COVID-19 TESTING SUMMARY

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

SOUTH AFRICA | WEEK 9 2022

OVERVIEW OF REPORT

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 5 March 2022 (Week 9 of 2022).

HIGHLIGHTS

- The number of tests reported in week 9 of 2022 (154,657: 119,316 PCR and 35,341 antigen tests) was lower than the number of tests reported in the previous week.
- In week 9, the testing rate was highest in Gauteng (383 per 100,000 persons) and lowest in Limpopo (58 per 100,000 persons).
- In week 9, the percentage testing positive was 8.0%, which was 1.1% lower than the previous week.
- In week 9, compared to the previous week, the percentage testing positive decreased in all provinces except in the Eastern Cape, Northern Cape and Free State where it was unchanged.
- The percentage testing positive in week 9 was highest in the Western Cape (11.5%) and was <10% in all other provinces.
- The percentage testing positive was highest in the 10-14 years age group (18.8%).

Executive Summary:

- In the period 1 March 2020 through 5 March 2022, 23,030,599 tests for SARS-CoV-2 have been reported nationally: 19,189,948 PCR and 3,840,651 antigen tests.
- The number of tests reported in week 9 of 2022 (n=154,657: 119,316 PCR and 35,341 antigen tests) was lower than the number of tests reported in the previous week.
- Gauteng reported the largest proportion of tests (39.2%), followed by KwaZulu-Natal (19.2%) and Western Cape (15.7%).
- The overall testing rate decreased from the previous week (292 per 100,000 persons in week 8 to 257 per 100,000 persons in week 9).
- In week 9, a decrease in the testing rate was observed in all provinces. The testing rate was highest in Gauteng (383 per 100,000 persons) and lowest in Limpopo (58 per 100,000 persons).
- The testing rate in week 9 was highest in the ≥80 years age group (451 per 100,000 persons).
- In week 9, the percentage testing positive was 8.0%, which was 1.1% lower than the previous week (9.1% in week 8 to 8.0% in week 9, P<0.001).
- In the past week, the percentage testing positive decreased by 1.5% in the public sector (6.6% in week 8 to 5.1% in week 9, P<0.001) and by 1.4% in the private sector (10.7% in week 8 to 9.3% week 9, P<0.001).
- In week 9, compared to the previous week, the percentage testing positive decreased in all provinces except in the Eastern Cape, Northern Cape and Free State where it was unchanged.
- The percentage testing positive in week 9 was highest in the Western Cape (11.5%) and was <10% in all other provinces.
- Health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=11).
- The percentage testing positive remains high in the 5-9, 10-14 and 15-19 years age groups, however a decrease has been observed in all three age groups in the past few weeks.
- Antigen tests accounted for 22.9% (35,341/ 154,657) of tests reported in week 9, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 9 the public sector accounted for 55.3% (15,796/ 35,341) of antigen tests reported. A decrease in the number of antigen tests reported was observed across all provinces in the past few weeks.
- The mean turnaround time for PCR tests reported in week 9 was 0.7 days; 1.1 days in the public sector and 0.5 days in the private sector. Turnaround times for public sector PCR tests increased in Mpumalanga and KwaZulu-Natal and were <2 days in all provinces.
- The mean turnaround time for antigen tests reported in week 9 was 25.4 days in the public sector and 0.1 days in the private sector.

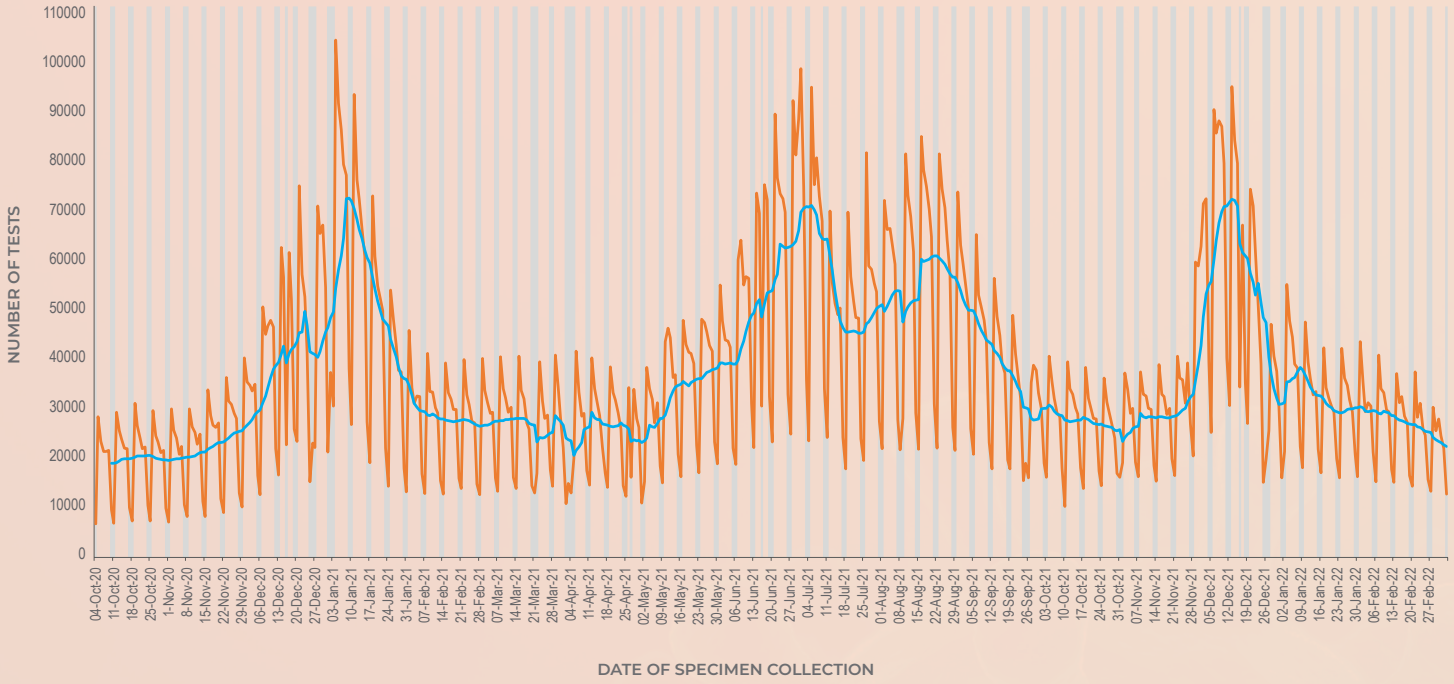

Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 4 October 2020 – 5 March 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays

Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021 – 5 March 2022

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
1	03-Jan-21	501382 (2.2)	151072	30.1
2	10-Jan-21	418299 (1.8)	104825	25.1
3	17-Jan-21	327531 (1.4)	63282	19.3
4	24-Jan-21	249622 (1.1)	34652	13.9
5	31-Jan-21	203796 (0.9)	22380	11.0
6	07-Feb-21	193340 (0.8)	16476	8.5
7	14-Feb-21	190711 (0.8)	12191	6.4
8	21-Feb-21	184729 (0.8)	10390	5.6
9	28-Feb-21	189729 (0.8)	8695	4.6
10	07-Mar-21	193453 (0.8)	8341	4.3
11	14-Mar-21	185524 (0.8)	8156	4.4
12	21-Mar-21	173273 (0.8)	7356	4.2
13	28-Mar-21	163973 (0.7)	7063	4.3
14	04-Apr-21	180873 (0.8)	7292	4.0
15	11-Apr-21	185349 (0.8)	8847	4.8
16	18-Apr-21	184920 (0.8)	9471	5.1
17	25-Apr-21	160024 (0.7)	9182	5.7
18	02-May-21	193972 (0.8)	13463	6.9
19	09-May-21	240292 (1.1)	19939	8.3
20	16-May-21	248488 (1.1)	24212	9.7
21	23-May-21	262636 (1.1)	29778	11.3
22	30-May-21	270303 (1.2)	36106	13.4
23	06-Jun-21	337911 (1.5)	59453	17.6
24	13-Jun-21	370984 (1.6)	88086	23.7
25	20-Jun-21	432588 (1.9)	118653	27.4
26	27-Jun-21	490245 (2.1)	146636	29.9
27	04-Jul-21	443833 (1.9)	141459	31.9
28	11-Jul-21	320637 (1.4)	100954	31.5
29	18-Jul-21	313063 (1.4)	88443	28.3
30	25-Jul-21	350484 (1.5)	88355	25.2
31	01-Aug-21	372221 (1.6)	88126	23.7
32	08-Aug-21	359514 (1.6)	83376	23.2
33	15-Aug-21	420829 (1.8)	95384	22.7
34	22-Aug-21	391460 (1.7)	78180	20.0
35	29-Aug-21	345153 (1.5)	55070	16.0
36	05-Sep-21	300421 (1.3)	38844	12.9
37	12-Sep-21	260650 (1.1)	24017	9.2
38	19-Sep-21	209023 (0.9)	14008	6.7
39	26-Sep-21	207727 (0.9)	9491	4.6
40	03-Oct-21	197548 (0.9)	6450	3.3
41	10-Oct-21	191595 (0.8)	5042	2.6
42	17-Oct-21	185299 (0.8)	3411	1.8
43	24-Oct-21	177042 (0.8)	2565	1.4
44	31-Oct-21	182460 (0.8)	2104	1.2
45	07-Nov-21	195478 (0.9)	2320	1.2
46	14-Nov-21	196137 (0.9)	4808	2.5
47	21-Nov-21	223775 (1.0)	18968	8.5
48	28-Nov-21	380418 (1.7)	98355	25.9
49	05-Dec-21	490343 (2.1)	174874	35.7
50	12-Dec-21	421034 (1.8)	154586	36.7
51	19-Dec-21	334954 (1.5)	117393	35.0
52	20-Dec-21	214259 (0.9)	65722	30.7
1	02-Jan-22	265137 (1.2)	60886	23.0
2	09-Jan-22	226404 (1.0)	35002	15.5

3	16-Jan-22	203045 (0.9)	23903	11.8
4	23-Jan-22	208500 (0.9)	25662	12.3
5	24-Jan-22	205040 (0.9)	22835	11.1
6	06-Feb-22	198021 (0.9)	20259	10.2
7	13-Feb-22	186056 (0.8)	18912	10.2
8	14-Feb-22	175391 (0.8)	16012	9.1
9	27-Feb-22	154657 (0.7)	12368	8.0
	Total	**22,875,942 (100.0)**	**3,996,714**	

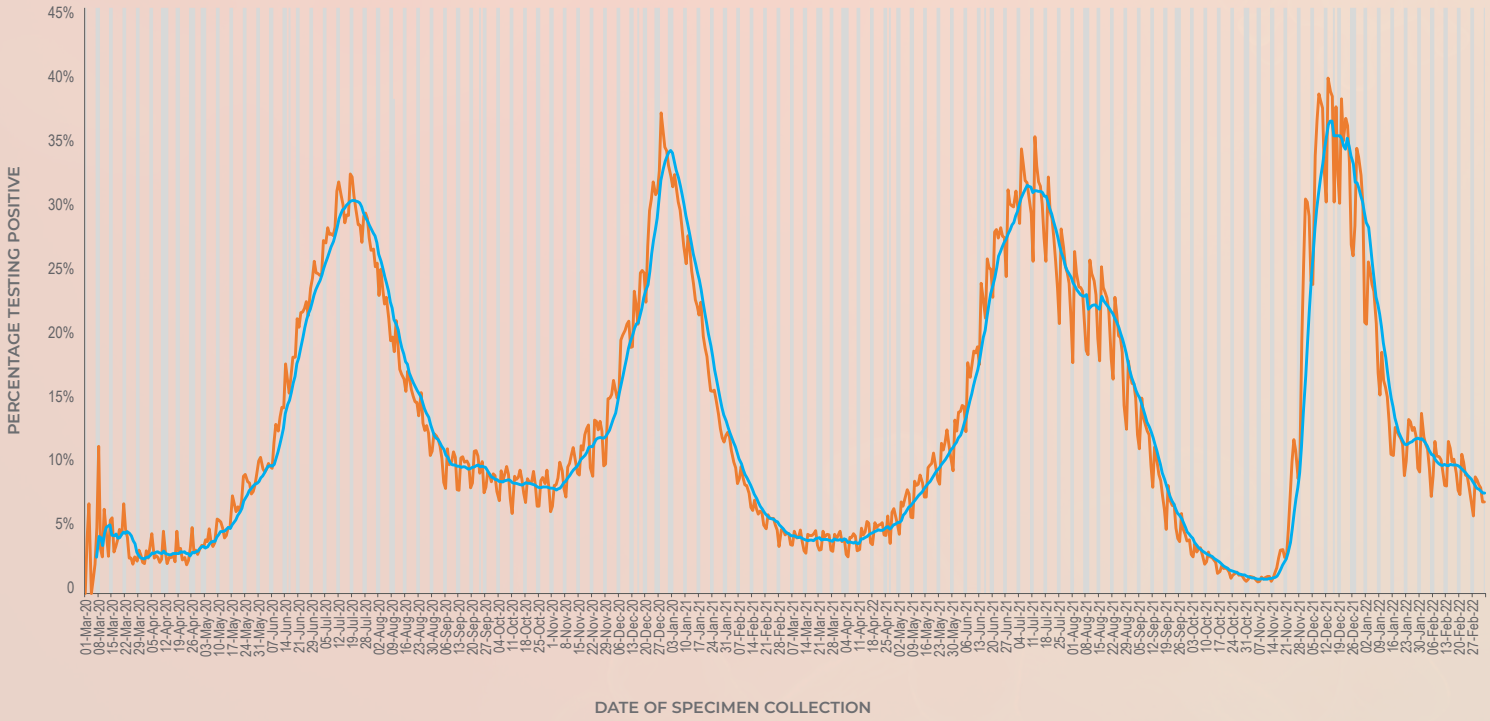

Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 - 5 March 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

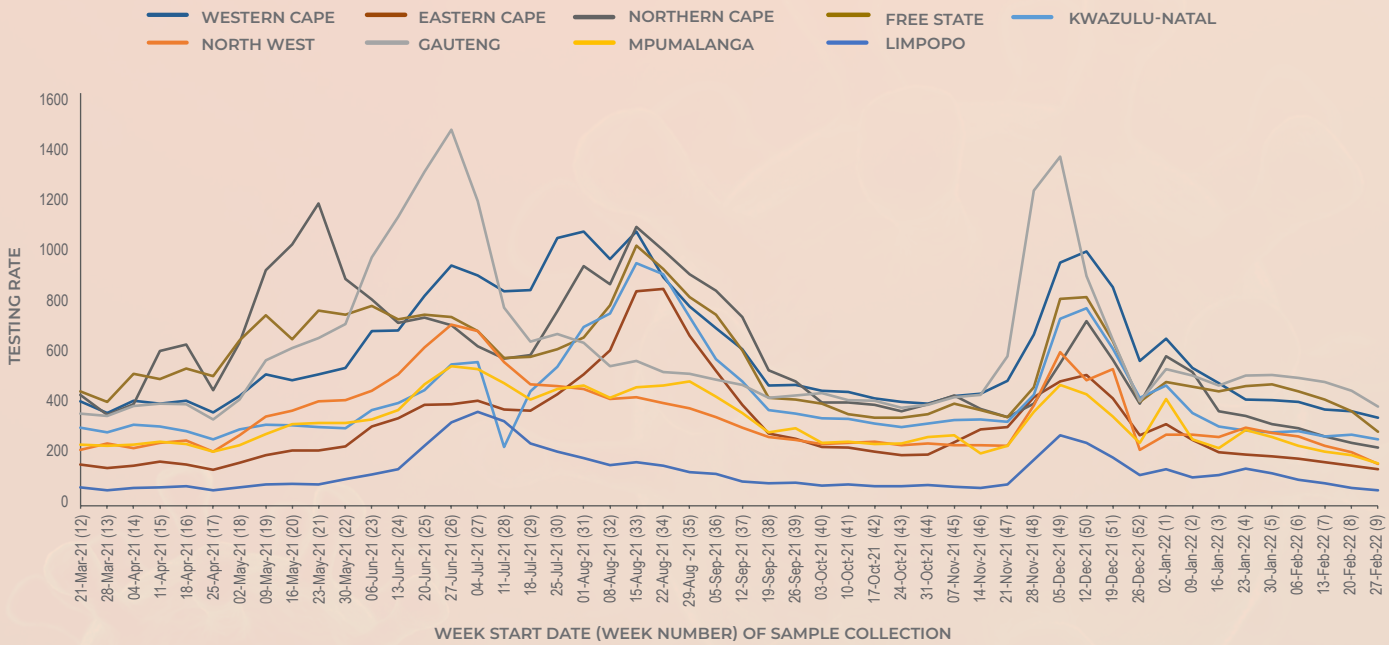

Figure 3. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 5 March 2022

Table 2. Weekly number of tests and positive tests reported by province, South Africa, 13 February – 5 March 2022

		13-19 Feb 2022		20-26 Feb 2022		27 Feb - 5 Mar 2022			
Province	**Population[a]**	**No. of tests**	**No. positive tests (%)**	**No. of tests**	**No. positive tests (%)**	**No. of tests**	**No. positive tests (%)**	**Tests per 100,000 persons**	**Change in percentage positive[b]**
Western Cape	7113776	26522	3437 (13.0)	25956	3234 (12.5)	24256	2798 (11.5)	341	-0.9%
Eastern Cape	6676590	11177	729 (6.5)	10336	587 (5.7)	9361	477 (5.1)	140	-0.6%
Northern Cape	1303047	3496	374 (10.7)	3158	265 (8.4)	2927	244 (8.3)	225	-0.1%
Free State	2932441	12067	1023 (8.5)	10744	863 (8.0)	8421	623 (7.4)	287	-0.6%
KwaZulu-Natal	11513575	30960	2283 (7.4)	31635	2454 (7.8)	29646	2030 (6.8)	257	-0.9%
North West	4122854	9600	1417 (14.8)	8547	884 (10.3)	6696	602 (9.0)	162	-1.4%
Gauteng	15810388	75835	7477 (9.9)	70366	6000 (8.5)	60590	4592 (7.6)	383	-0.9%
Mpumalanga	4743584	9890	1548 (15.7)	9280	1291 (13.9)	7758	702 (9.0)	164	-4.9%
Limpopo	5926724	5065	522 (10.3)	4123	336 (8.1)	3459	223 (6.4)	58	-1.7%
Unknown		1444	102 (7.1)	1246	98 (7.9)	1543	77 (5.0)		
Total	**60142978**	**186056**	**18912 (10.2)**	**175391**	**16012 (9.1)**	**154657**	**12368 (8.0)**	**257**	**-1.1%**

a 2021 Mid-year population Statistics SA

b Current week compared to previous week

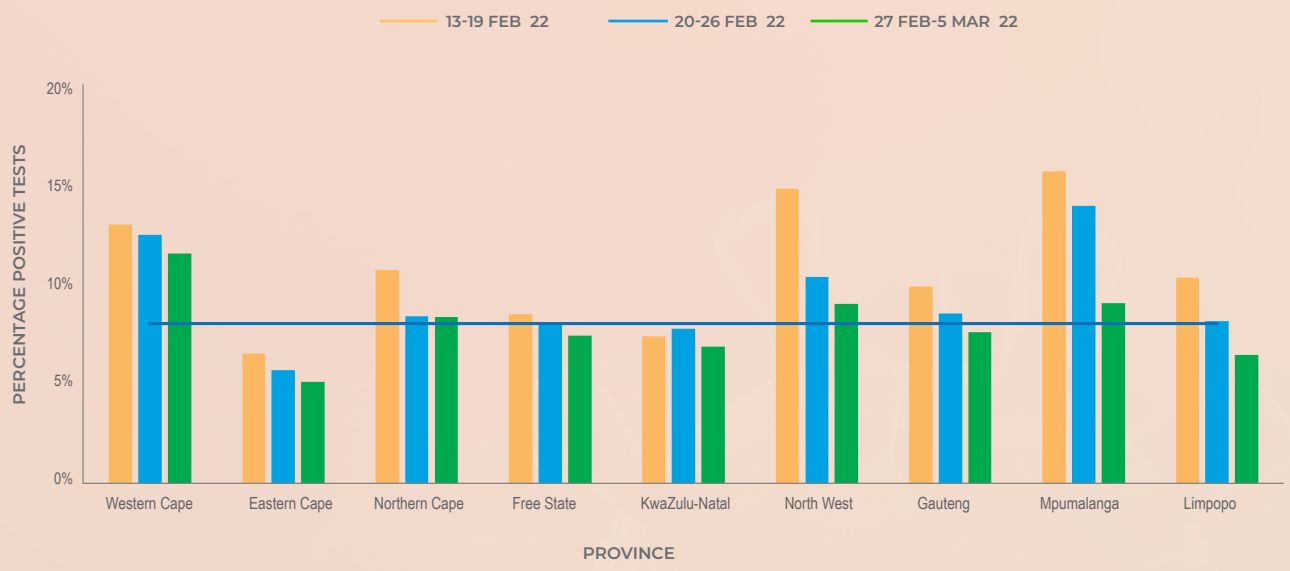

Figure 4. Weekly percentage testing positive by province, South Africa, 13 February – 5 March 2022. The horizontal blue line shows the national mean for week 9, beginning 27 February 2022

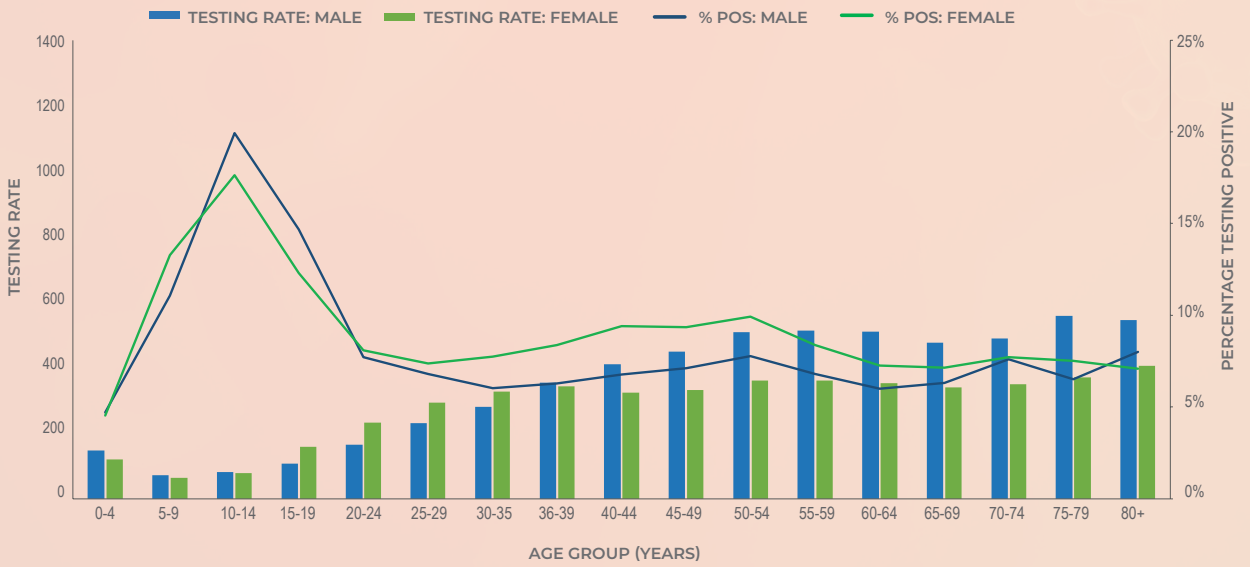

Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 9, 27 February – 5 March 2022

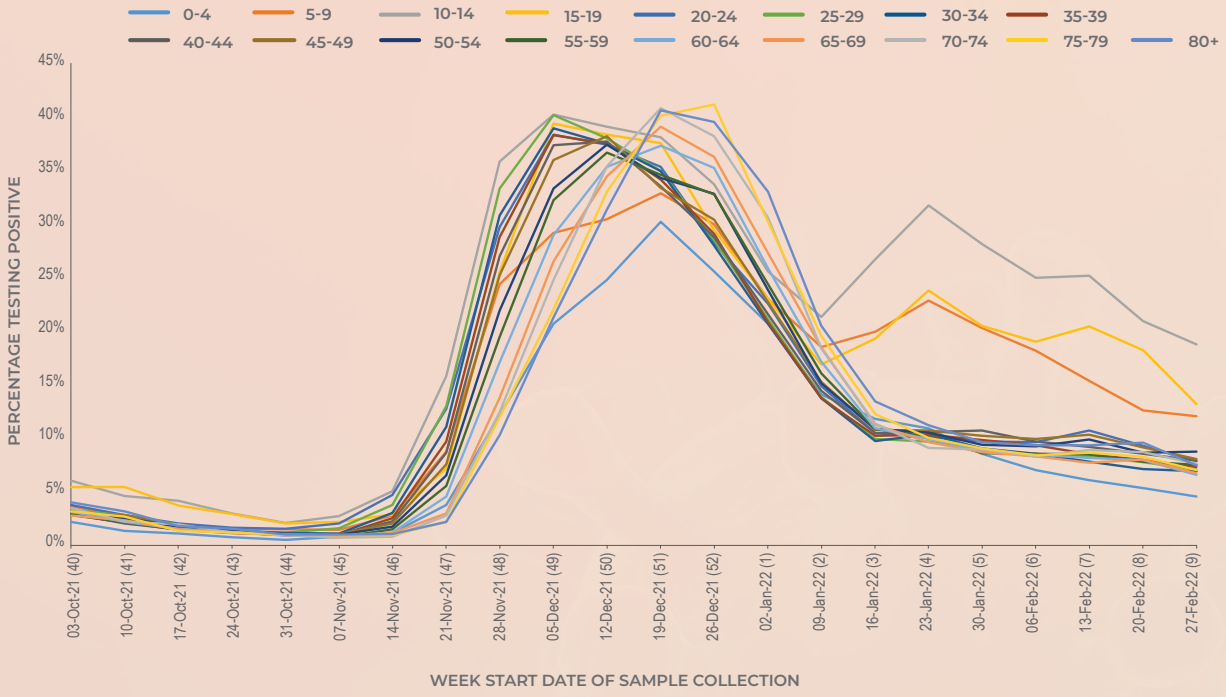

Figure 6. Percentage testing positive by age group and week of specimen collection, South Africa, 3 October 2021 – 5 March 2022

Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 27 February – 5 March 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Tswelopele	Free State	0.303 (0.197-0.409)	0.262 (0.203-0.320)
Witzenberg	Western Cape	0.254 (0.146-0.362)	0.268 (0.184-0.352)
Kgetlengrivier	North West	0.227 (0.083-0.371)	0.070 (0.025-0.116)
Randfontein	Gauteng	0.224 (0.188-0.260)	0.315 (0.285-0.345)
Thaba Chweu	Mpumalanga	0.214 (0.148-0.281)	0.275 (0.218-0.333)
Modimolle	Limpopo	0.211 (0.070-0.351)	0.351 (0.250-0.451)
CT Northern	Western Cape	0.193 (0.174-0.212)	0.174 (0.158-0.190)
Saldanha Bay	Western Cape	0.192 (0.150-0.234)	0.203 (0.164-0.241)
Greater Giyani	Limpopo	0.190 (0.062-0.318)	0.183 (0.121-0.244)
Oudtshoorn	Western Cape	0.190 (0.132-0.247)	0.174 (0.128-0.220)
Amahlathi	Eastern Cape	0.186 (0.048-0.324)	0.038 (0.000-0.090)
Breede Valley	Western Cape	0.182 (0.141-0.223)	0.233 (0.197-0.269)
Lephalale	Limpopo	0.179 (0.139-0.219)	0.156 (0.128-0.184)
Swellendam	Western Cape	0.175 (0.064-0.286)	0.217 (0.124-0.311)
Kou-Kamma	Eastern Cape	0.166 (0.042-0.291)	0.031 (0.000-0.075)
Matzikama	Western Cape	0.160 (0.106-0.214)	0.206 (0.154-0.257)
Stellenbosch	Western Cape	0.157 (0.127-0.186)	0.176 (0.149-0.203)
Metsimaholo	Free State	0.155 (0.099-0.212)	0.118 (0.081-0.155)
Tshwane 4	Gauteng	0.153 (0.135-0.172)	0.175 (0.158-0.191)
CT Tygerberg	Western Cape	0.150 (0.137-0.164)	0.134 (0.122-0.146)
Steve Tshwete	Mpumalanga	0.150 (0.126-0.174)	0.239 (0.216-0.262)
Drakenstein	Western Cape	0.149 (0.123-0.176)	0.206 (0.182-0.230)
Govan Mbeki	Mpumalanga	0.149 (0.119-0.178)	0.198 (0.172-0.224)
CT Eastern	Western Cape	0.147 (0.128-0.166)	0.171 (0.154-0.189)
Kamiesberg	Northern Cape	0.141 (0.006-0.276)	0.378 (0.265-0.492)

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.

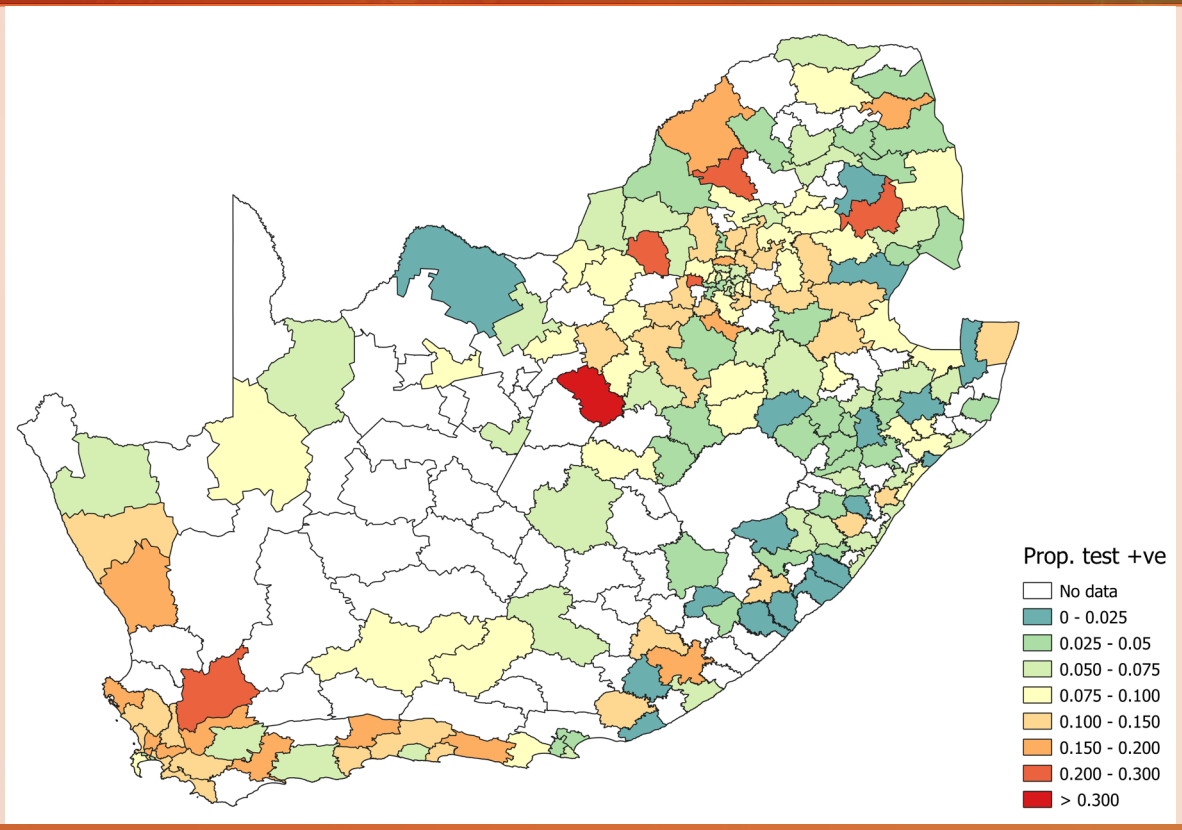

Figure 7. Proportion testing positive by health sub-district in South Africa for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

CPTE	CT Eastern	WC011	Matzikama	WC025	Breede Valley	WC043	Mossel Bay
CPTK	CT Khayelitsha	WC012	Cederberg	WC026	Langeberg	WC044	George
CPTM	CT Mitchells Plain	WC013	Bergrivier	WC031	Theewaterskloof	WC045	Oudtshoorn
CPTN	CT Northern	WC014	Saldanha Bay	WC032	Overstrand	WC047	Bitou
CPTP	CT Klipfontein	WC015	Swartland	WC033	Cape Agulhas	WC048	Knysna
CPTS	CT Southern	WC022	Witzenberg	WC034	Swellendam	WC051	Laingsburg
CPTT	CT Tygerberg	WC023	Drakenstein	WC041	Kannaland	WC052	Prince Albert
CPTW	CT Western	WC024	Stellenbosch	WC042	Hessequa	WC053	Beaufort West

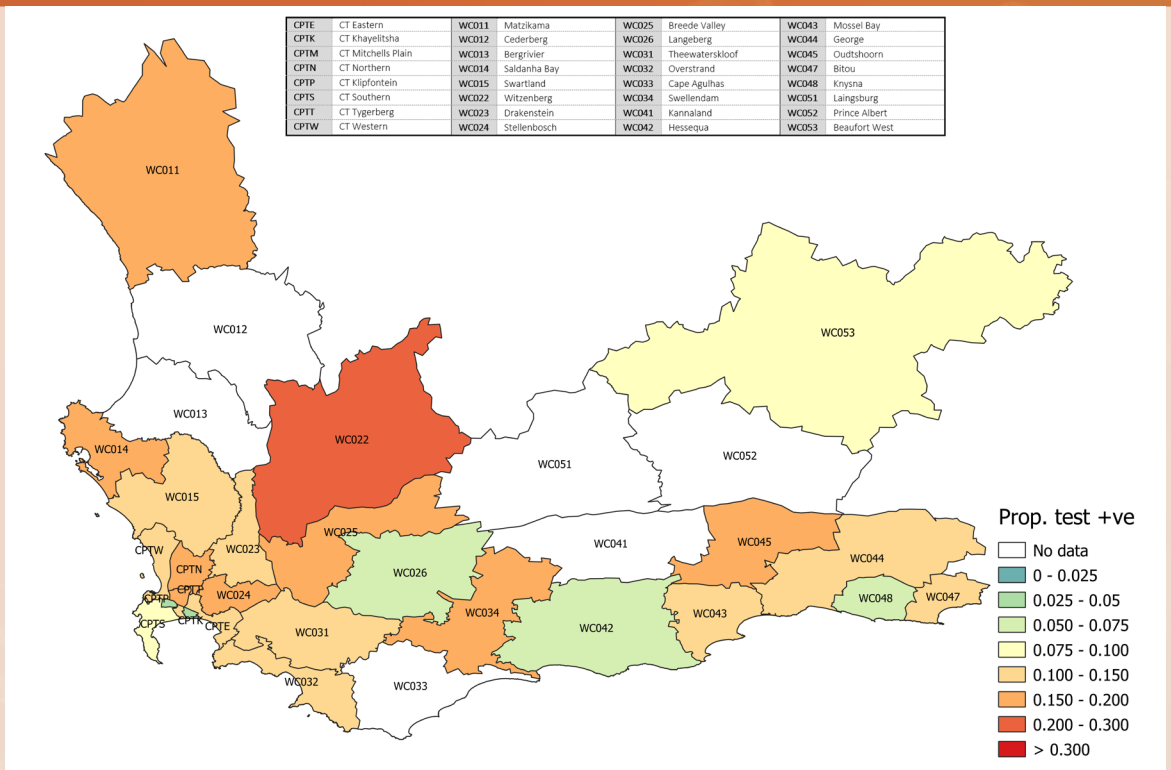

Figure 8. Proportion testing positive by health sub-district in the Western Cape Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

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						

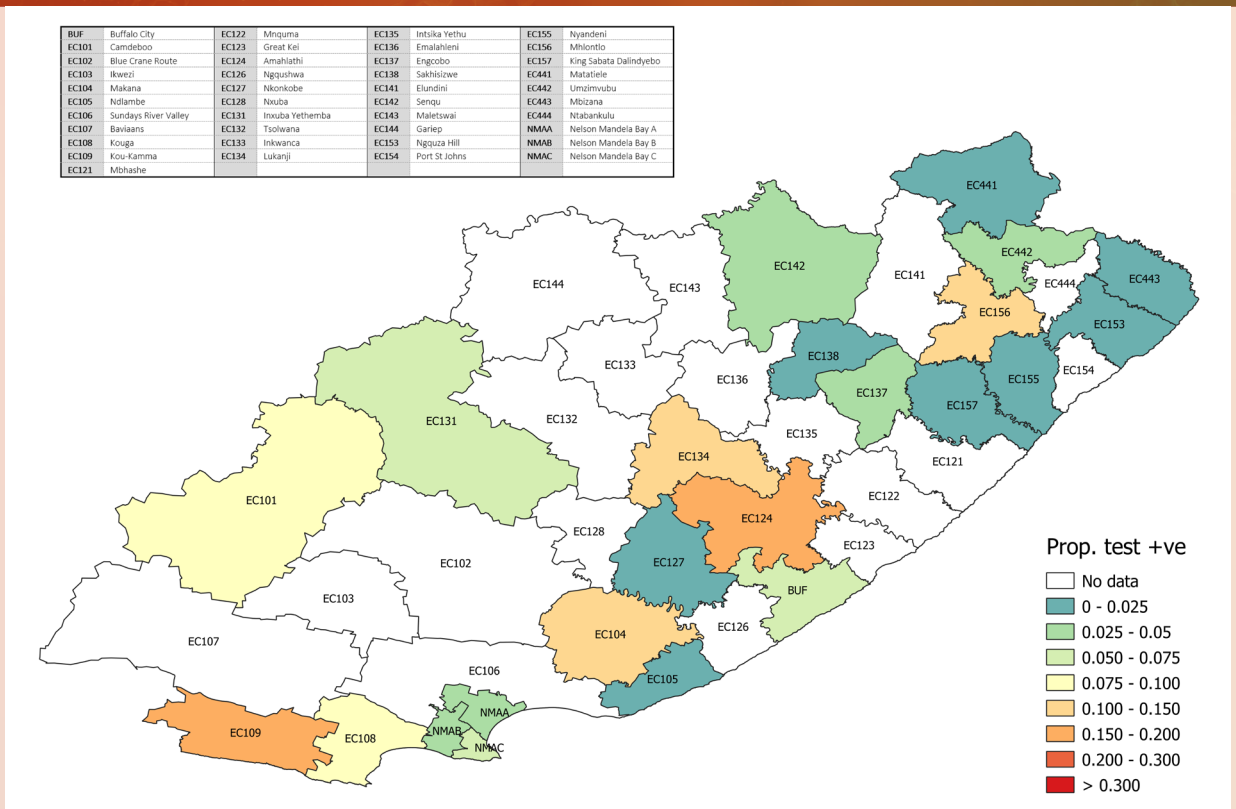

Figure 9. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

NC061	Richtersveld	NC074	Kareeberg	NC085	Tsantsabane
NC062	Nama Khoi	NC075	Renosterberg	NC086	Kgatelopele
NC064	Kamiesberg	NC076	Thembelihle	NC091	Sol Plaatjie
NC065	Hantam	NC077	Siyathemba	NC092	Dikgatlong
NC066	Karoo Hoogland	NC078	Siyancuma	NC093	Magareng
NC067	Khâi-Ma	NC081	Mier	NC094	Phokwane
NC071	Ubuntu	NC082	Kai !Garib	NC451	Joe Morolong
NC072	Umsobomvu	NC083	//Khara Hais	NC452	Ga-Segonyana
NC073	Emthanjeni	NC084	!Kheis	NC453	Gamagara

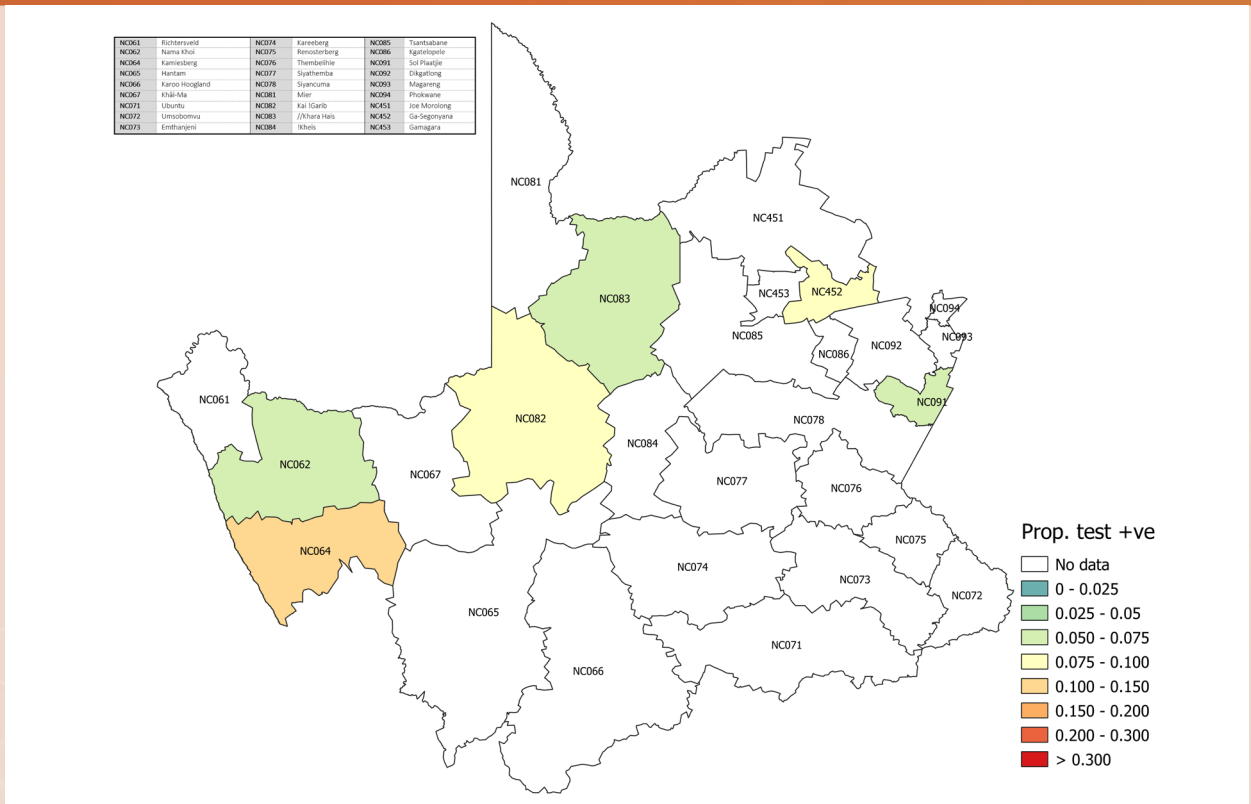

Figure 10. Proportion testing positive by health sub-district in Northern Cape Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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

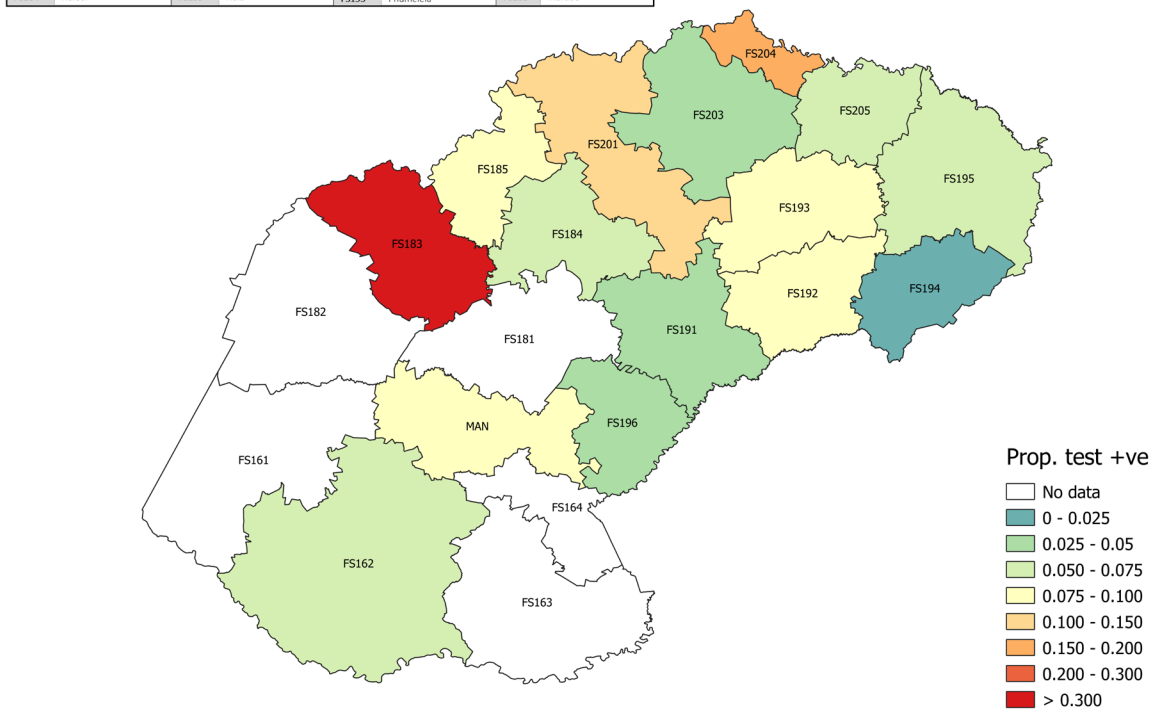

Figure 11. Proportion testing positive by health sub-district in Free State Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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	Nquthu	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

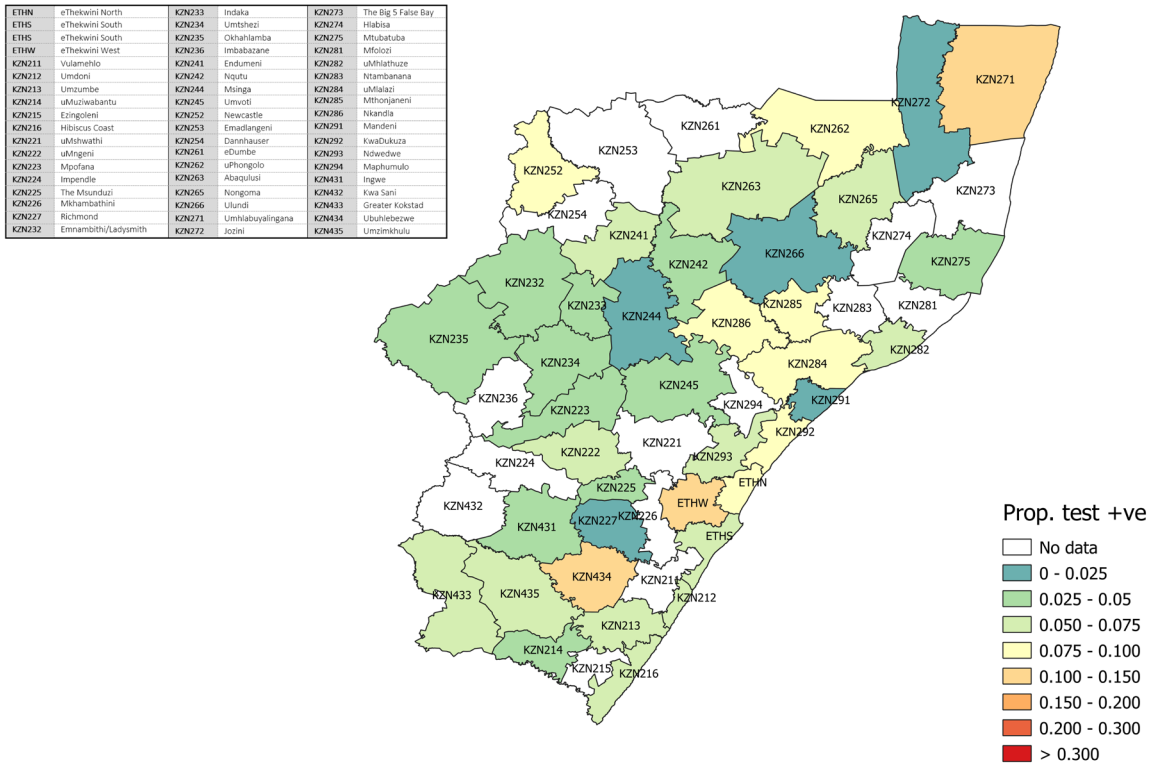

Figure 12. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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				

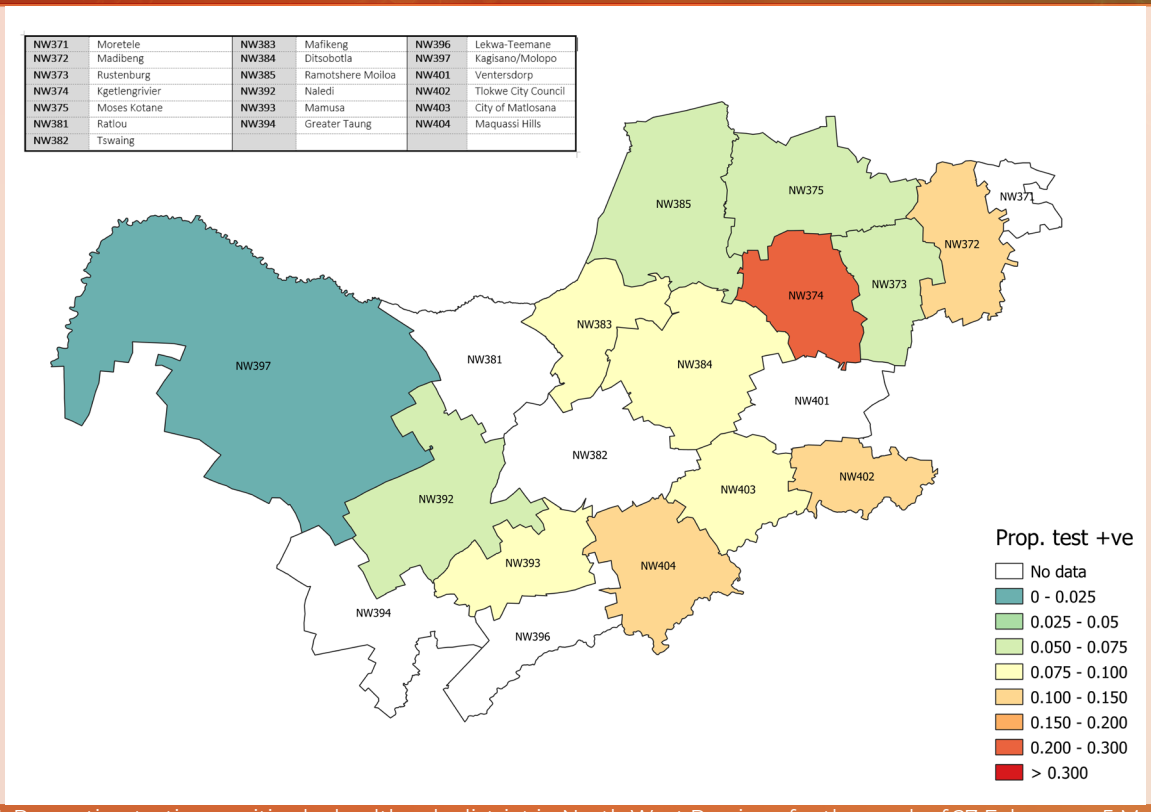

Figure 13. Proportion testing positive by health sub-district in North West Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

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

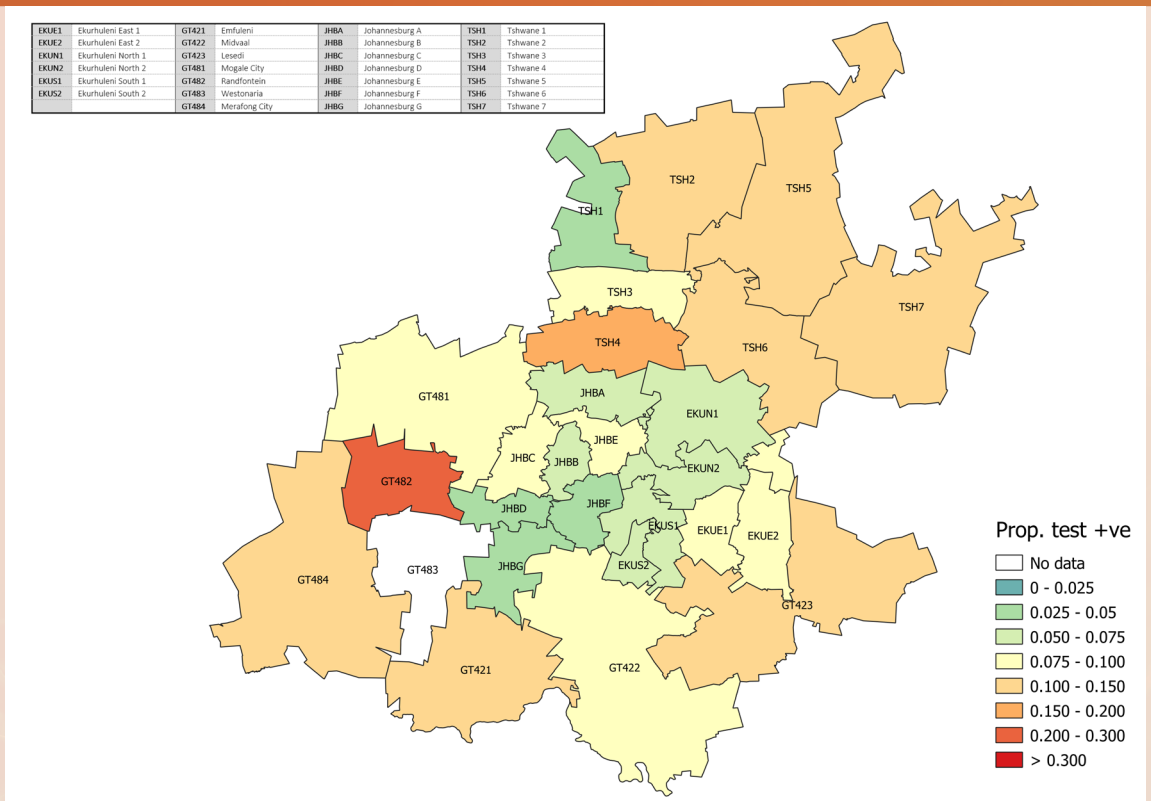

Figure 14. Proportion testing positive by health sub-district in Gauteng Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

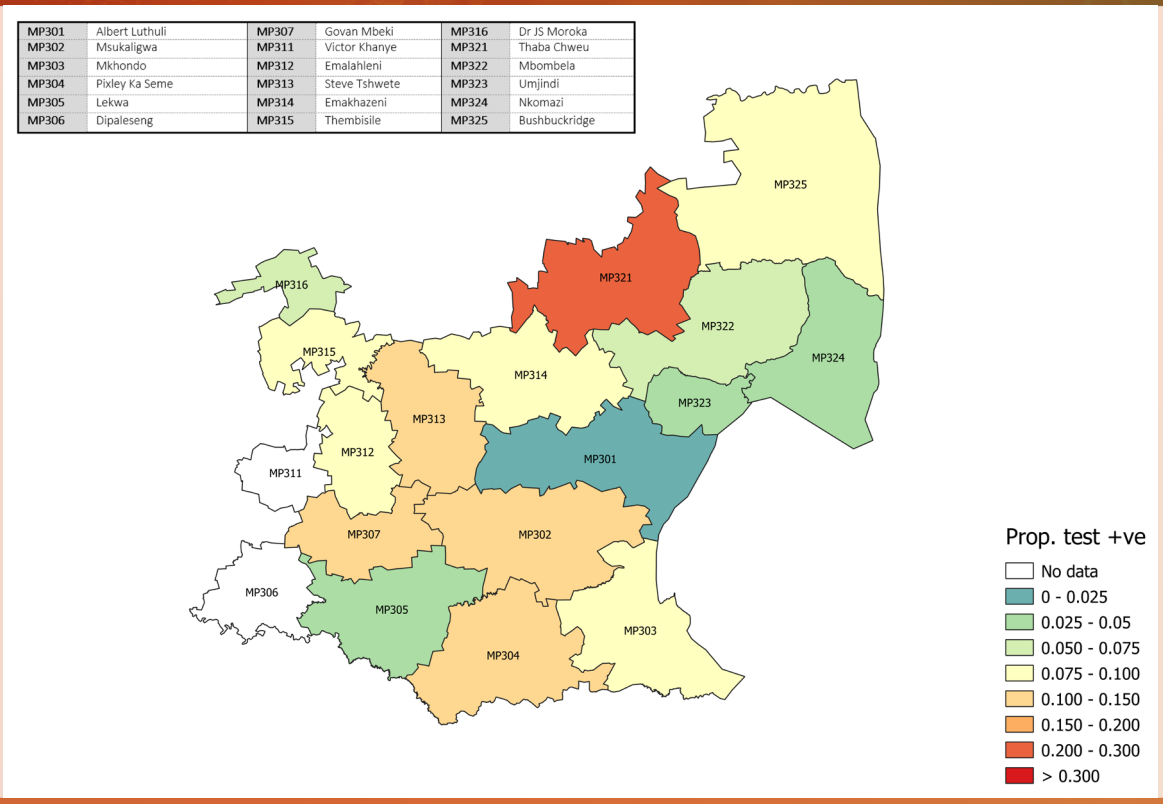

Figure 15. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

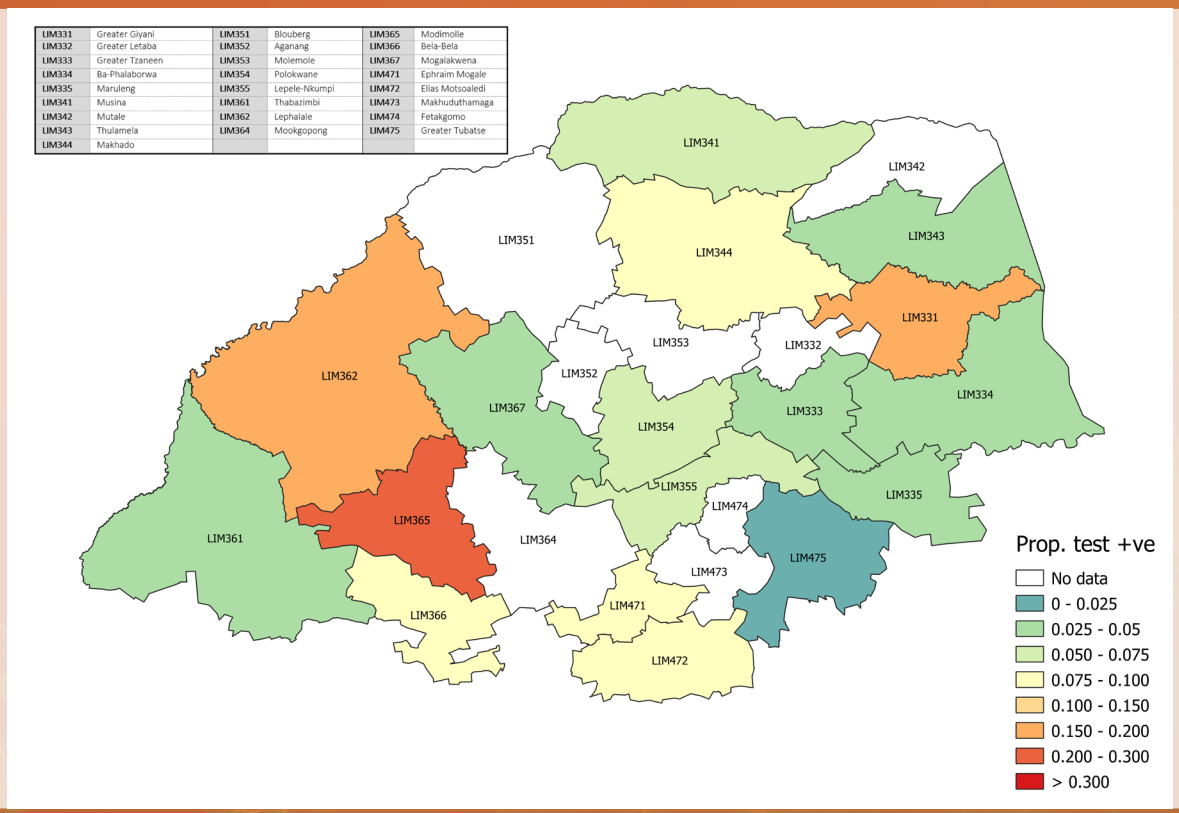

Figure 16. Proportion testing positive by health sub-district in Limpopo Province for the week of 27 February – 5 March 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

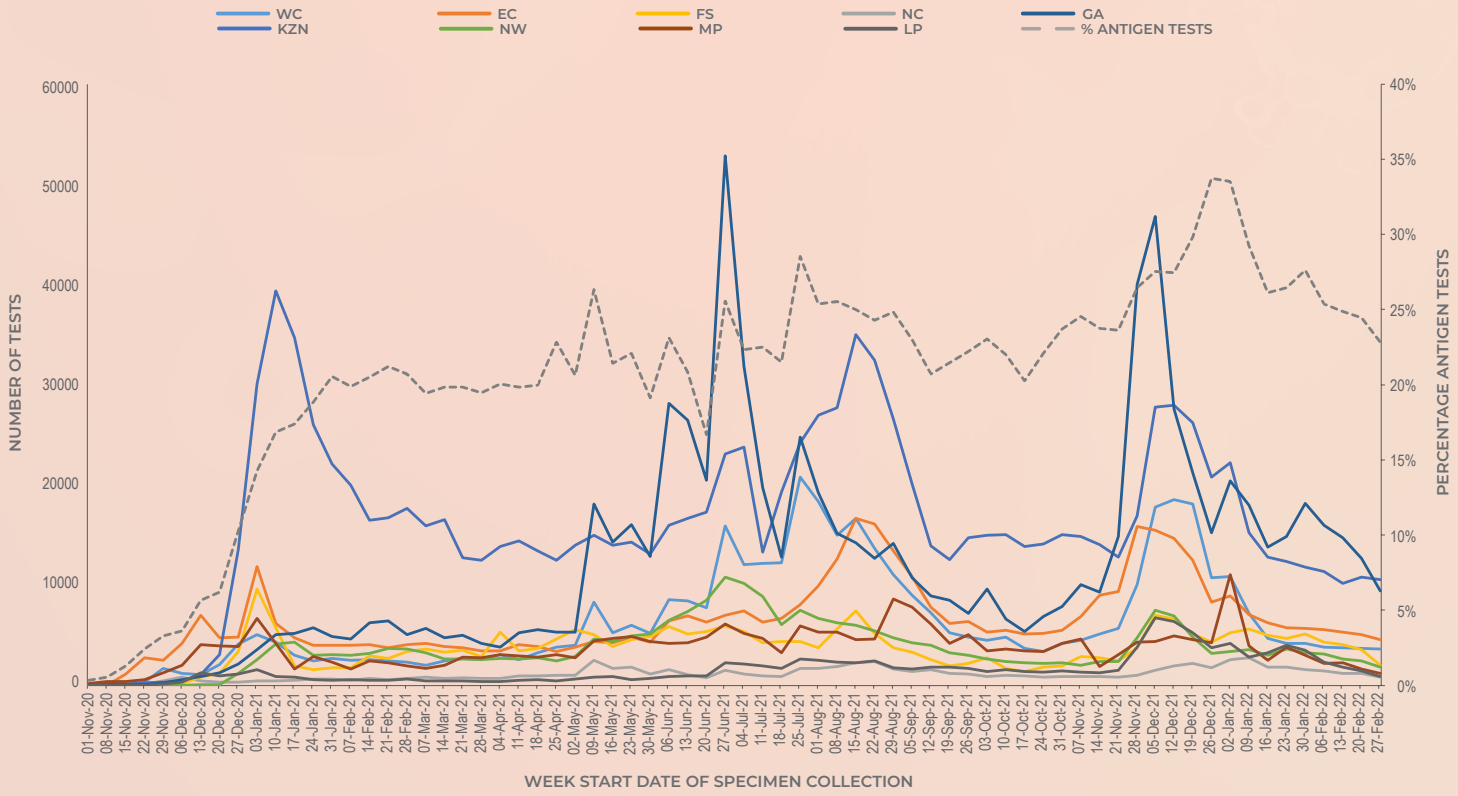

Figure 17. Number antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 5 March 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

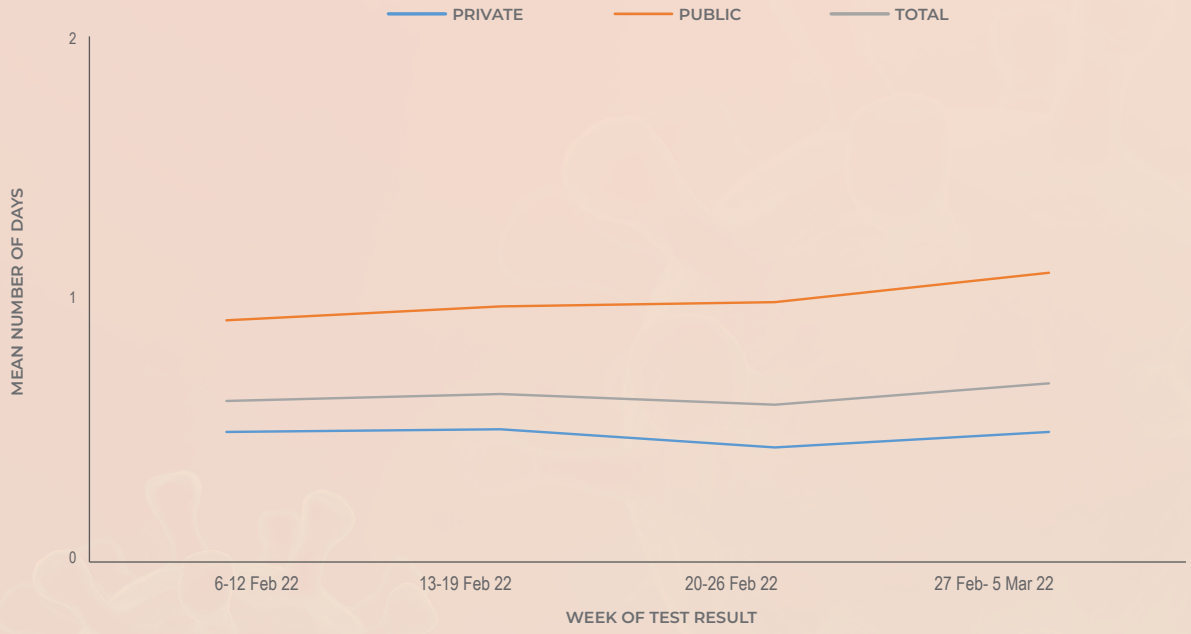

Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 6 February – 5 March 2022.

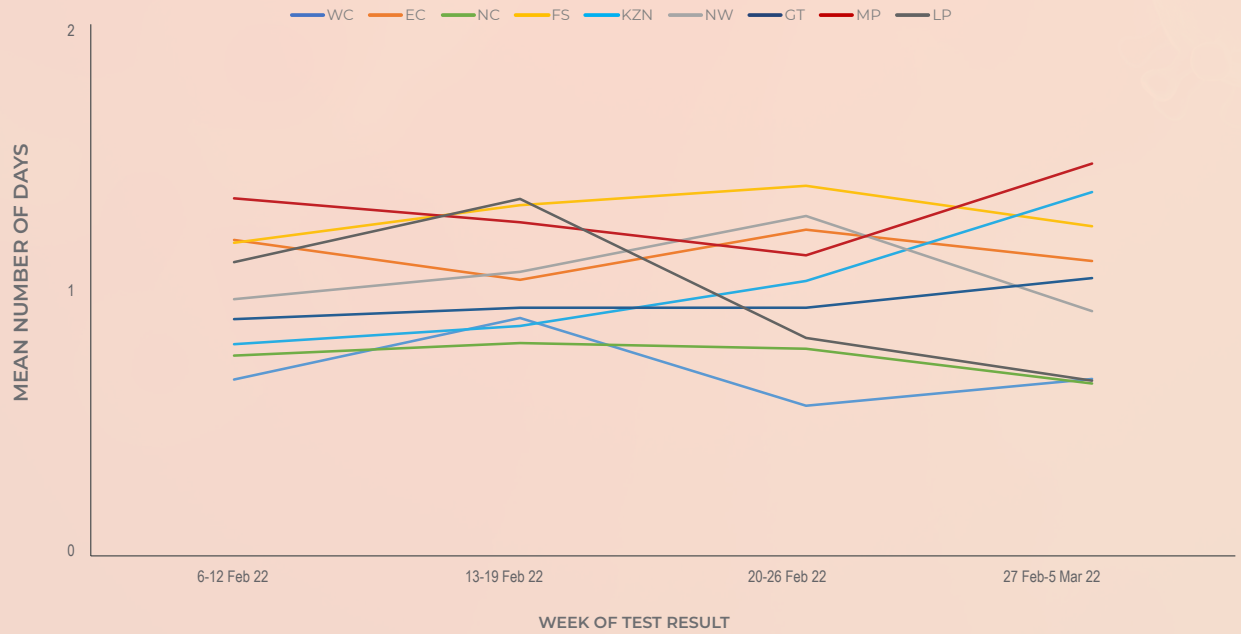

Figure 19. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 6 February – 5 March 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

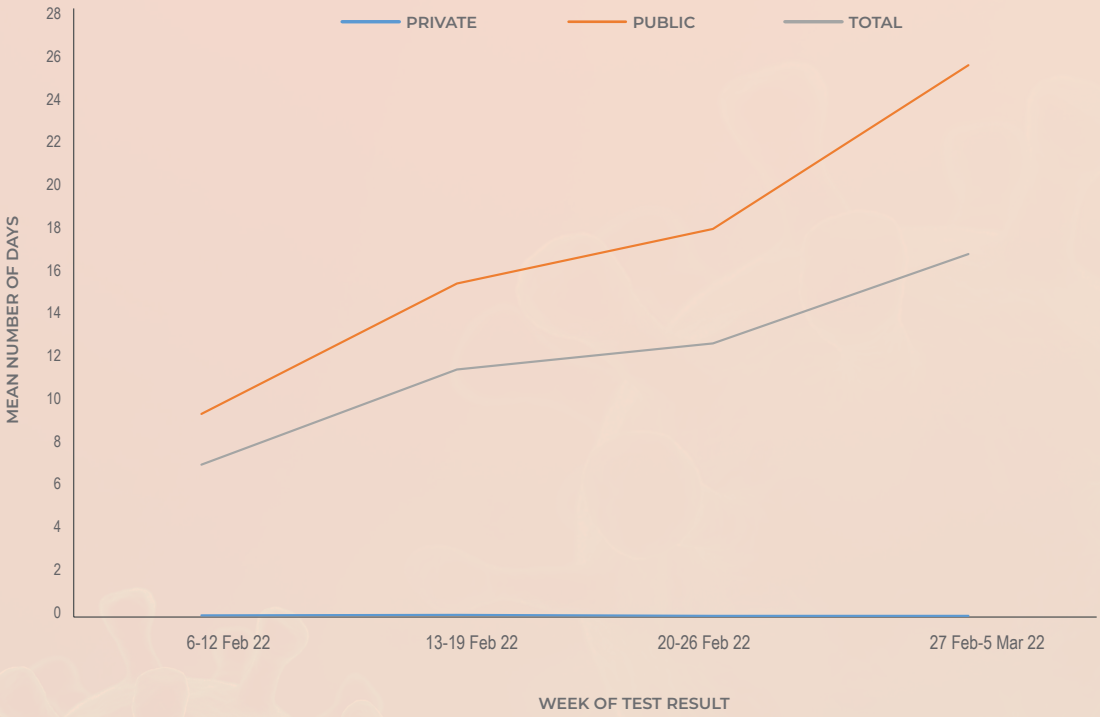

Figure 20. Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 6 February – 5 March 2022.

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 79% 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.