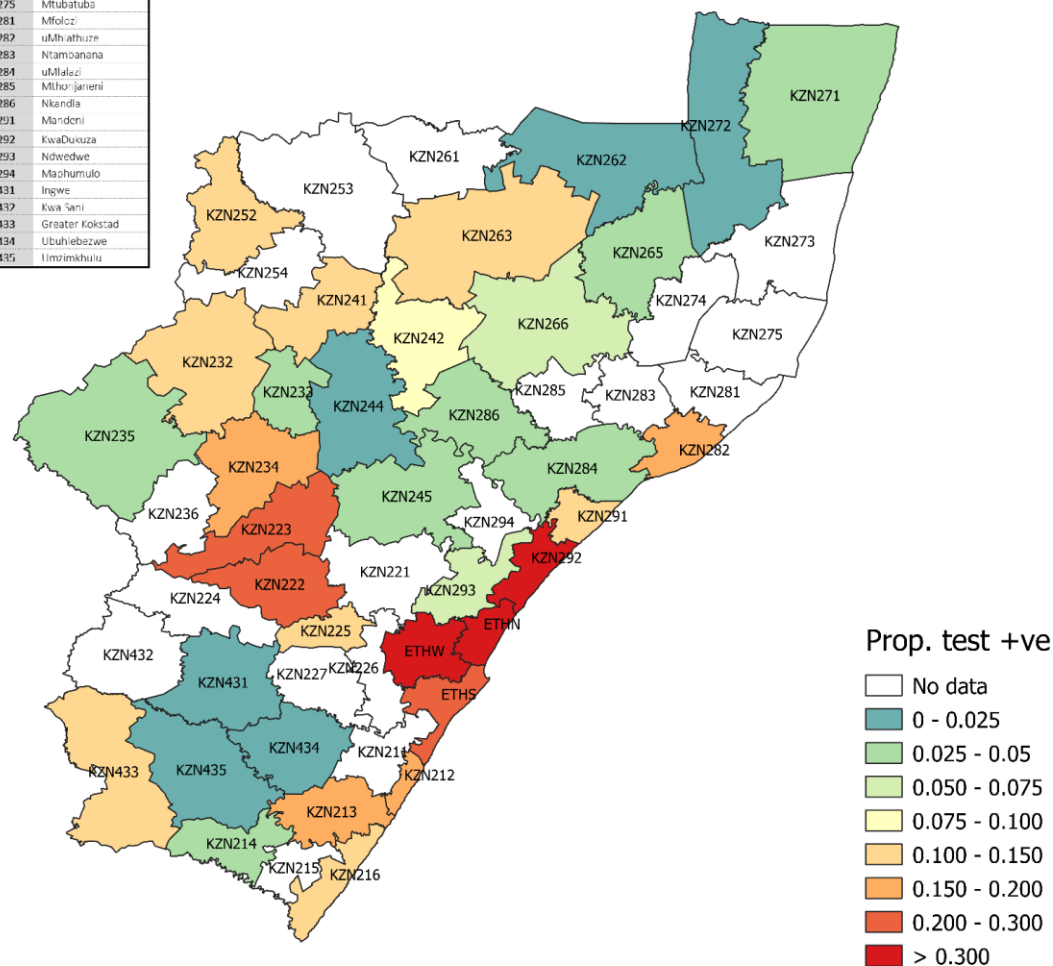


Figure 12. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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 Mafikeng
NW381	Ratlou	NW394	Greater Taung	NW404	Maquassi Hills
NW382	Tswaing				

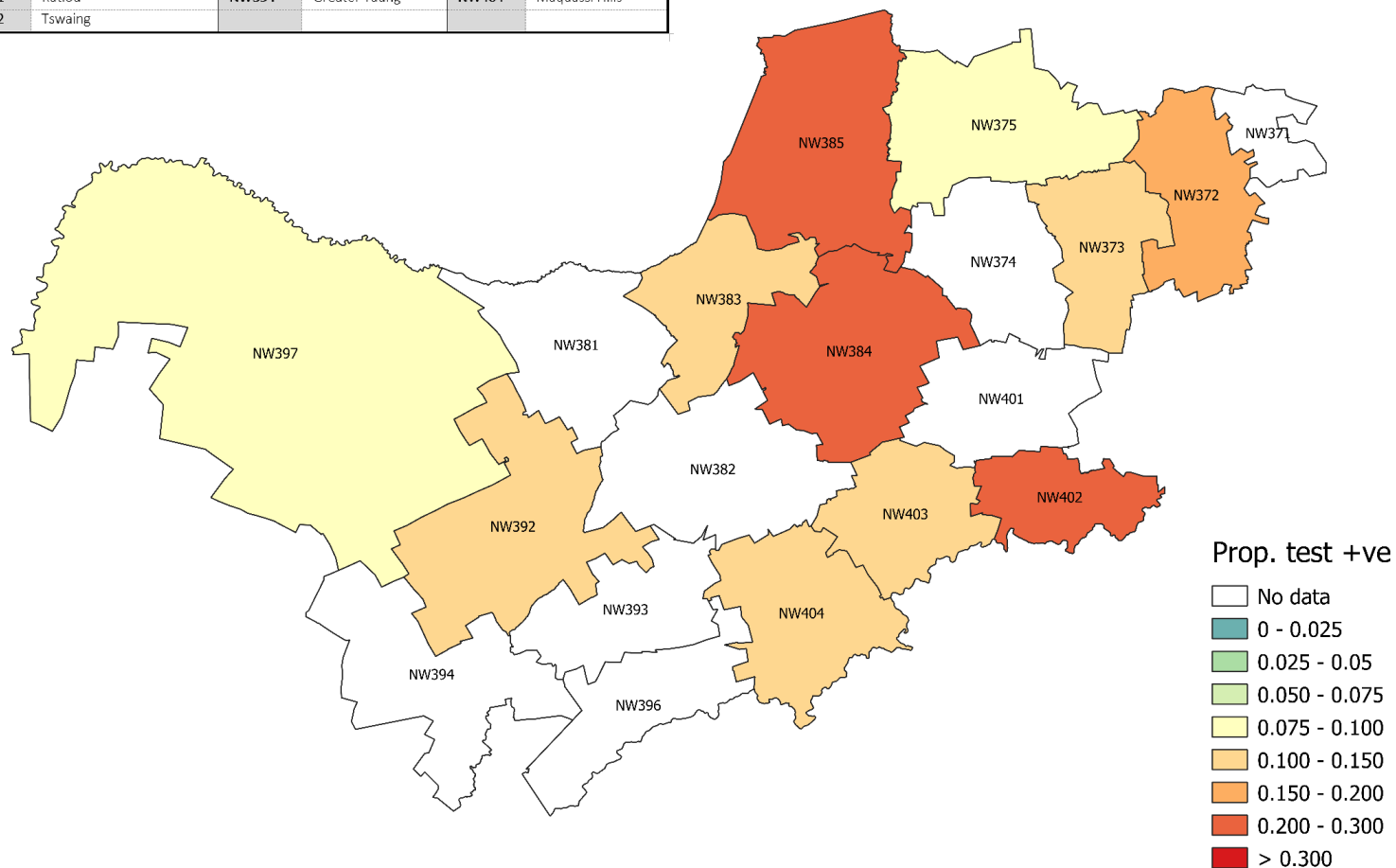


Figure 13. Proportion testing positive by health sub-district in North West Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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

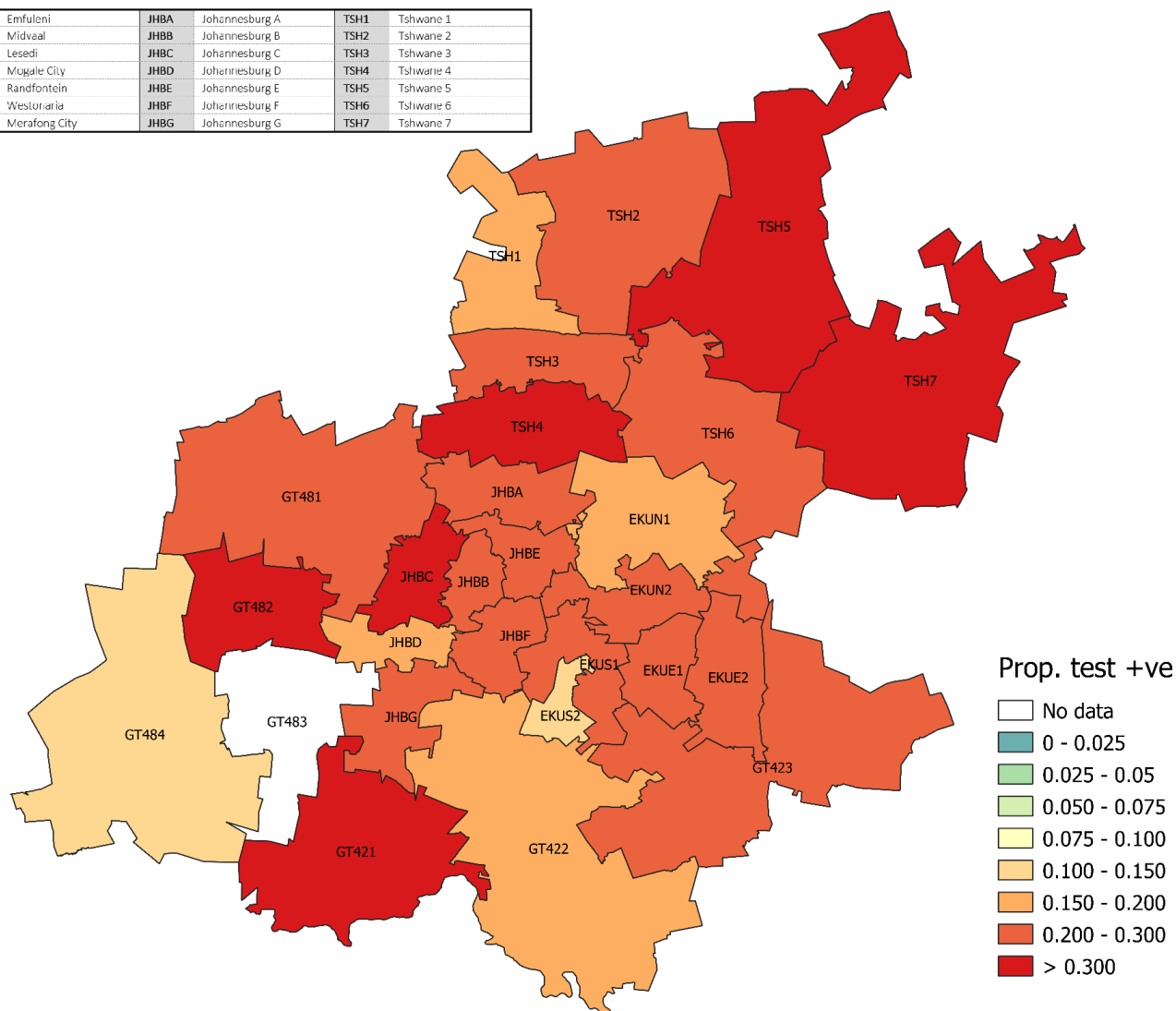


Figure 14. Proportion testing positive by health sub-district in Gauteng Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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

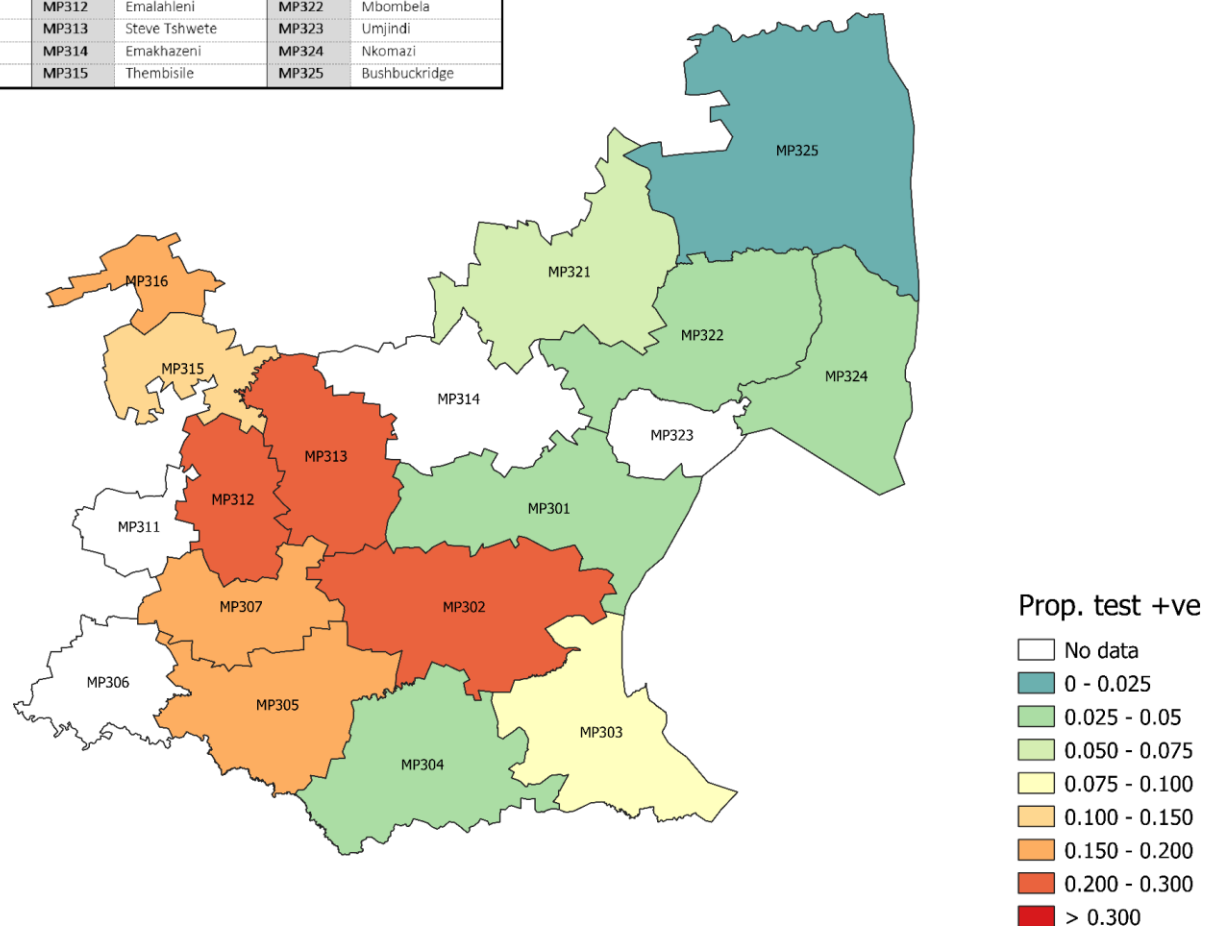


Figure 15. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

LIM331	Greater Giyani	LIM351	Blouberg	LIM365	Modimolle
LIM332	Greater Letaba	LIM352	Aganang	LIM366	Belo Bela
LIM333	Greater Tzaneen	LIM353	McMole	LIM367	Mogalakwena
LIM334	Ba-Palaborwa	LIM354	Polokwane	LIM471	Fphraim Mogale
LIM335	Maruleng	LIM355	Lepele-Nkumpi	LIM472	Elias Mutsaers
LIM341	Musina	LIM361	Thabazimbi	LIM473	Makhuduthamaga
LIM342	Mutale	LIM362	Lephalale	LIM474	Fetakgomo
LIM343	Thulamela	LIM364	Mockgopong	LIM475	Greater Tubatse
LIM344	Makhado				

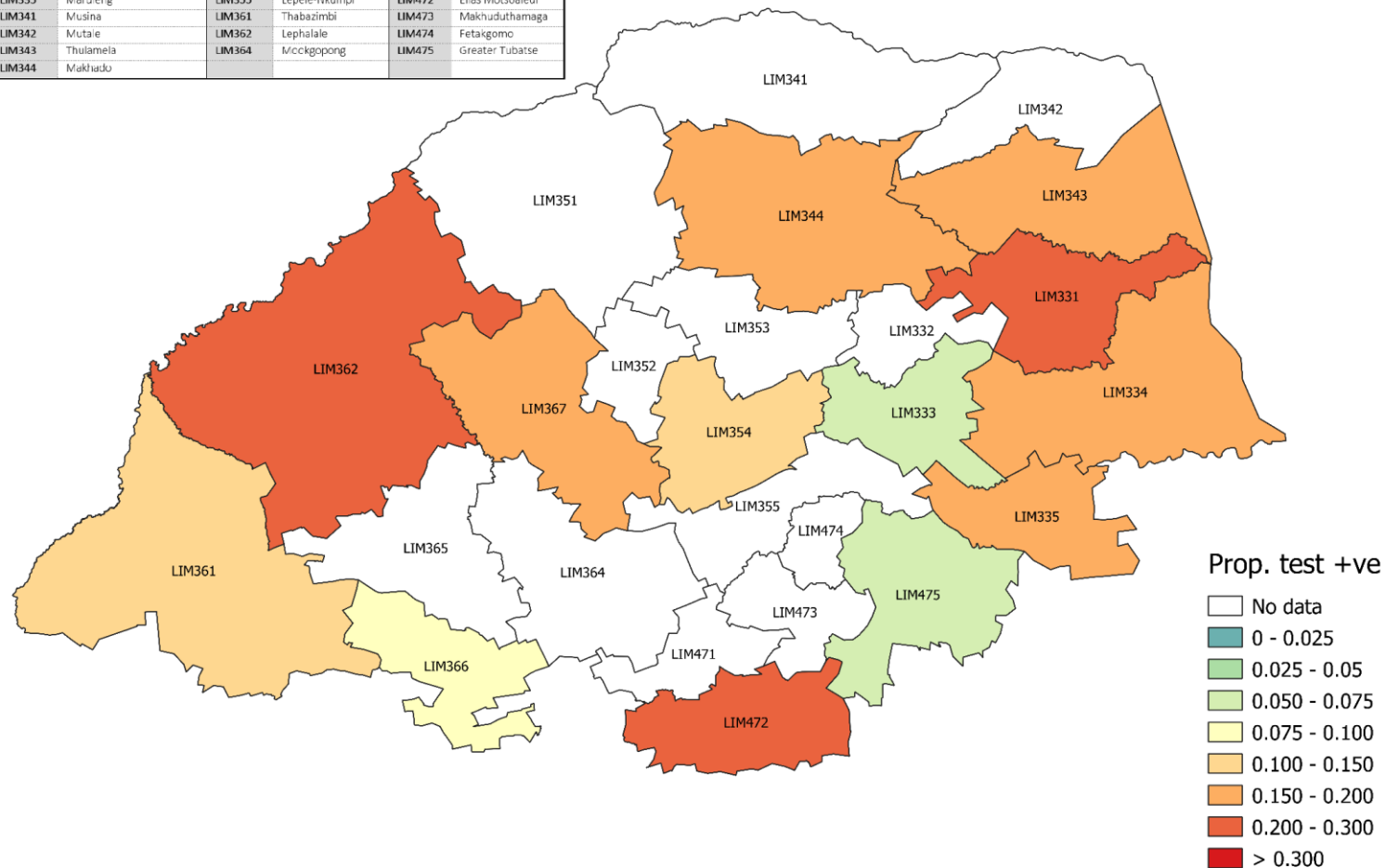


Figure 16. Proportion testing positive by health sub-district in Limpopo Province for the week of 24-30 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

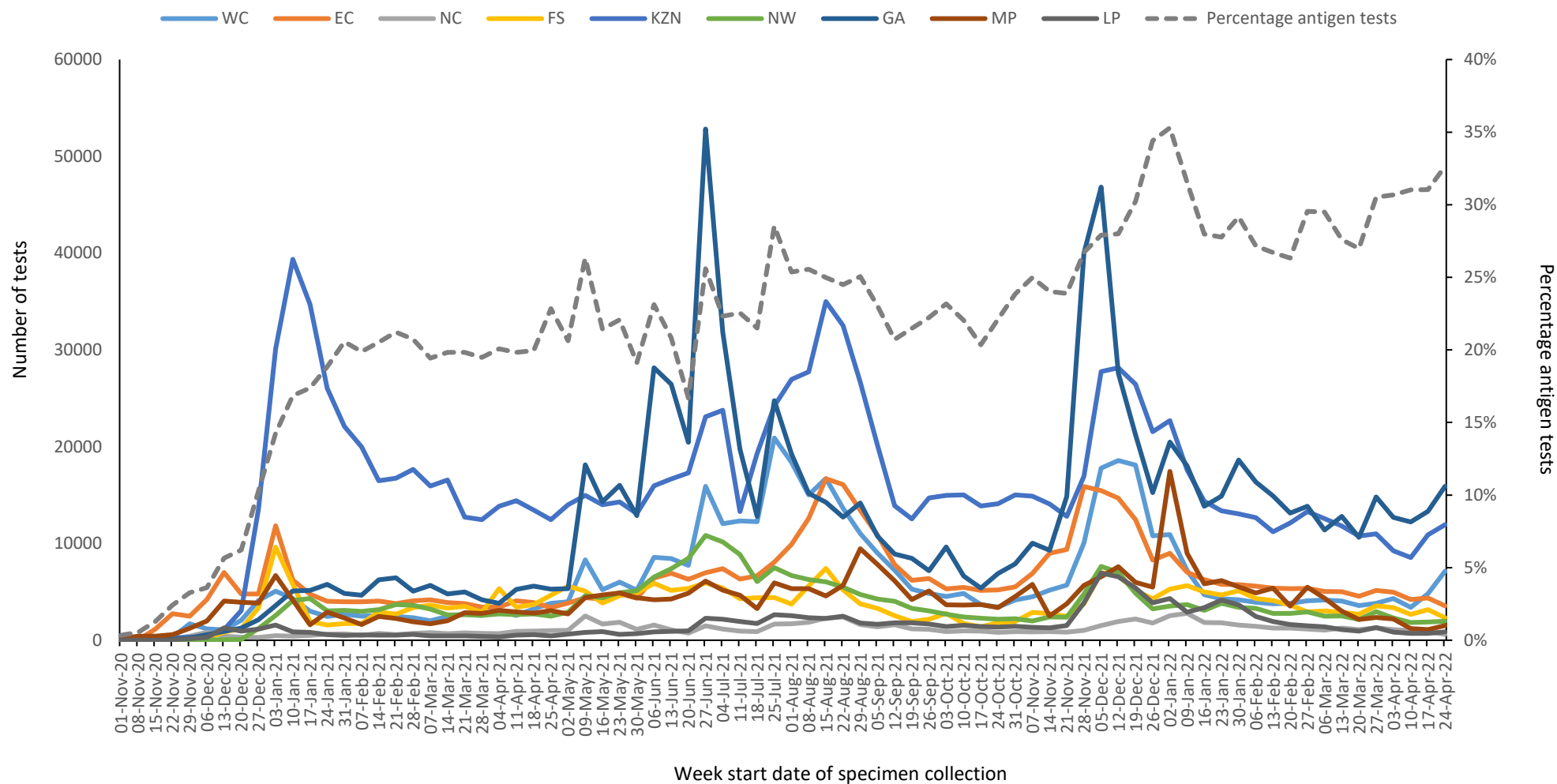


Figure 17. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 30 April 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

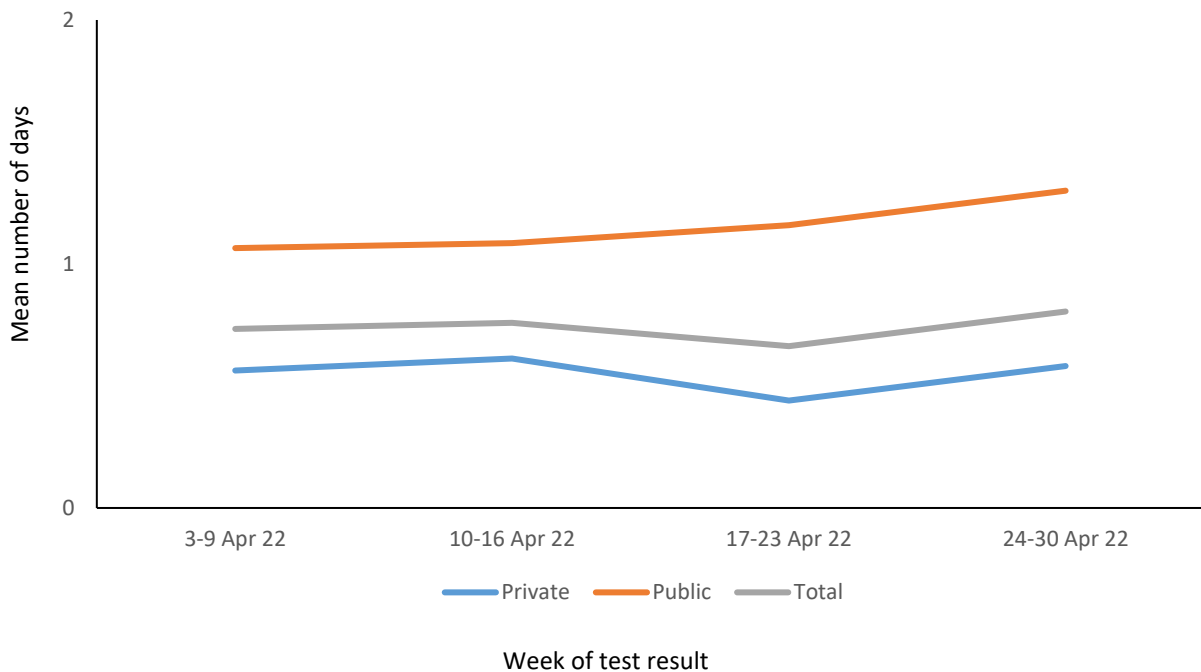


Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 3-30 April 2022.

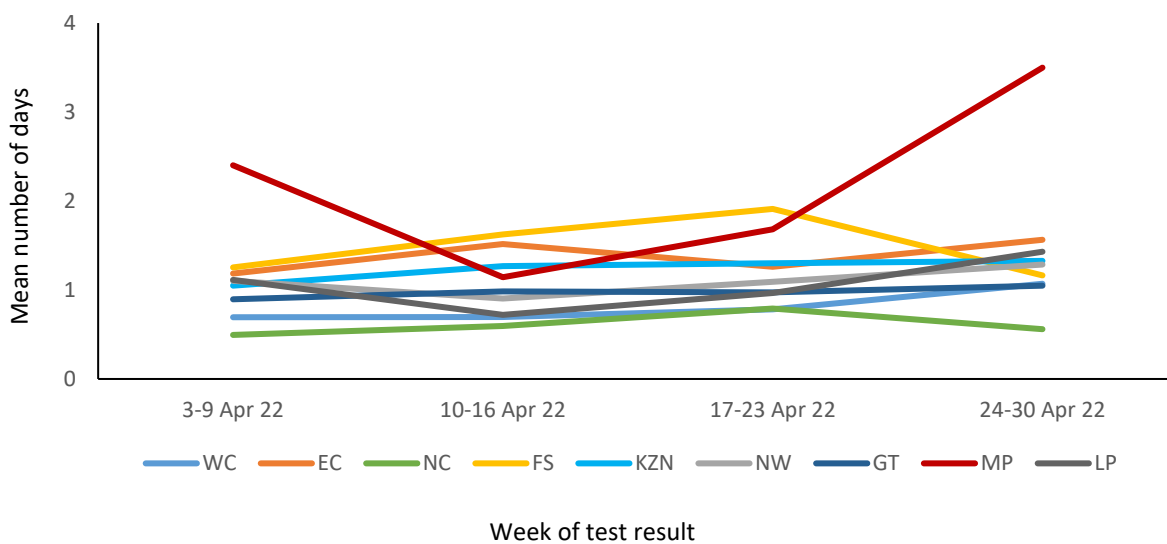


Figure 19. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 3-30 April 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

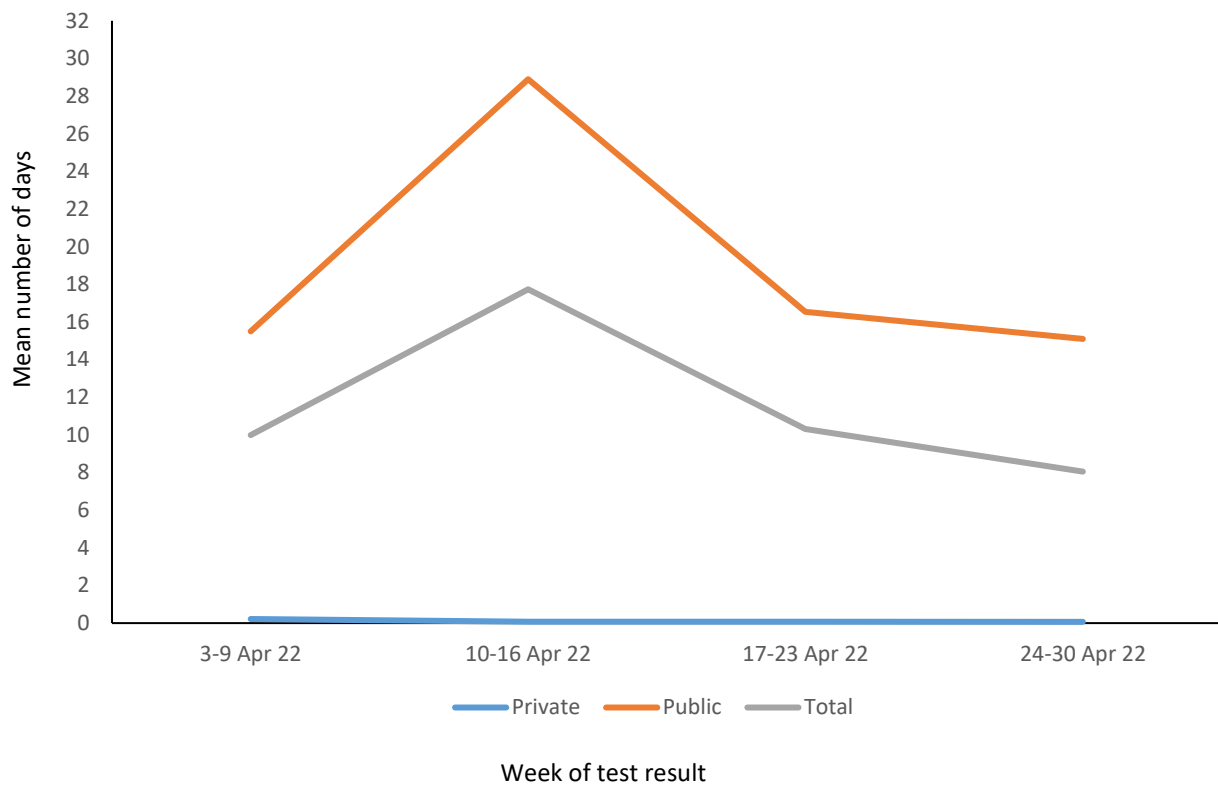


Figure 20. Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 3-30 April 2022.

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 98% of public sector facilities in the country) and private (approximately 73% 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.