NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

COVID-19 Weekly Testing Summary

Week 23 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 11 June 2022 (Week 23 of 2022).

Highlights:

- The number of tests reported in week 23 of 2022 (107,799: 75,643 PCR and 32,156 antigen tests) was 12.8% lower than the number of tests reported in the previous week (n=123,632).
- In week 23, the testing rate was 179 per 100,000 persons; highest in Gauteng (261 per 100,000 persons) and lowest in Limpopo (32 per 100,000 persons).
- In week 23, the percentage testing positive was 9.0%, which was 2.8% lower than the previous week.
- In week 23, compared to the previous week, the percentage testing positive decreased in all provinces, except in Mpumalanga and Limpopo where it remained unchanged.
- In week 23, the percentage testing positive was highest in the Western Cape (14.5%), followed by Northern Cape (12.2%) and Free State (10.2%). The percentage testing positive was <10% in all other provinces.
- In week 23, the percentage testing positive was highest in the ≥80 years age group (16.6%).

Executive Summary:

- In the period 1 March 2020 through 11 June 2022, 25,232,106 tests for SARS-CoV-2 have been reported nationally: 20,614,523 PCR and 4,617,583 antigen tests.
- The number of tests reported in week 23 of 2022 (n=107,799: 75,643 PCR and 32,156 antigen tests) was 12.8% lower than the number of tests reported in the previous week (n=123,632 in week 22).
- Gauteng reported the largest proportion of tests (38.3%), followed by KwaZulu-Natal (20.4%) and Western Cape (13.7%).
- The overall testing rate decreased from the previous week (205 per 100,000 persons in week 22 to 179 per 100,000 persons in week 23).
- In week 23, testing rates decreased in all provinces and were highest in Gauteng (261 per 100,000 persons) and lowest in Limpopo (32 per 100,000 persons).
- The testing rate in week 23 was highest in the ≥80 years age group (437 per 100,000 persons).
- In week 23, the percentage testing positive was 9.0%, which was 2.8% lower than the previous week (11.8% in week 22 to 9.0% in week 23, P<0.001).
- In the past week, the percentage testing positive decreased by 2.7% in the public sector (9.4% in week 22 to 6.7% in week 23, P<0.001) and by 3.0% in the private sector (13.8% in week 22 to 10.8% in week 23, P<0.001).

- In week 23, compared to the previous week, the percentage testing positive decreased in all provinces, except in Mpumalanga and Limpopo where it remained unchanged.
- The percentage testing positive in week 23 was highest in the Western Cape (14.5%), followed by Northern Cape (12.2%) and Free State (10.2%). The percentage testing positive was <10% in all other provinces.
- In week 23, health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=13) and Northern Cape (n=5).
- In week 23, the percentage testing positive continued to decrease in all age groups and was highest in the ≥80 years age group (16.6%).
- Antigen tests accounted for 29.8% (32,156/107,799) of tests reported in week 23, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 23 the public sector accounted for 52.8% (16,964/32,156) 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 23 was 0.8 days; 1.0 day in the public sector and 0.7 days in the private sector. Turnaround times for public sector PCR tests decreased in Mpumalanga and Free State and were <2 days in all provinces.
- The mean turnaround time for antigen tests reported in week 23 was 29.0 days in the public sector and 0.1 days in the private sector.

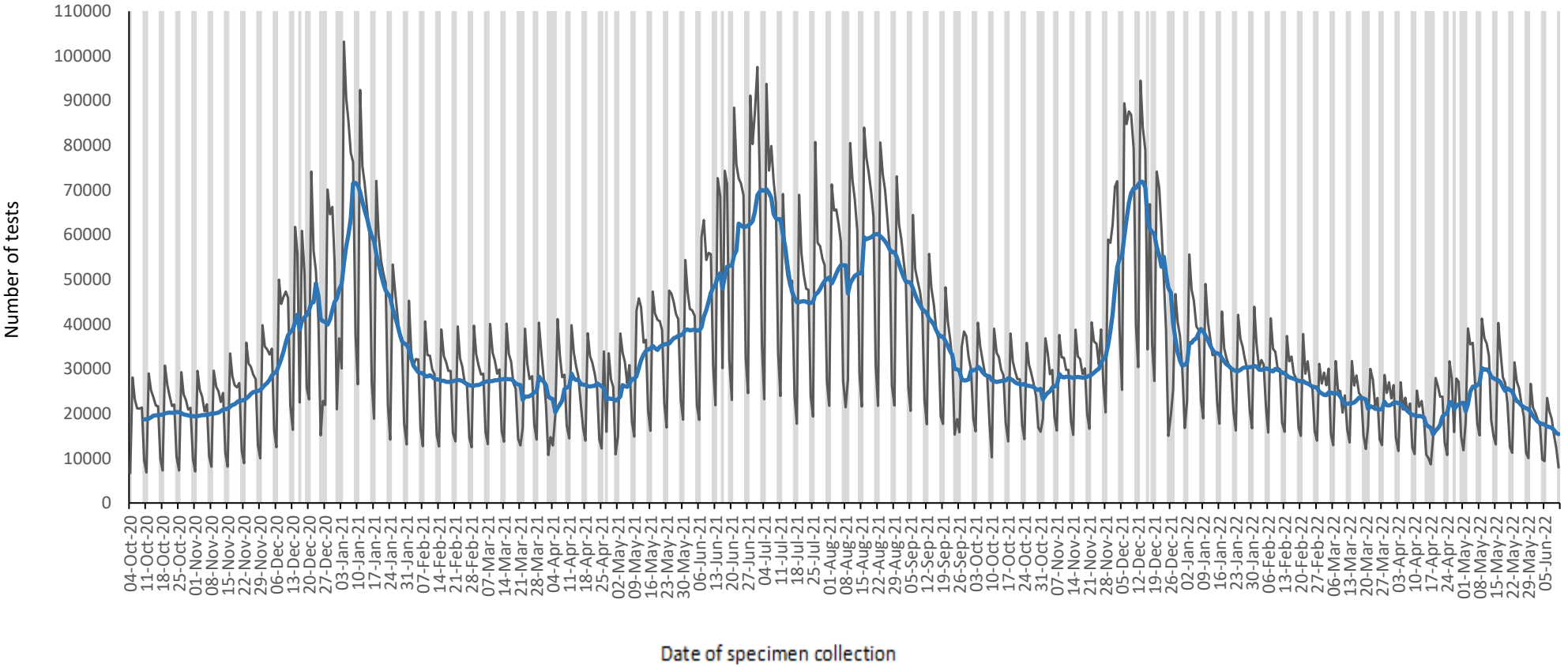

Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 4 October 2020 – 11 June 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays

Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021 – 11 June 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	184732 (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 (0.6)	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 (1.0)	29778	11.3
22	30-May-21	270322 (1.1)	36111	13.4
23	06-Jun-21	337915 (1.3)	59453	17.6
24	13-Jun-21	370991 (1.5)	88088	23.7
25	20-Jun-21	432624 (1.7)	118655	27.4
26	27-Jun-21	490253 (1.9)	146641	29.9
27	04-Jul-21	444062 (1.8)	141465	31.9
28	11-Jul-21	320775 (1.3)	100958	31.5
29	18-Jul-21	313312 (1.2)	88450	28.2
30	25-Jul-21	350771 (1.4)	88361	25.2
31	01-Aug-21	372330 (1.5)	88138	23.7
32	08-Aug-21	359637 (1.4)	83387	23.2
33	15-Aug-21	421038 (1.7)	95430	22.7
34	22-Aug-21	392796 (1.6)	78238	19.9
35	29-Aug-21	346223 (1.4)	55109	15.9
36	05-Sep-21	300561 (1.2)	38862	12.9
37	12-Sep-21	260712 (1.0)	24019	9.2

38	19-Sep-21	209120 (0.8)	14014	6.7
39	26-Sep-21	207854 (0.8)	9492	4.6
40	03-Oct-21	197972 (0.8)	6454	3.3
41	10-Oct-21	191789 (0.8)	5045	2.6
42	17-Oct-21	185617 (0.7)	3412	1.8
43	24-Oct-21	177233 (0.7)	2566	1.4
44	31-Oct-21	182980 (0.7)	2106	1.2
45	07-Nov-21	196847 (0.8)	2323	1.2
46	14-Nov-21	197861 (0.8)	4813	2.4
47	21-Nov-21	225350 (0.9)	18976	8.4
48	28-Nov-21	382041 (1.5)	98431	25.8
49	05-Dec-21	493304 (2.0)	175129	35.5
50	12-Dec-21	424519 (1.7)	154930	36.5
51	19-Dec-21	337147 (1.3)	117691	34.9
52	20-Dec-21	216601 (0.9)	66125	30.5
1	02-Jan-22	272587 (1.1)	61144	22.4
2	09-Jan-22	234426 (0.9)	35150	15.0
3	16-Jan-22	208506 (0.8)	24093	11.6
4	23-Jan-22	212662 (0.8)	25840	12.2
5	24-Jan-22	210689 (0.8)	22978	10.9
6	06-Feb-22	203527 (0.8)	20431	10.0
7	13-Feb-22	191299 (0.8)	19102	10.0
8	14-Feb-22	181644 (0.7)	16317	9.0
9	27-Feb-22	172714 (0.7)	13137	7.6
10	06-Mar-22	155499 (0.6)	10680	6.9
11	13-Mar-22	163636 (0.6)	9875	6.0
12	20-Mar-22	146346 (0.6)	9457	6.5
13	27-Mar-22	157514 (0.6)	10256	6.5
14	03-Apr-22	138102 (0.5)	10610	7.7
15	10-Apr-22	119976 (0.5)	12270	10.2
16	17-Apr-22	138586 (0.5)	24138	17.4
17	24-Apr-22	156025 (0.6)	33838	21.7
18	01-May-22	184781 (0.7)	47565	25.7
19	08-May-22	195321 (0.8)	48512	24.8
20	15-May-22	176833 (0.7)	38339	21.7
21	22-May-22	148371 (0.6)	24602	16.6
22	29-May-22	123632 (0.5)	14610	11.8
23	05-Jun-22	107799 (0.4)	9667	9.0
	Total	**25,232,106 (100.0)**	**4,317,498**	

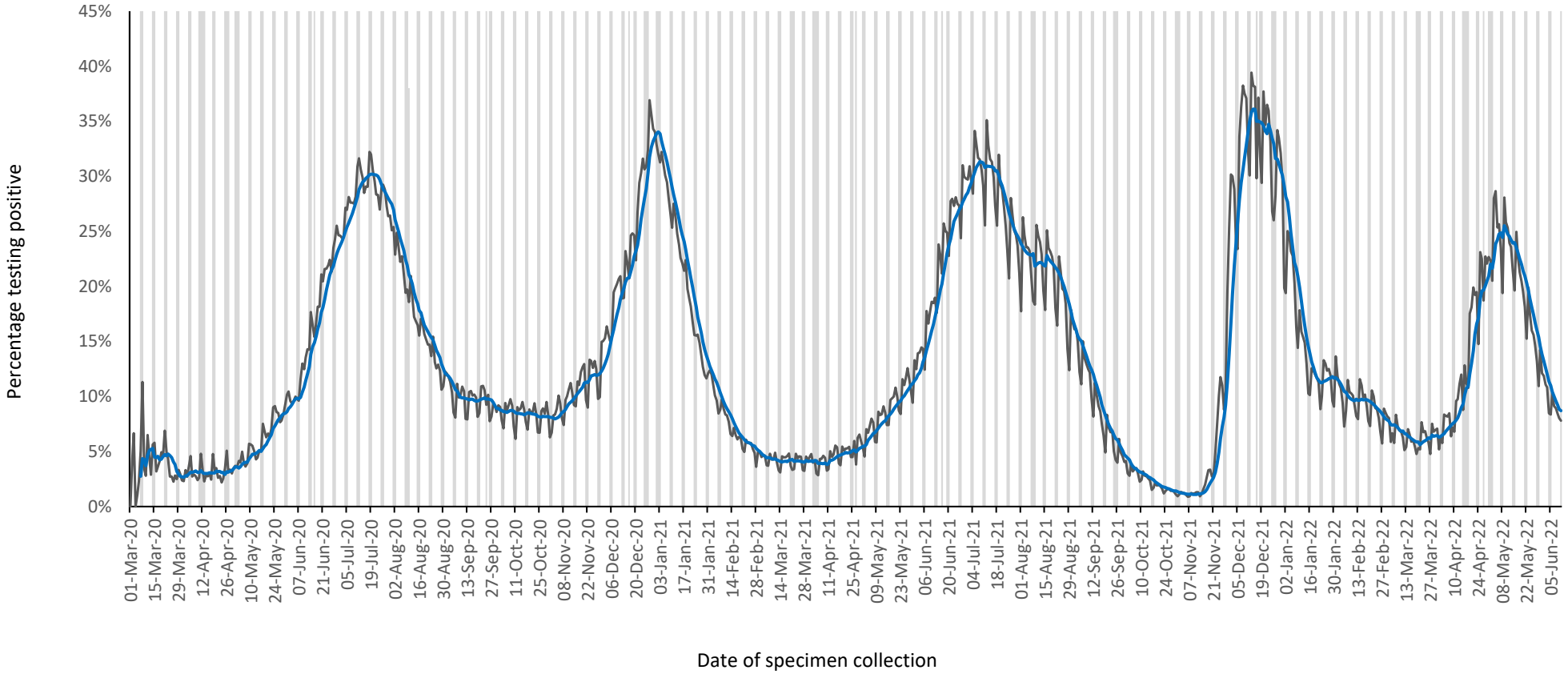

Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection South Africa 1 March 2020 – 11 June 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

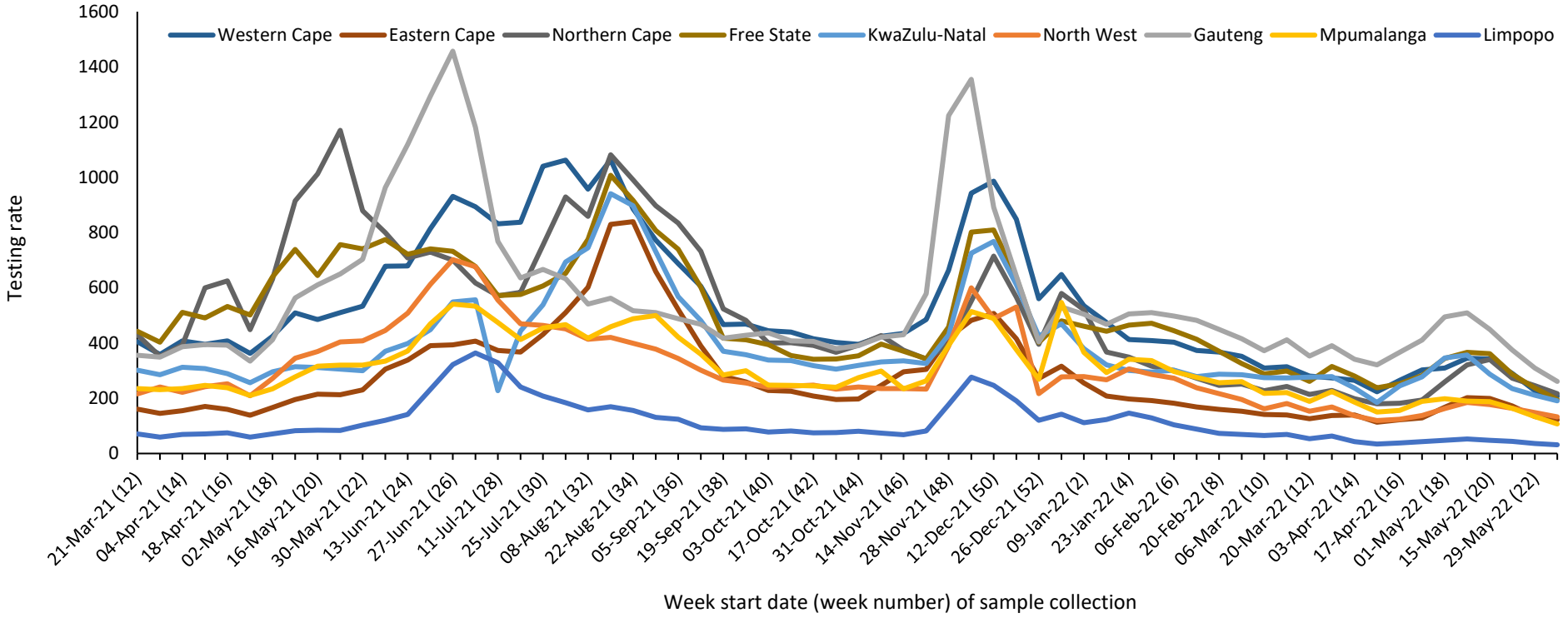

Figure 3. Testing rate per 100000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 11 June 2022

Table 2. Weekly number of tests and positive tests reported by province South Africa 22 May – 11 June 2022

		22-28 May 2022		29 May - 4 Jun 2022		5-11 Jun 2022			
Province	**Population[a]**	**No. of tests**	**No. positive tests (%)**	**No. of tests**	**No. positive tests (%)**	**No. of tests**	**No. positive tests (%)**	**Testing rate per 100,000**	**Change in percentage positive from previous week[b]**
Western Cape	7113776	20644	6022 (29.2)	16148	3374 (20.9)	14758	2141 (14.5)	207	-6.4%
Eastern Cape	6676590	11478	2194 (19.1)	8916	1330 (14.9)	8153	811 (9.9)	122	-5.0%
Northern Cape	1303047	3548	847 (23.9)	3199	540 (16.9)	2829	345 (12.2)	217	-4.7%
Free State	2932441	8430	1433 (17.0)	6944	866 (12.5)	5742	588 (10.2)	196	-2.2%
KwaZulu-Natal	11513575	27051	3456 (12.8)	24236	1890 (7.8)	21951	1288 (5.9)	191	-1.9%
North West	4122854	6746	1003 (14.9)	6112	648 (10.6)	5472	497 (9.1)	133	-1.5%
Gauteng	15810388	59298	8385 (14.1)	48845	4994 (10.2)	41252	3276 (7.9)	261	-2.3%
Mpumalanga	4743584	7780	876 (11.3)	6339	682 (10.8)	5073	498 (9.8)	107	-0.9%
Limpopo	5926724	2602	278 (10.7)	2116	224 (10.6)	1869	166 (8.9)	32	-1.7%
Unknown		794	108 (13.6)	777	62 (8.0)	700	57 (8.1)		
Total	60142978	148371	24602 (16.6)	123632	14610 (11.8)	107799	9667 (9.0)	179	-2.8%

[a] 2021 Mid-year population Statistics SA
[b] Current week compared to previous week

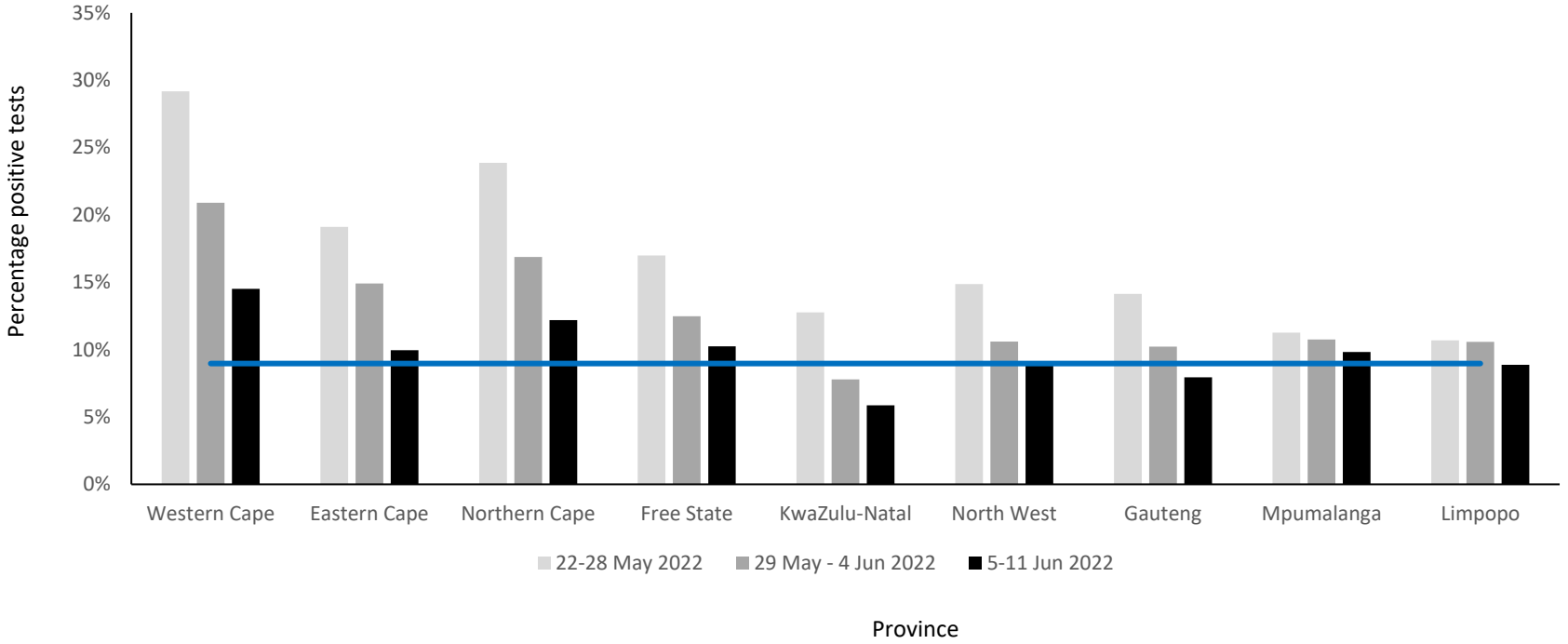

Figure 4. Weekly percentage testing positive by province, South Africa, 22 May – 11 Jun 2022. The horizontal blue line shows the national mean for week 23, beginning 5 June 2022

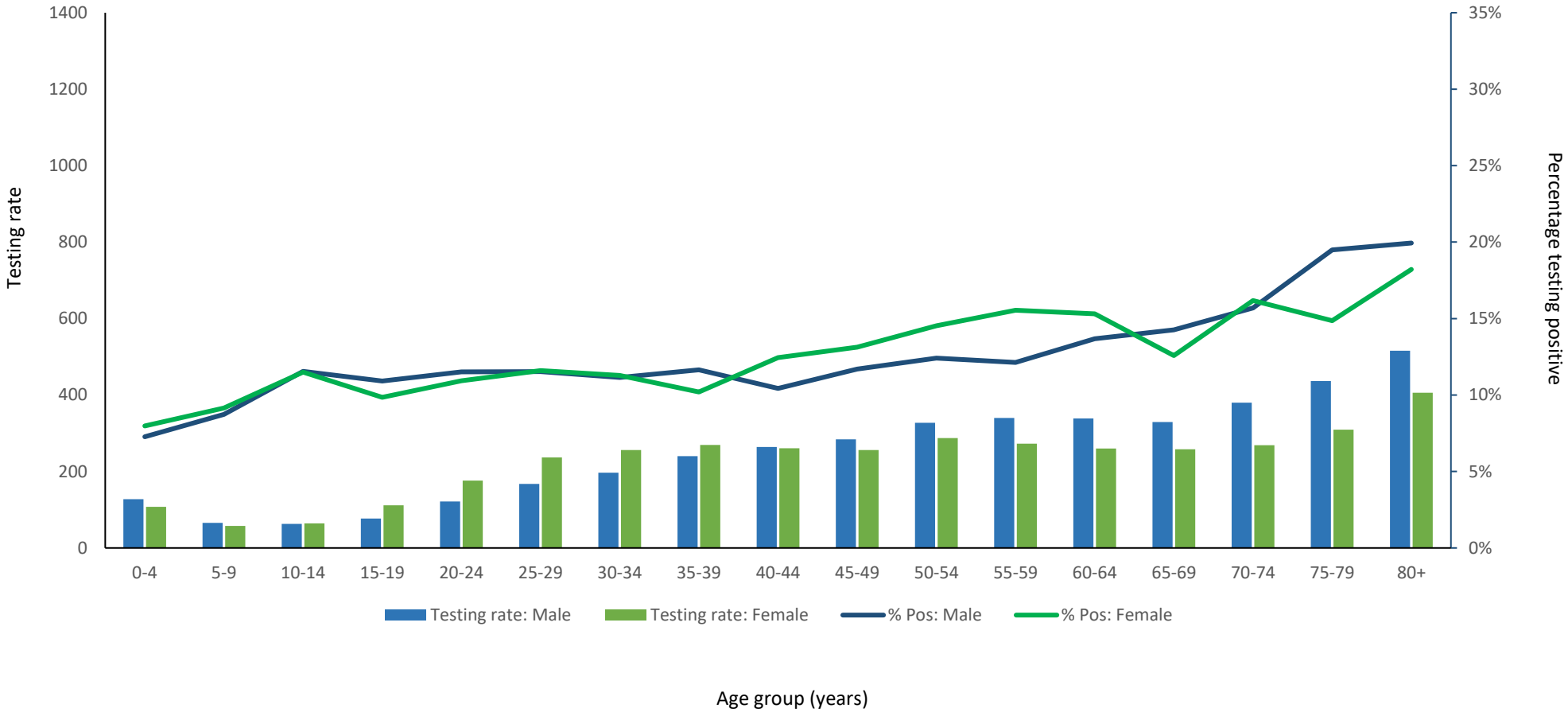

Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 23, 5-11 June 2022

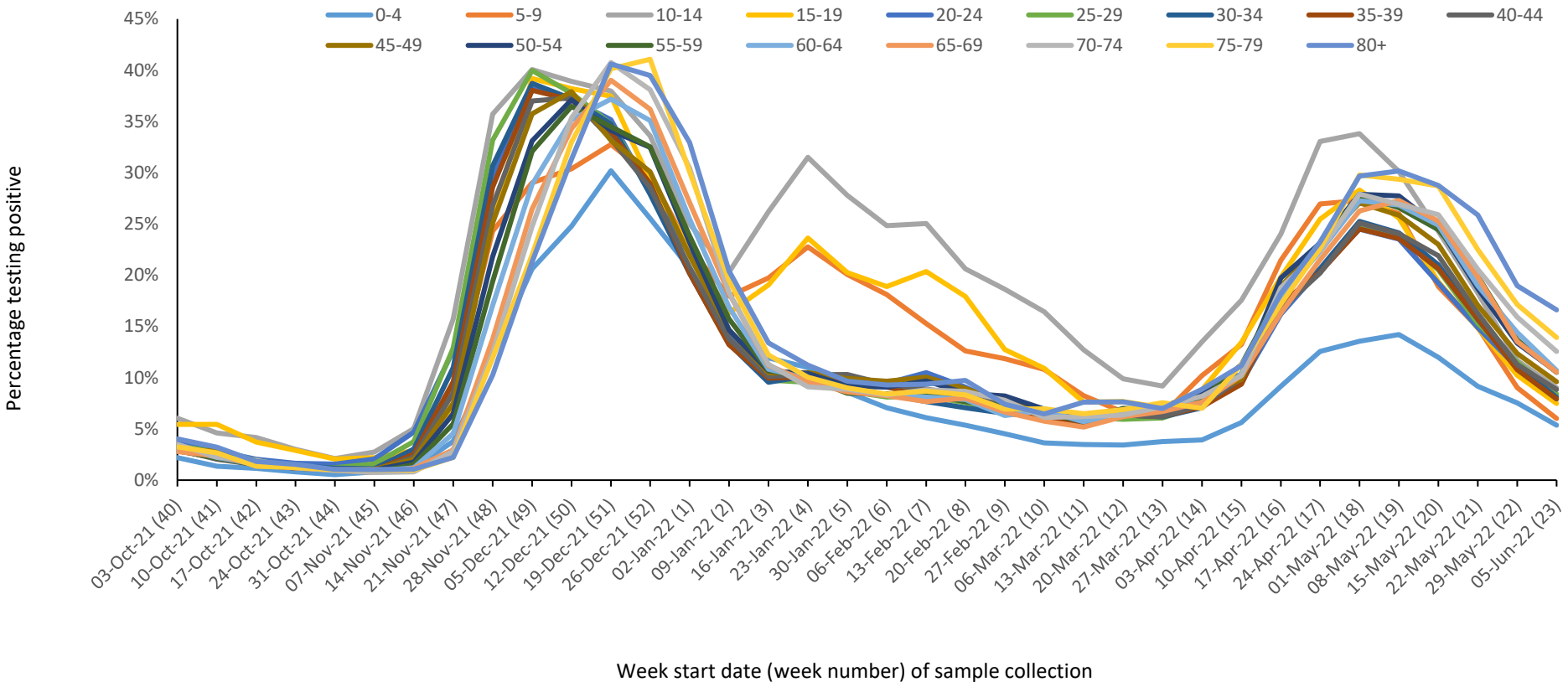

Figure 6. Percentage testing positive by age group and week of specimen collection, South Africa, 3 October 2021 – 11 June 2022

Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 5-11 June 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Randfontein	Gauteng	0.288 (0.246-0.330)	0.397 (0.358-0.437)
Beaufort West	Western Cape	0.280 (0.158-0.401)	…
Nama Khoi	Northern Cape	0.241 (0.191-0.291)	0.261 (0.219-0.303)
Mkhondo	Mpumalanga	0.239 (0.102-0.375)	0.111 (0.019-0.204)
Karoo Hoogland	Northern Cape	0.237 (0.115-0.358)	0.229 (0.104-0.354)
George	Western Cape	0.229 (0.194-0.265)	0.269 (0.232-0.307)
Gamagara	Northern Cape	0.225 (0.162-0.288)	0.207 (0.119-0.294)
Saldanha Bay	Western Cape	0.220 (0.169-0.271)	0.288 (0.234-0.341)
Mohokare	Free State	0.217 (0.088-0.346)	0.073 (0.000-0.169)
Siyancuma	Northern Cape	0.208 (0.058-0.357)	…
Langeberg	Western Cape	0.204 (0.091-0.318)	0.217 (0.075-0.360)
Kopanong	Free State	0.202 (0.110-0.294)	0.118 (0.045-0.190)
Swartland	Western Cape	0.201 (0.099-0.303)	0.245 (0.130-0.359)
Theewaterskloof	Western Cape	0.195 (0.099-0.290)	0.215 (0.115-0.314)
Tswelopele	Free State	0.186 (0.103-0.268)	0.262 (0.184-0.341)
Overstrand	Western Cape	0.179 (0.131-0.227)	0.245 (0.190-0.300)
Oudtshoorn	Western Cape	0.177 (0.113-0.240)	0.223 (0.152-0.294)
Ga-Segonyana	Northern Cape	0.173 (0.099-0.248)	0.129 (0.074-0.183)
CT Northern	Western Cape	0.172 (0.151-0.194)	0.288 (0.263-0.313)
Knysna	Western Cape	0.169 (0.084-0.253)	0.285 (0.189-0.382)
CT Western	Western Cape	0.167 (0.153-0.180)	0.221 (0.207-0.236)
Mossel Bay	Western Cape	0.166 (0.124-0.209)	0.243 (0.198-0.287)
Witzenberg	Western Cape	0.160 (0.085-0.235)	0.280 (0.172-0.388)
Tlokwe City Council	North West	0.158 (0.123-0.193)	0.155 (0.123-0.187)
Nelson Mandela Bay C	Eastern Cape	0.156 (0.143-0.170)	0.195 (0.182-0.208)

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

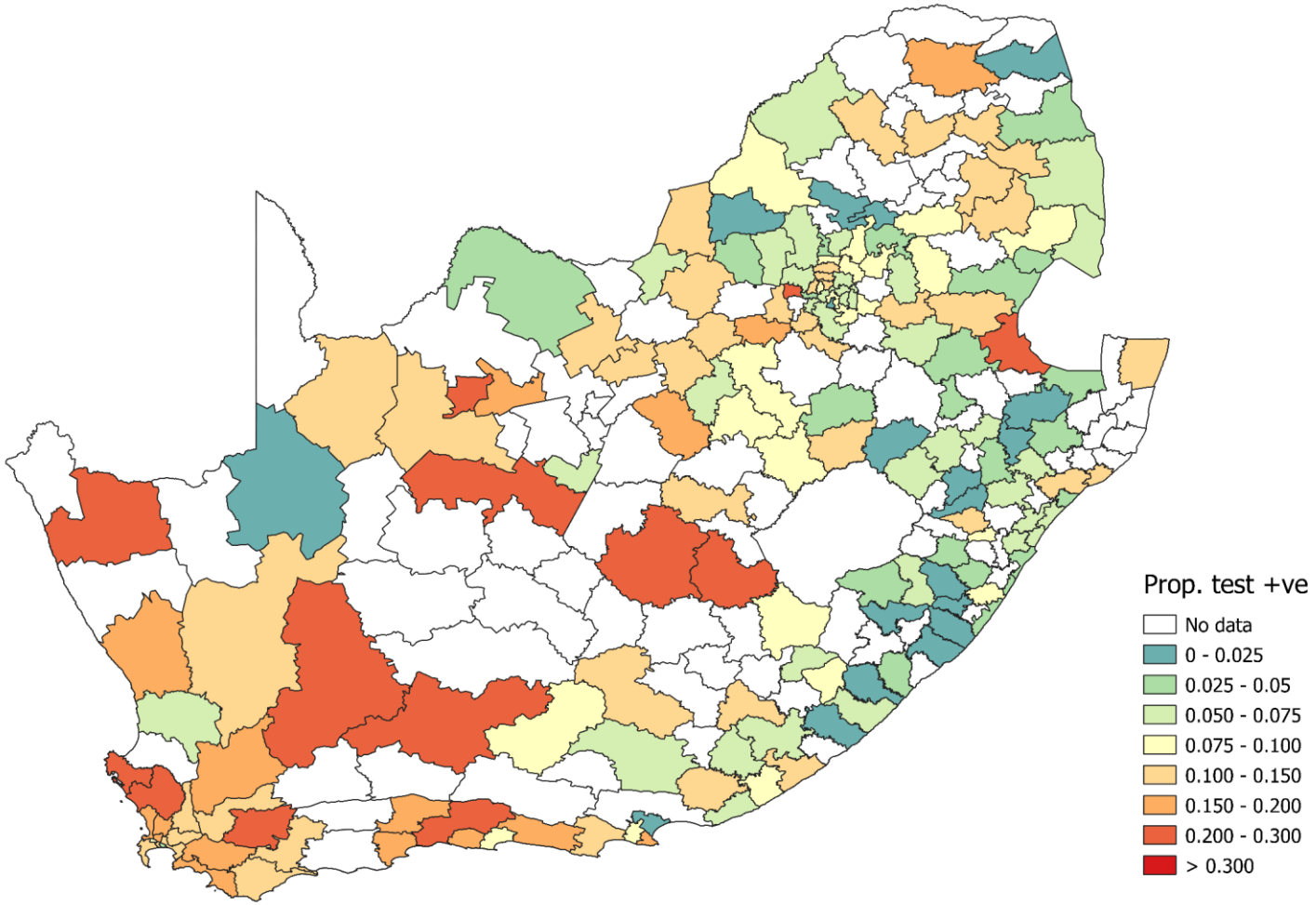

Figure 7. Proportion testing positive by health sub-district in South Africa for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

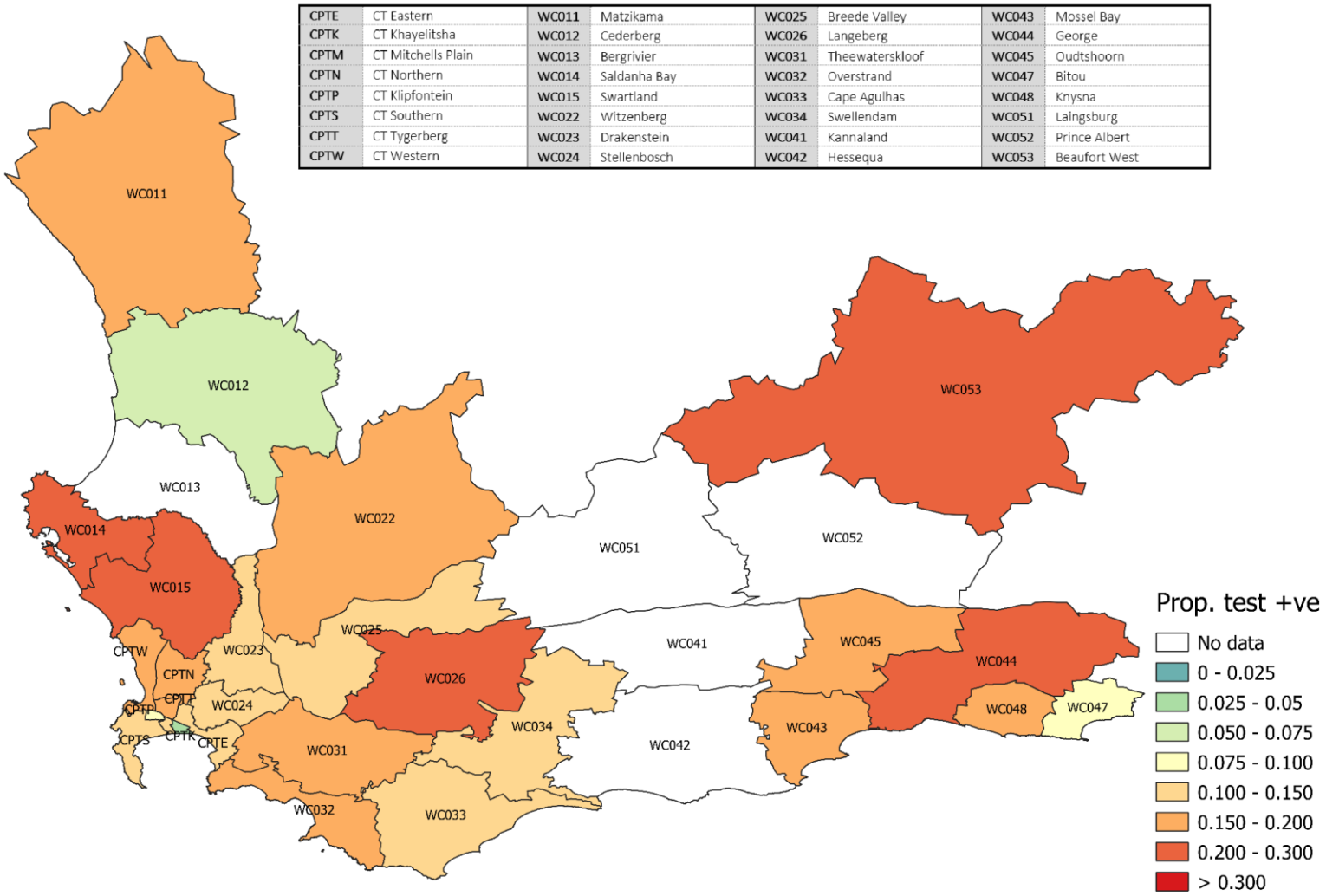

Figure 8. Proportion testing positive by health sub-district in the Western Cape Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

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	Umzimvubu
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	Ngquza Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukanji	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mbhashe						

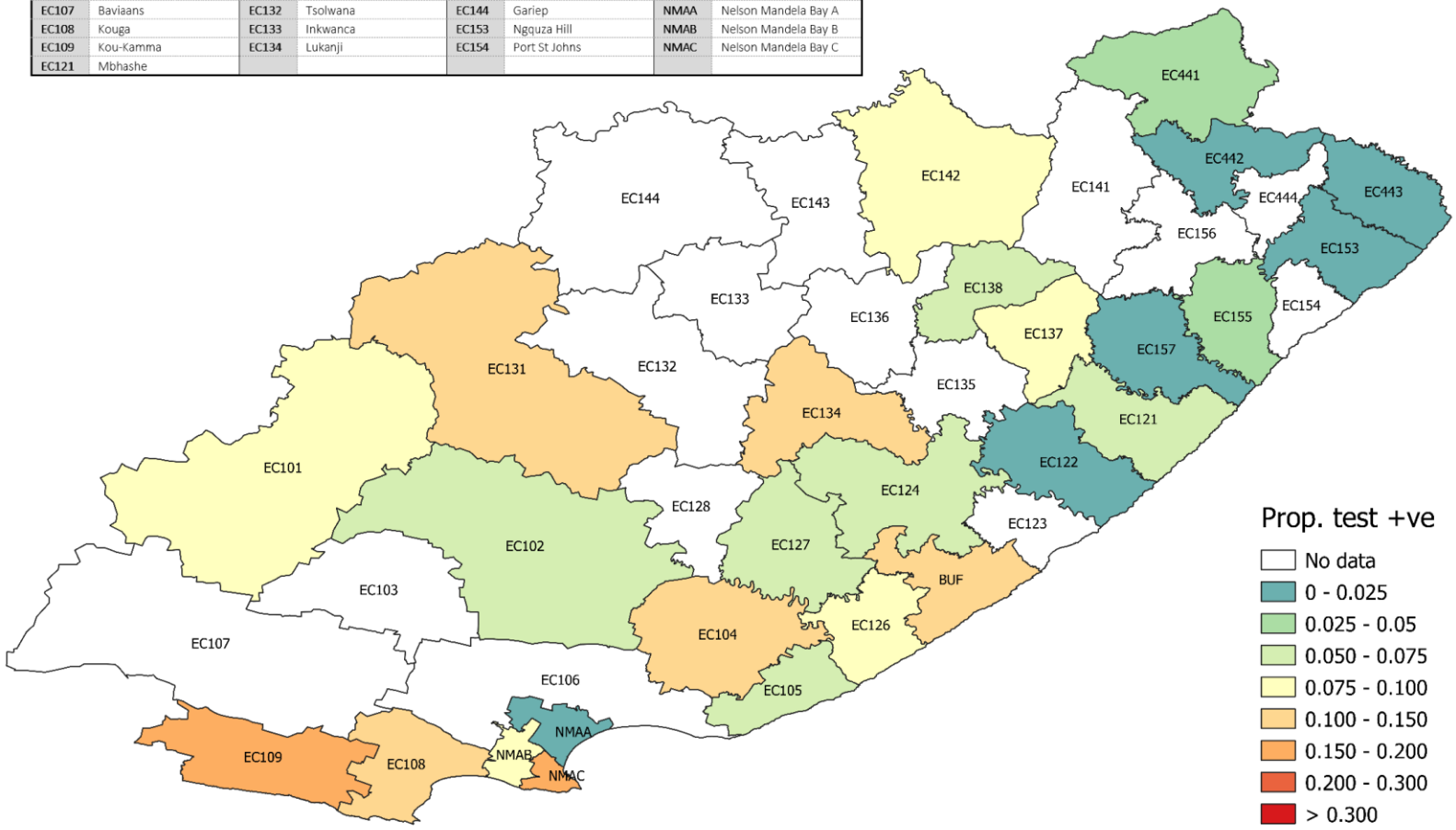

Figure 9. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

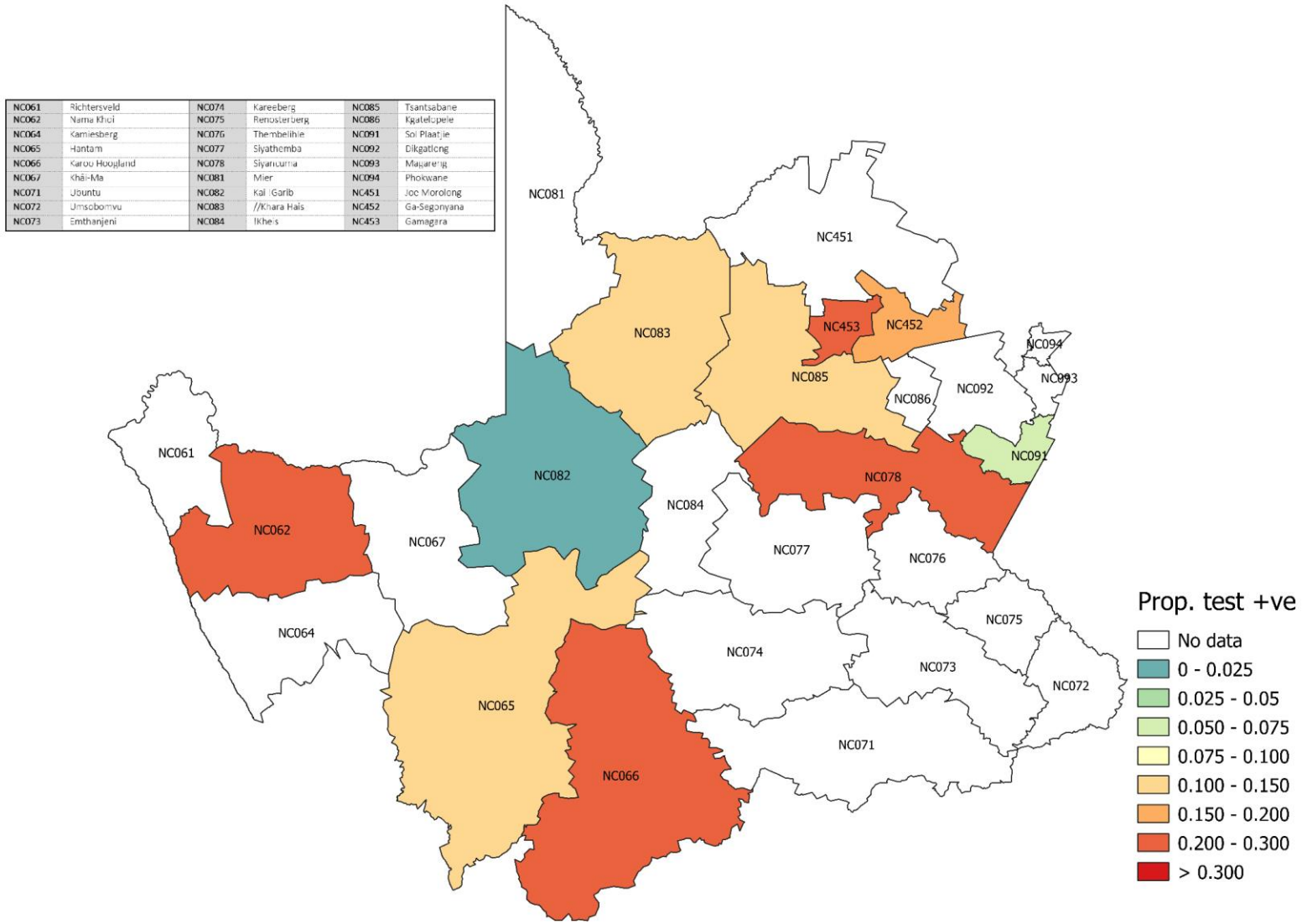

Figure 10. Proportion testing positive by health sub-district in Northern Cape Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

MAN	Mangaung	FS181	Masilonyana	FS191	Setsoto	FS196	Mantsopa
FS161	Letsemeng	FS182	Tokologo	FS192	Dihlabeng	FS201	Moqhaka
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

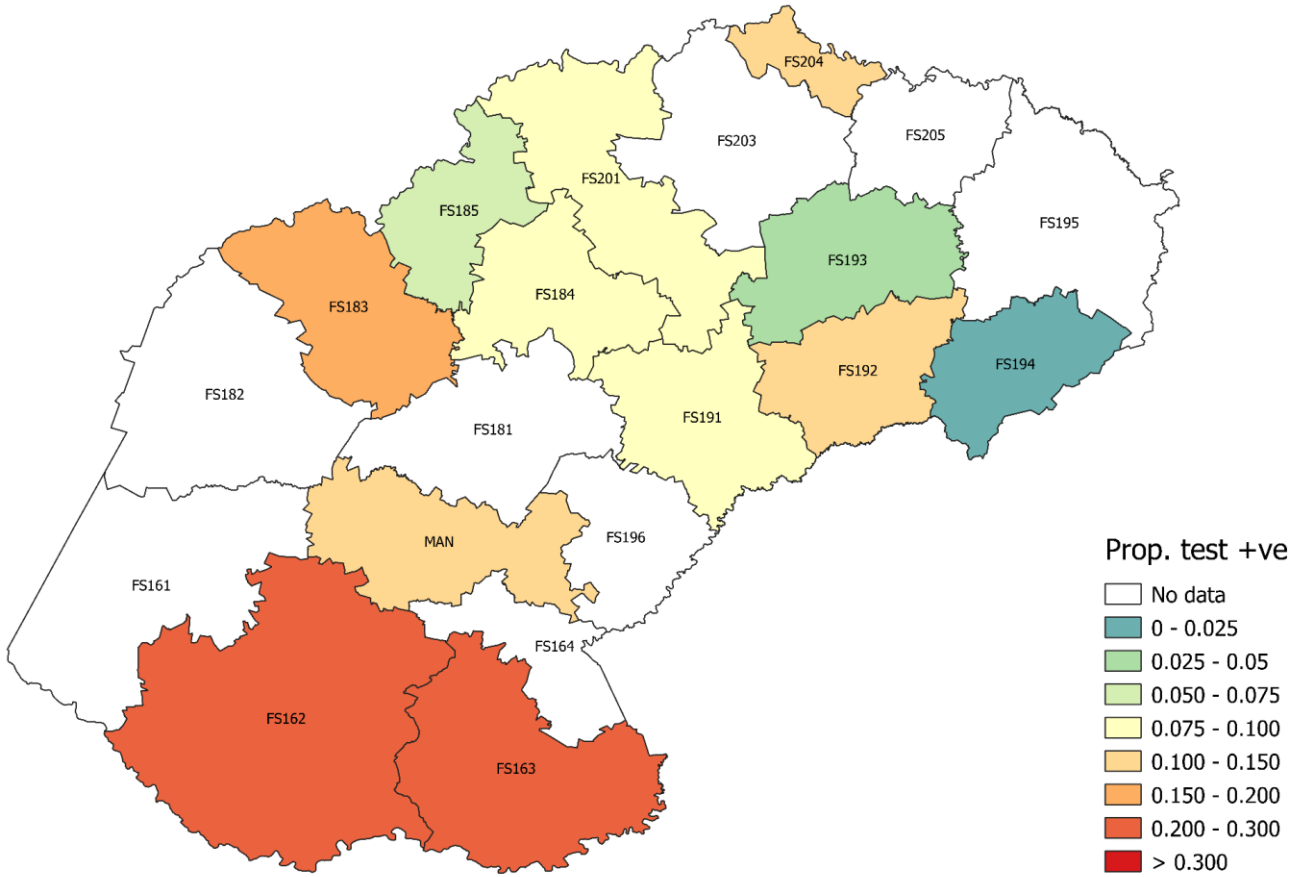

Figure 11. Proportion testing positive by health sub-district in Free State Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

ETHN	eThekwini North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekwini South	KZN234	Umtshezi	KZN274	Hlabisa
ETHS	eThekwini South	KZN235	Okhahlamba	KZN275	Mtubatuba
ETHW	eThekwini 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	Umzimkhulu

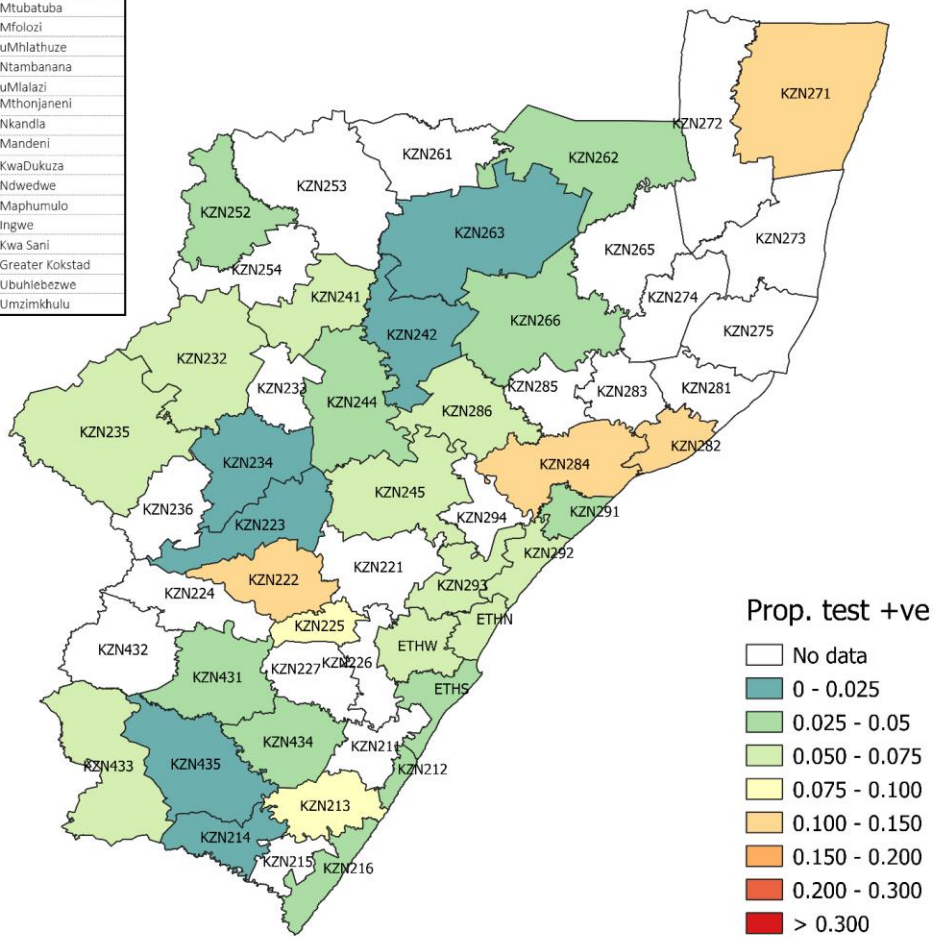

Figure 12. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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				

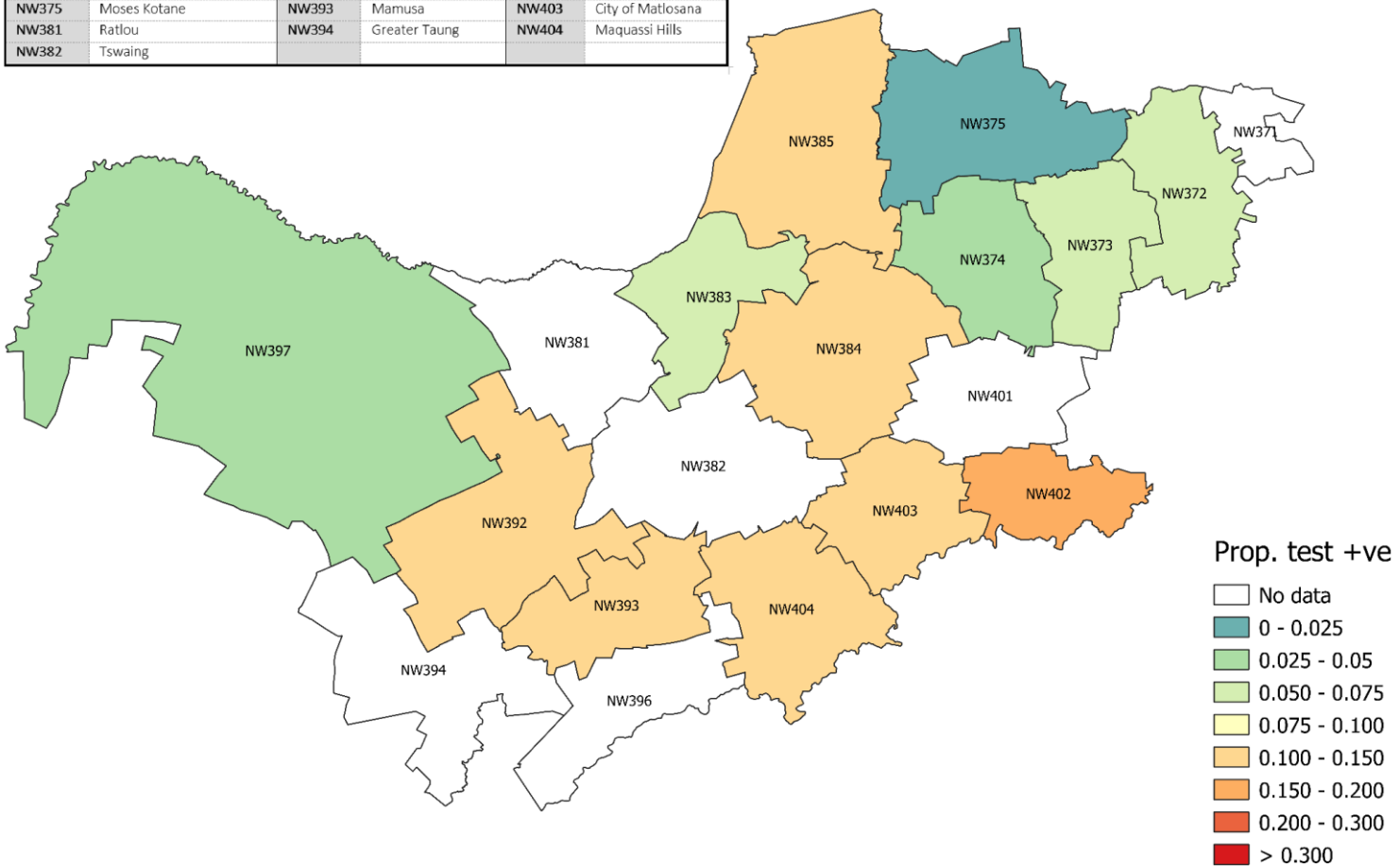

Figure 13. Proportion testing positive by health sub-district in North West Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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

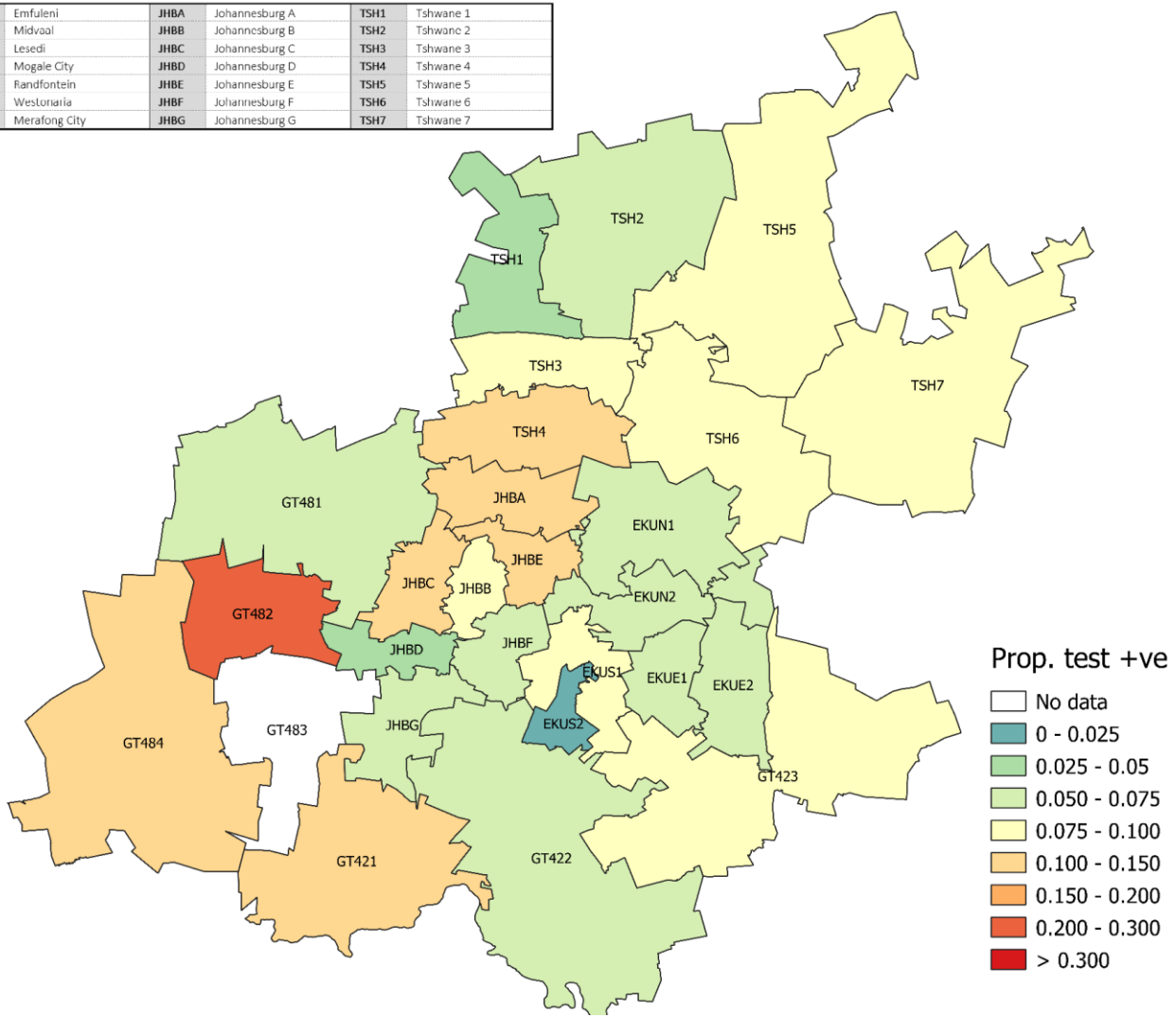

Figure 14. Proportion testing positive by health sub-district in Gauteng Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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

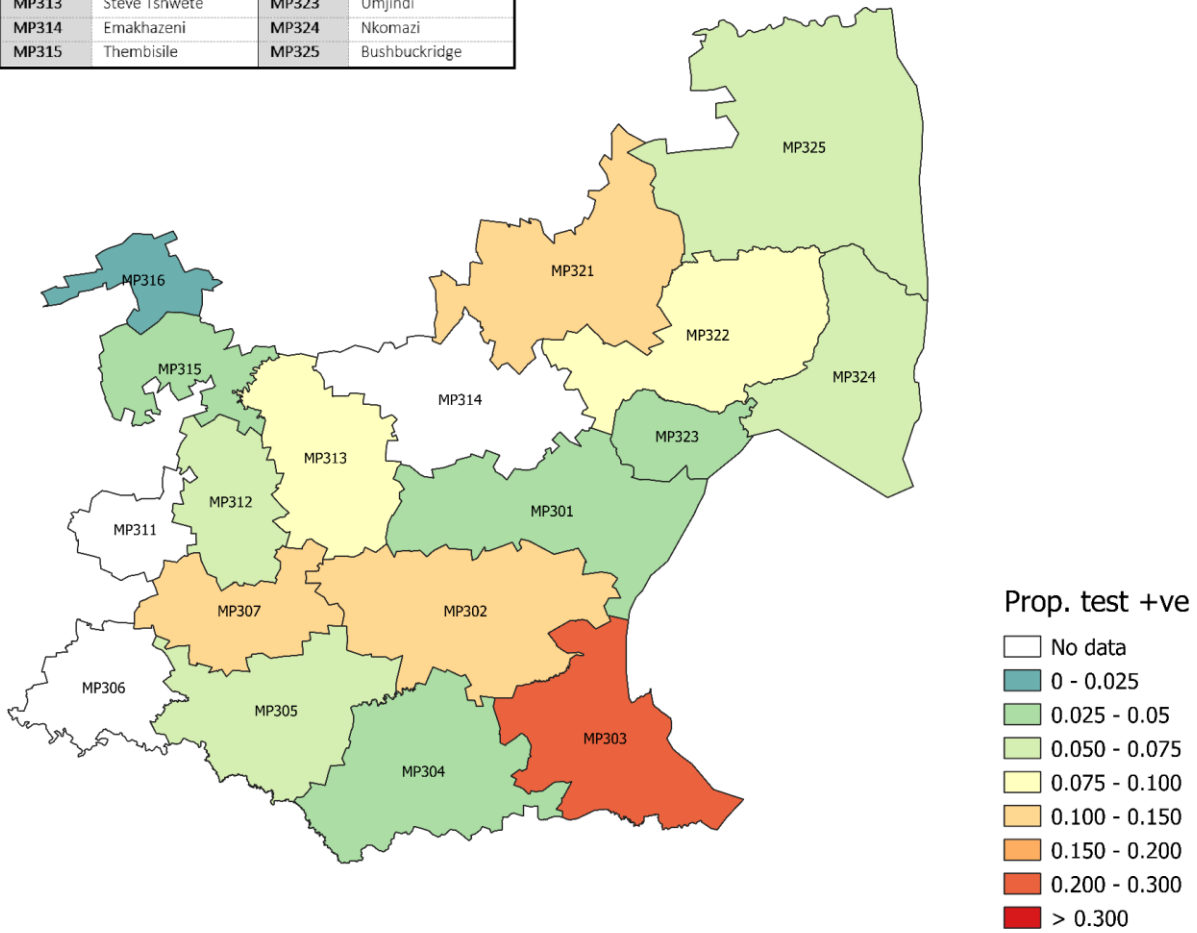

Figure 15. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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	Makhado				

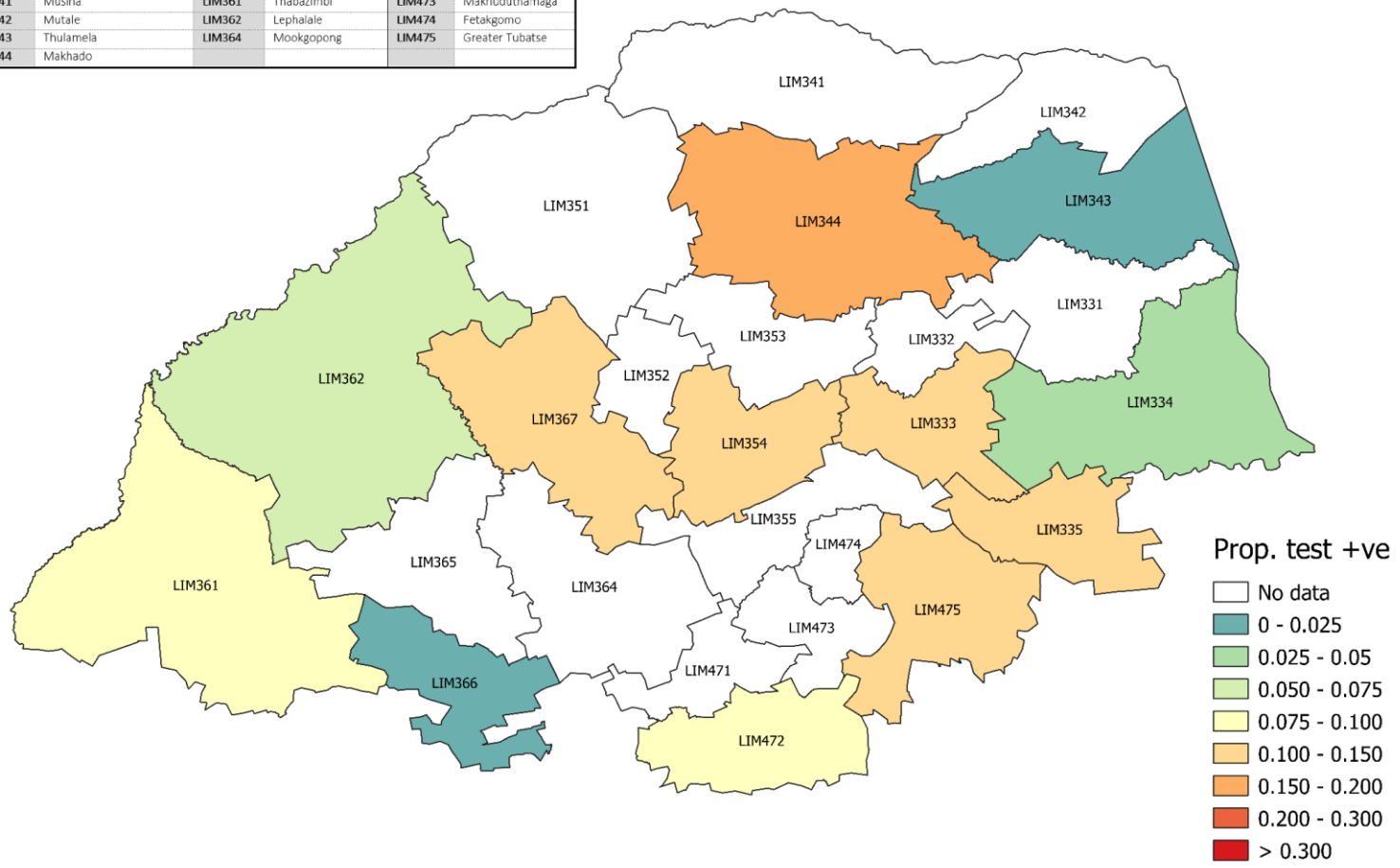

Figure 16. Proportion testing positive by health sub-district in Limpopo Province for the week of 5-11 June 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

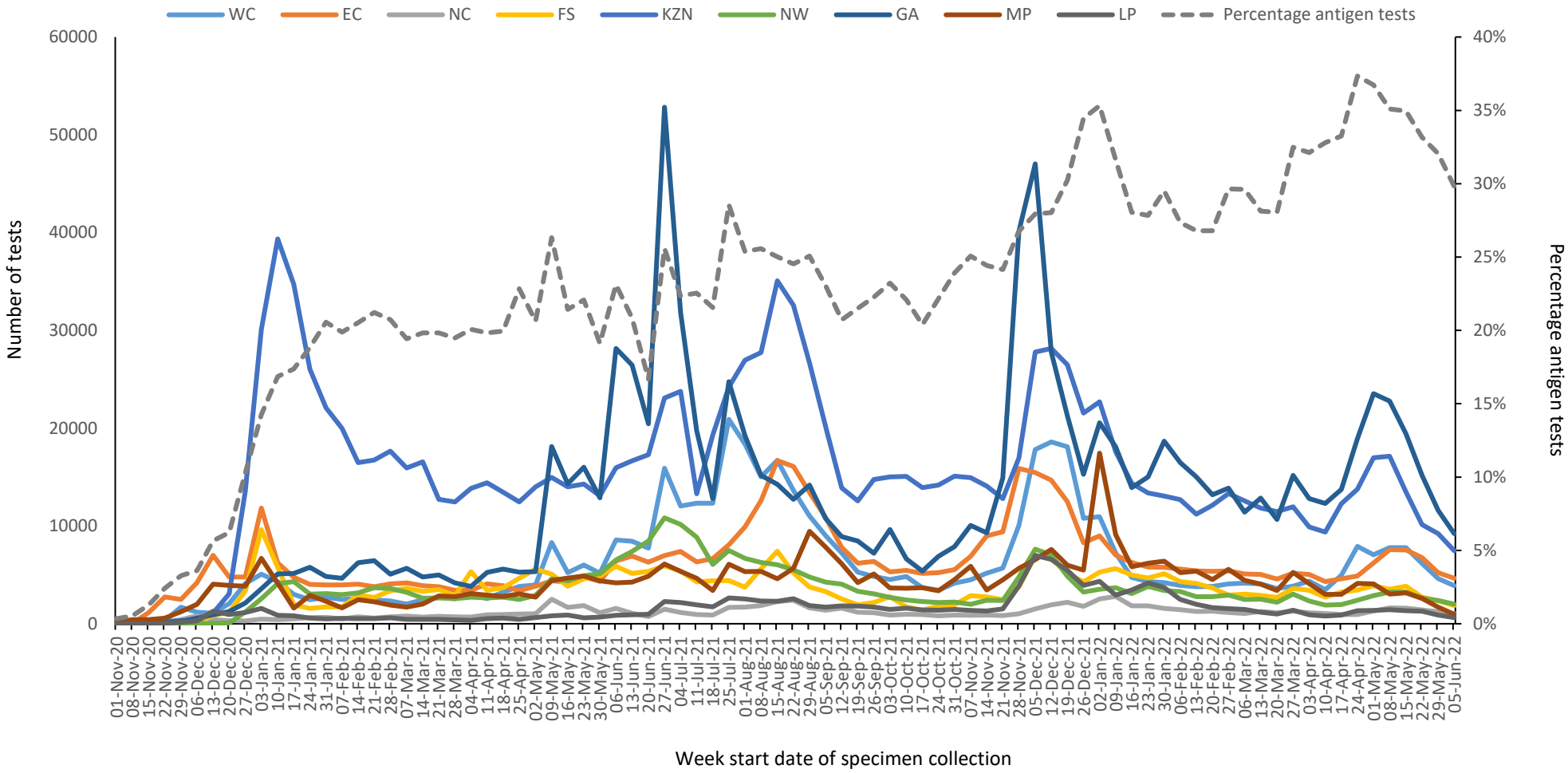

Figure 17. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 11 June 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

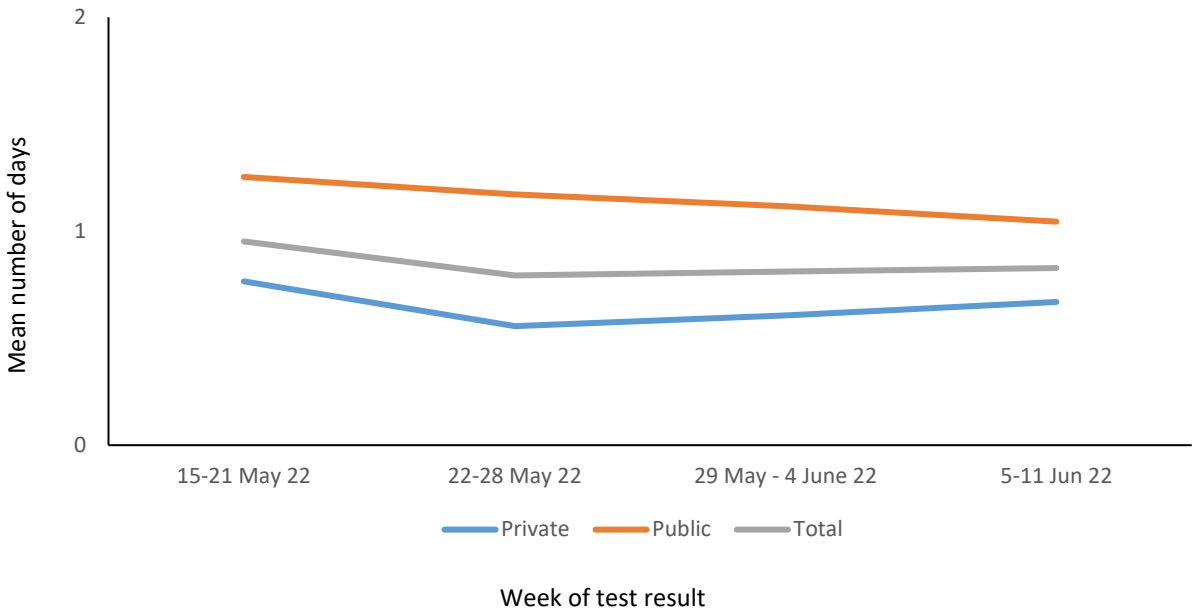

Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 15 May – 11 June 2022.

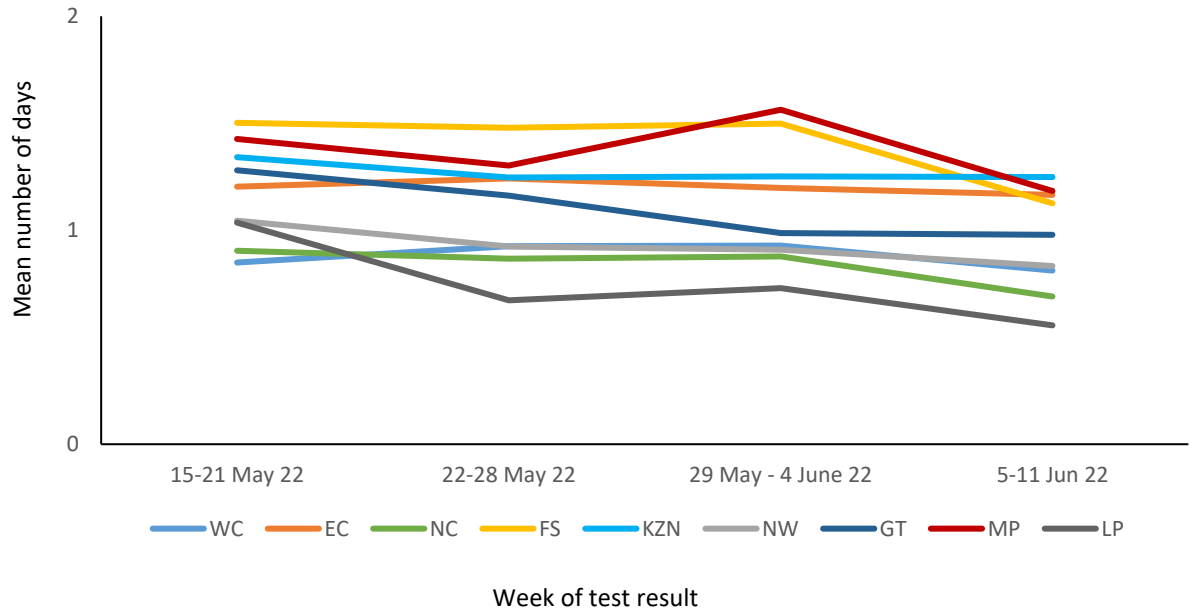

Figure 19. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 15 May - 11 June 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

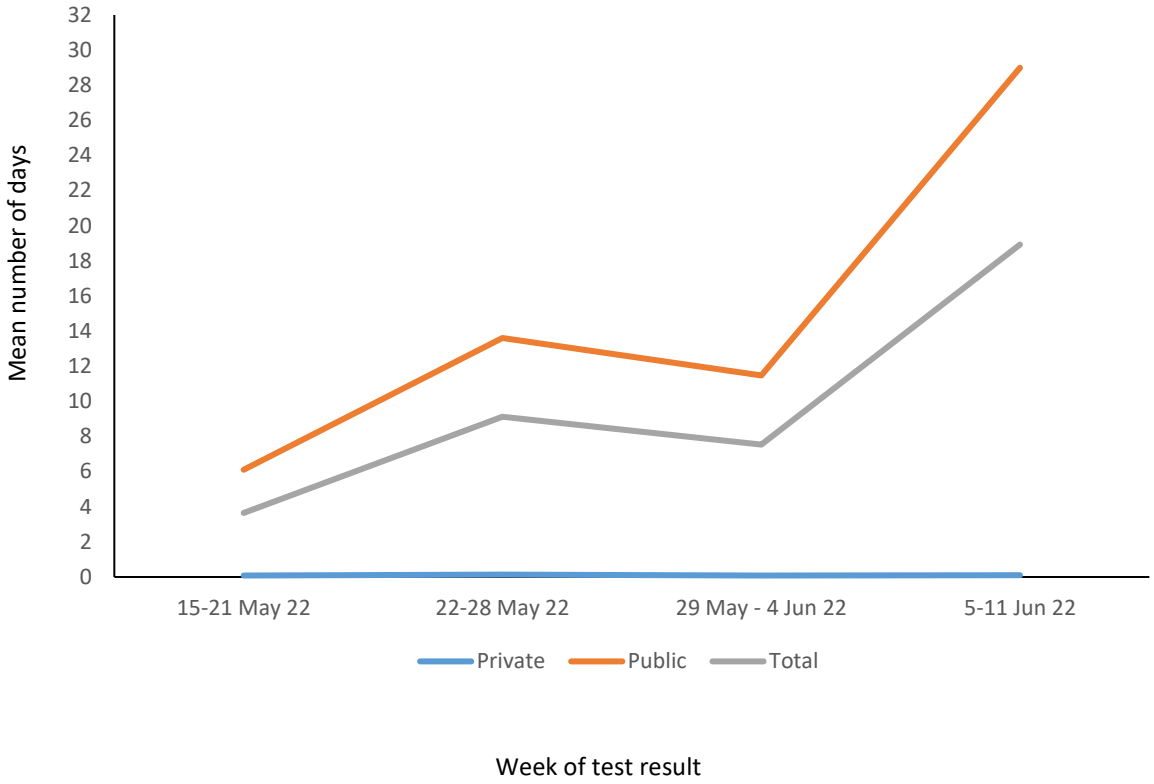

Figure 20. Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 15 May – 11 June 2022.

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 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.