Health and related indicators 2021

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COVID-19 hastened the development of new or improved health information systems or modules to track health system inputs and responses.

This chapter aims to provide a repository of data, focusing on the national and provincial levels, that describes the broad status of the South African health system (socio-demographic indicators and determinants and health status indicators, as well as health service indicators). Data were sourced primarily from national routine data sources, but also captured major surveys and global reports.

The impact of the COVID-19 pandemic was viewed through multiple lenses. COVID-19 hastened the development of new or improved health information systems or modules to track both the disease and health system inputs and responses. Real-time reporting of incident cases, hospitalisations and mortality was enabled, including weekly estimates of the number of excess deaths associated with the pandemic. Ensuring that these innovations are retained after the pandemic will be important. COVID-19 has also emphasised the need to ensure that all data systems use a common unique identifier. COVID-19 has resulted in many collateral impacts on other aspects of health service delivery and outcomes, and selected examples were reported on, using routine data to illustrate the difference

between expected and observed measures. Marked impacts were shown on the Primary Health Care utilisation rate and antenatal care, and on specific disease programmes, such as tuberculosis screening, testing and treatment initiation, HIV testing, antiretroviral therapy initiation and continuity of care. Less dramatic impacts on childhood immunisation coverage were evident from routine data.

Community Health Workers have been a vital cadre in the response to COVID-19 and in mitigating disruptions to health service delivery as a result of the pandemic, yet their role in the health system is poorly documented and managed, since they are not included in the mainstream information systems.

As South Africa transitions from a pandemic response to the means of managing COVID-19 as an endemic disease, a key task will be to retain what is most useful in health information systems and other innovations, and to ensure that these continue to contribute to the unfinished agenda of universal health coverage.

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Introduction

No examination of the health and related indicators relevant to the South African health system in 2020/21 can ignore the impact of the coronavirus disease (COVID-19) pandemic. COVID-19, the disease caused by the novel coronavirus SARS-CoV-2, was declared a Public Health Emergency of International Concern (PHEIC) by the World Health Organization (WHO) on 30 January 2020.[1] COVID-19 has resulted in the development of rapid data-collection systems and the public sharing of those data on an unprecedented level. In addition to the WHO global dashboard[2], data are routinely shared on a number of websites, including those maintained by Johns Hopkins University[3], Worldometer[4], and Our World in Data.[5] The *World Health Statistics 2021* report has also summarised the available data on the pandemic, and shown how its impact on the 50 health-related indicators from the Sustainable Development Goals (SDG) and the WHO Triple Billion targets.[6] Locally, the Department of Health has created a dedicated web portal [https://sacoronavirus.co.za/]. By 21 December 2021, the total number of confirmed COVID-19 cases reported by these sources was approaching 275 million, with more than 5 million confirmed deaths. Over 3 million cases have been identified in South Africa, with just over 90 000 confirmed deaths.

The *Review's* chapter on health and related indicators serves two distinct purposes – as a repository of data predominantly derived from routine health information systems, and as a means of focusing on the specific theme of each *Review*. The repository covers data at a national and provincial level, particularly focused on routine data sources but also capturing major surveys and global reports. This year, the *Review* is focused on COVID-19. The main focus of this chapter is not to cover the pandemic itself, but to highlight how COVID-19 has affected the provision of healthcare across South Africa.

Based on a 'pulse survey' of 135 countries conducted in April 2021, WHO has noted that "disruptions of essential health services due to COVID-19 have been widespread".[6] About 90% of countries reported one or more disruptions to essential health services. Some recovery was noted, as disruptions fell from about half of essential health services in 2020 to just over one third in the first quarter of 2021. Among the causes identified were "shortage of medicines, staff, diagnostics and public transport services". Financial constraints and fear of contracting COVID-19 also discouraged people from accessing healthcare services. An assessment of routine data between March and December 2020 showed that antenatal and family planning services, HIV and tuberculosis (TB) testing were particularly affected.[7] Close attention to all of the key building blocks of the health system is needed.[8] The extent to which the effect of the pandemic is evident from routine South African health information systems data is further examined in this chapter.

Data sources

The key sources relied upon – both new and updated – at both an international and national level are shown in Box 1. Specific references and the current indicator definitions are provided in the chapter's data tables. Many of the indicators are normalised using population denominators. The mid-year population estimates used by the National Department of Health (NDoH) in the District Health Information System (DHIS) have been updated and projected for the period 2000 to 2030. In a number of the following sections, the difference between expected and actual routine measures has been depicted graphically. The expected trends have been forecast using the same Holt-Winters method as used by the South African Medical Research Council (SAMRC) in determining excess deaths.[9–11]

Particular care is needed when using data which are presented for several years. Those data are shown for specific years, and should not be interpreted as meaning that no data are available for the years that are not depicted. However, as data may be drawn from multiple sources, care should be taken in assessing trends and changes over time. Differences in methodology and data presentation may make comparisons challenging. Data from regular surveys may also not be comparable over time. In some cases, revised data for a historical time series may be released, for example those presented in the Statistics South Africa (Stats SA) General Household Surveys. This may result in different values being published compared to previous editions of the *Review*. When using time series data, the most recent revisions should be obtained from the online database and not from previous printed editions of this chapter.

Box 1: Key new or updated sources

International	South African
• Global COVID-19 data repositories and dashboards (multiple) • World Health Statistics 2021 • Human Development Report 2020 • World Malaria Report 2020 • Global Fund Results Report 2021 • Global Tuberculosis Report 2021 • State of Global Air 2020	• South African national and sub-national COVID-19 data repositories (multiple) • District Health Information System (DHIS) • TIER.Net, now incorporating the Electronic TB Register • Electronic Drug Resistant TB Register (EDRWeb) • Stats SA Mid-year Population Estimates 2021 • Stats SA General Household Survey (GHS) 2019 • Stats SA Labour Force Surveys up to 2021 • Stats SA Mortality and Causes of Death in South Africa, 2018 • National Treasury health expenditure data • Personnel Administration System (PERSAL) • Road Traffic Report 2020 • Surveillance data, surveillance bulletins and other reports issued by the National Institute for Communicable Diseases (NICD), including a new set focusing on COVID-19 • Thembisa v4.4 HIV and AIDS model • National Tuberculosis Prevalence Survey 2018 • South African Community Epidemiology Network on Drug Use (SACENDU) • Council for Medical Schemes Annual Report 2019/20 and 2020/21 • National Income Dynamics Study – Coronavirus Rapid Mobile Survey (NIDS-CRAM)

1. Demographic indicators

Under normal circumstances, Stats SA should have conducted a full census in 2021, 10 years after the 2011 census. Although the Statistics Act (6 of 1999) mandates that a census be conducted every five years, the practice has been to conduct a decennial census, with community surveys every five years. A census is now planned for 2 February 2022, with increased utilisation of electronic data-capture methods such as Computer-assisted Personal Interview (CAPI), Computer-assisted Web Interview (CAWI) and Computer-assisted Telephonic Interview (CATI) [http://census.statssa.gov.za/].[9]

The population data reported for 2021 therefore rely on the mid-year estimates from Stats SA.[10] The 2021 mid-year estimate for South Africa's population was 60 142 979, as shown in Table 1. Gauteng is still the most populous province (15 810 388), with the highest population density (870/km²). The 2021 population estimate used by the DHIS-NDoH from the 2000–2030 series is 60 604 086 people.[11] The age

structure of the national population, by sex, is shown in the population pyramid (Figure 1).

For many public sector indicators, an estimated population that is dependent on the State for health services is used as the denominator. The number of medical scheme beneficiaries is reported both by the Council for Medical Schemes[12] and by Stats SA, based on the most recent General Household Survey.[13] Modelled estimates are relied upon by DHIS-NDoH, at provincial and district levels.[14] The most recent Council for Medical Schemes annual report noted a decline in the number of medical scheme beneficiaries between 2020 and 2021, from 8.90 million to 8.89 million, representing 14.8% of the total population. The balance of the population is assumed to be dependent on the public sector, although they are likely to make some out-of-pocket purchases of health services and goods in the private sector. Tables 2 and 3 show the DHIS 2020/21 population estimates per five-year age band, per province, and the population estimates under 1 year of age, by district. Table 1 shows the total and uninsured population estimates, per district.

Table 1: Demographic indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Adolescent fertility rate (per 1000 girls aged 15–19 years)	2011-2020	female 15–19 years WHO	40.9										a
Area (square km)	2016	2016 boundaries	1 220 809	168 965	129 825	18 178	94 359	125 754	76 495	372 889	104 882	129 462	b
Crude death rate (deaths per 1000 population)	2019	both sexes all ages mid-year	9.2										c
	2020	both sexes all ages mid-year	8.7										d
	2021	both sexes mid-year	11.5										e
Live birth occurrences registered	2019	vital registration total	954 532	109 247	47 604	209 690	200 374	127 420	79 726	23 638	56 762	99 890	f
Population	2019/20	both sexes all ages DHIS 2000–2030 FinYr total	58 979 654	6 711 899	2 890 007	15 268 630	11 319 610	5 993 527	4 609 880	1 267 621	4 043 350	6 875 130	g
	2020/21	both sexes all ages DHIS 2000–2030 FinYr total	59 797 656	6 713 318	2 900 278	15 635 579	11 441 785	6 039 032	4 680 103	1 282 813	4 107 283	6 997 465	g
	2021	both sexes all ages mid-year	60 142 979	6 676 590	2 932 441	15 810 388	11 513 575	5 926 724	4 743 584	1 303 047	4 122 854	7 113 776	e
		female all ages mid-year	30 754 931										e
		male all ages mid-year	29 388 047										e
	2021/22	both sexes all ages DHIS 2000–2030 FinYr total	60 604 086	6 714 789	2 910 130	15 997 809	11 563 182	6 084 467	4 748 543	1 297 034	4 169 094	7 119 038	g
Population density	2021	mid-year	49.3	39.5	22.6	869.8	122.0	47.1	62.0	3.5	39.3	54.9	e

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Public sector dependent (uninsured) population	2018	both sexes all ages GHS model	48 587 394	5 868 952	2 501 035	11 052 005	9 955 624	5 434 186	3 959 472	1 044 246	3 457 711	5 314 165	h
	2019	both sexes all ages GHS	49 135 918	6 041 048	2 419 696	11 549 024	9 889 239	5 492 012	4 013 571	1 060 391	3 483 493	5 126 360	i
		both sexes all ages non med scheme	49 902 986	6 087 000	2 505 744	11 645 912	10 056 905	5 572 145	4 040 499	1 082 364	3 569 827	5 537 253	j
	2020	both sexes all ages GHS	49 798 387	5 955 518	2 501 372	11 873 601	10 005 297	5 339 978	4 145 892	1 051 559	3 450 829	5 399 356	c
		both sexes all ages non med schemes	51 256 046	6 012 497	2 535 990	12 375 348	10 223 911	5 454 669	4 192 033	1 121 438	3 666 797	5 727 477	k
Total fertility rate	**2016– 2021**	**both sexes mid-year**	**2.3**	**2.8**	**2.4**	**1.9**	**2.6**	**3.1**	**2.5**	**2.7**	**2.6**	**2.0**	e

Reference notes

a   World Health Statistics 2021[6]
b   Municipal Demarcation Board
c   Stats SA MYE 2019[15]
d   Stats SA MYE 2020[16]
e   Stats SA MYE 2021[10]
f   Stats SA Live Births 2019[7]
g   DHIS Pop Est 2000-30[11]
h   Insight med schemes 2019[14] as described in the DHB 2018/19[18]
i   Stats SA GHS 2018[19]
j   Medical Schemes 2017-18[20]
k   Medical Schemes 2020-21[12]

Definitions

- Area (square km) [km²]: Land area covered by geographic entity.
- Crude death rate (deaths per 1 000 population) [per 1 000 population]: Number of deaths in a year per 1 000 population.
- Live birth occurrences registered [Number]: The number of live birth occurrences registered.
- Population [Number]: Total number of people.
- Projected population figures are based on various projection models attempting to quantify the expected effects of HIV and AIDS on population growth.
- Population density [people per km²]: The number of people per square kilometre.

- Public sector dependent (uninsured) population [Number]: This is an adjustment of the total population to the number assumed to be dependent on services in the public health sector based on medical scheme (health insurance) coverage.
  It is calculated by subtracting the number of people with medical scheme cover (determined from medical scheme membership reports, or surveys indicating percentage of population on medical schemes) from the total population.
- Total fertility rate [Number]: The average number of children that a woman gives birth to in her lifetime, assuming that the prevailing rates remain unchanged.

Table 2: National and provincial population estimates by age group, 2021/22

Age group	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC
00–04 years	5 715 082	685 715	259 443	1 309 519	1 248 095	650 875	473 125	126 207	401 084	561 019
05–09 years	5 738 950	750 906	278 377	1 254 849	1 199 521	686 811	463 106	121 959	402 869	580 552
10–14 years	5 668 184	760 379	287 254	1 198 543	1 178 987	667 796	467 268	121 167	406 822	579 968
15–19 years	4 939 840	637 804	255 541	1 084 608	1 027 136	552 957	406 053	109 487	345 313	520 941
20–24 years	4 770 845	447 500	228 366	1 364 923	959 217	444 623	381 169	95 113	304 701	545 233
25–29 years	5 398 919	465 627	238 619	1 695 050	1 025 542	471 005	421 062	103 949	344 318	633 747
30–34 years	5 694 430	515 672	258 319	1 750 543	1 034 018	504 964	449 117	116 004	383 320	682 473
35–39 years	5 015 550	463 338	230 767	1 492 850	890 013	452 774	400 516	106 255	347 448	631 589
40–44 years	3 871 522	361 700	179 389	1 151 283	658 718	357 646	302 634	82 873	276 653	500 626
45–49 years	3 221 202	314 436	153 886	934 051	548 339	295 625	244 203	69 417	230 026	431 219
50–54 years	2 628 959	269 168	131 966	741 916	433 268	235 072	193 836	58 781	187 933	377 019
55–59 years	2 271 191	248 702	115 253	620 464	385 064	205 191	163 836	49 702	160 798	322 181
60–64 years	1 870 755	228 120	95 861	505 038	317 105	166 183	125 417	41 926	131 501	259 604
65–69 years	1 459 459	186 119	77 791	381 482	251 087	137 929	99 387	34 425	97 115	194 124
70–74 years	1 038 855	136 370	55 034	260 781	189 870	100 121	67 210	24 868	65 032	139 569
75–79 years	654 740	97 248	34 334	152 883	117 124	63 328	40 856	16 838	43 626	88 503
80+ years	645 603	145 985	29 930	99 026	100 078	91 567	49 748	18 063	40 535	70 671
Total	**60 604 086**	**6 714 789**	**2 910 130**	**15 997 809**	**11 563 182**	**6 084 467**	**4 748 543**	**1 297 034**	**4 169 094**	**7 119 038**

Reference notes
DHIS Pop Est 2000–2030[11]

Table 3: Population estimates under 1 year of age by district, 2021/22

Province	District	2021/22		Population under 1 year
		Female under 1 year	Male under 1 year	
EC	BUF: Buffalo City MM	5 480	5 628	11 108
	DC10: Sarah Baartman DM	3 516	3 541	7 057
	DC12: Amathole DM	7 347	7 578	14 925
	DC13: C Hani DM	6 821	7 029	13 850
	DC14: Joe Gqabi DM	3 125	3 176	6 301
	DC15: OR Tambo DM	19 541	20 089	39 630
	DC44: A Nzo DM	10 878	11 077	21 955
	NMA: N Mandela Bay MM	8 022	8 053	16 075
FS	DC16: Xhariep DM	1 235	1 250	2 485
	DC18: Lejweleputswa DM	5 398	5 378	10 776
	DC19: T Mofutsanyana DM	7 237	7 320	14 557
	DC20: Fezile Dabi DM	4 043	4 089	8 132
	MAN: Mangaung MM	7 062	7 358	14 420
GP	DC42: Sedibeng DM	7 442	7 683	15 125
	DC48: West Rand DM	7 240	7 527	14 767
	EKU: City of Ekurhuleni MM	33 803	34 535	68 338
	JHB: Johannesburg MM	49 256	50 241	99 497
	TSH: Tshwane MM	32 566	33 471	66 037
KZ	DC21: Ugu DM	9 261	9 371	18 632
	DC22: uMgungundlovu DM	11 222	11 436	22 658
	DC23: uThukela DM	8 271	8 565	16 836
	DC24: uMzinyathi DM	7 722	8 051	15 773
	DC25: Amajuba DM	6 587	6 803	13 390
	DC26: Zululand DM	10 888	11 275	22 163
	DC27: uMkhanyakude DM	8 882	9 027	17 909
	DC28: King Cetshwayo DM	11 172	11 511	22 683
	DC29: iLembe DM	8 040	8 212	16 252
	DC43: Harry Gwala DM	6 151	6 273	12 424
	ETH: eThekwini MM	37 811	39 217	77 028
LP	DC33: Mopani DM	12 461	13 029	25 490
	DC34: Vhembe DM	14 747	15 385	30 132
	DC35: Capricorn DM	13 263	13 828	27 091
	DC36: Waterberg DM	6 815	7 071	13 886
	DC47: Sekhukhune DM	13 914	14 459	28 373
MP	DC30: G Sibande DM	12 897	13 144	26 041
	DC31: Nkangala DM	14 709	15 165	29 874
	DC32: Ehlanzeni DM	20 204	20 707	40 911
NC	DC6: Namakwa DM	953	943	1 896
	DC7: Pixley Ka Seme DM	2 128	2 186	4 314
	DC8: ZF Mgcawu DM	2 637	2 610	5 247
	DC9: Frances Baard DM	4 024	4 145	8 169
	DC45: JT Gaetsewe DM	3 040	3 075	6 115
NW	DC37: Bojanala Platinum DM	18 078	18 314	36 392
	DC38: NM Molema DM	8 276	8 290	16 566
	DC39: RS Mompati DM	6 069	6 251	12 320
	DC40: Dr K Kaunda DM	7 886	7 946	15 832

Province	District	2021/22		Population under 1 year
		Female under 1 year	Male under 1 year	
WC	CPT: Cape Town MM	34 107	35 659	69 766
	DC1: West Coast DM	3 767	3 854	7 621
	DC2: Cape Winelands DM	7 845	8 177	16 022
	DC3: Overberg DM	2 558	2 726	5 284
	DC4: Garden Route DM	4 965	5 182	10 147
	DC5: Central Karoo DM	546	562	1 108
Total		**561 908**	**577 472**	**1 139 380**

Reference notes
DHIS Pop Est 2000–2030[11]

Table 4: Population estimates, modelled estimates for medical schemes coverage and uninsured population, national, provincial and district, 2018–2022
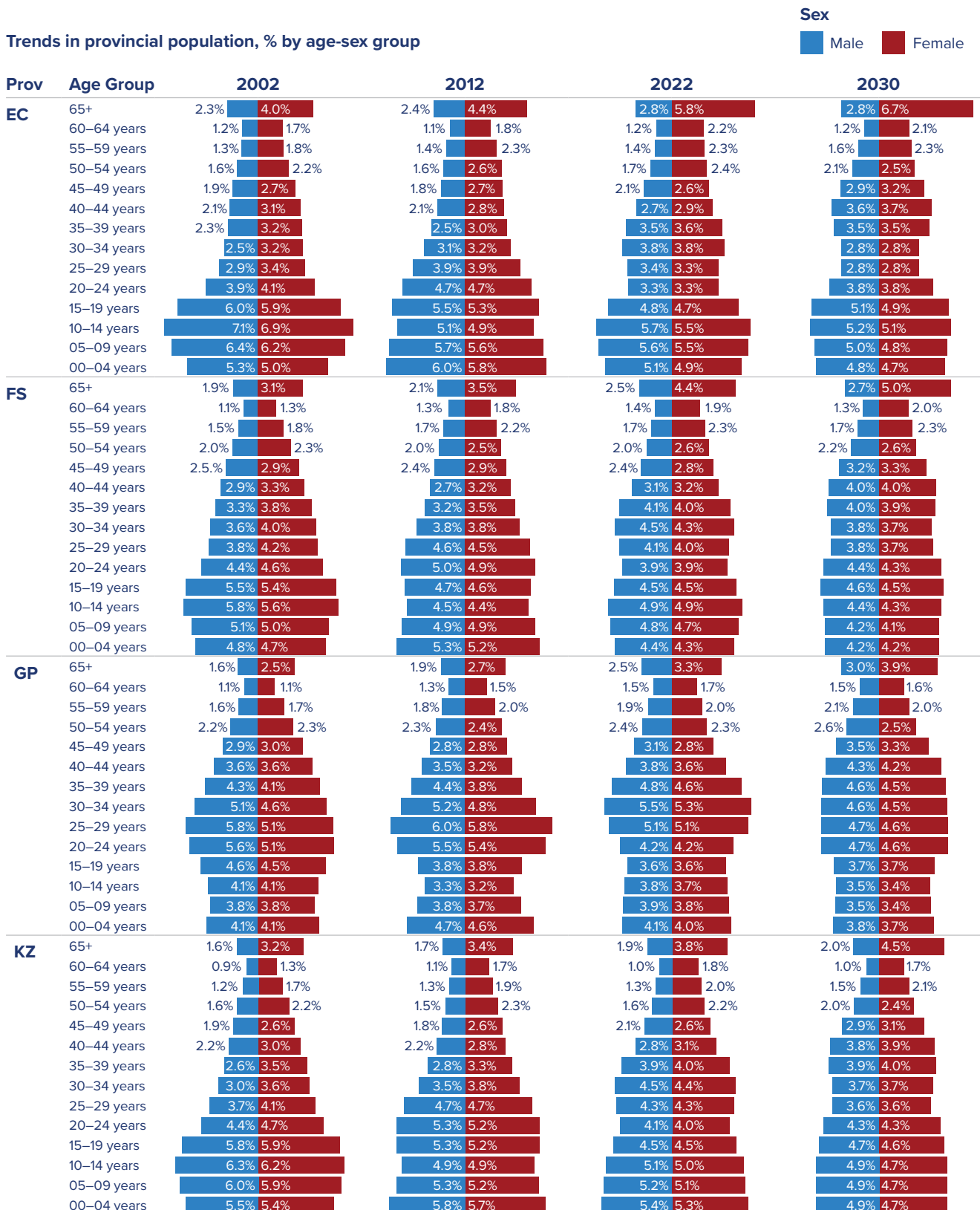
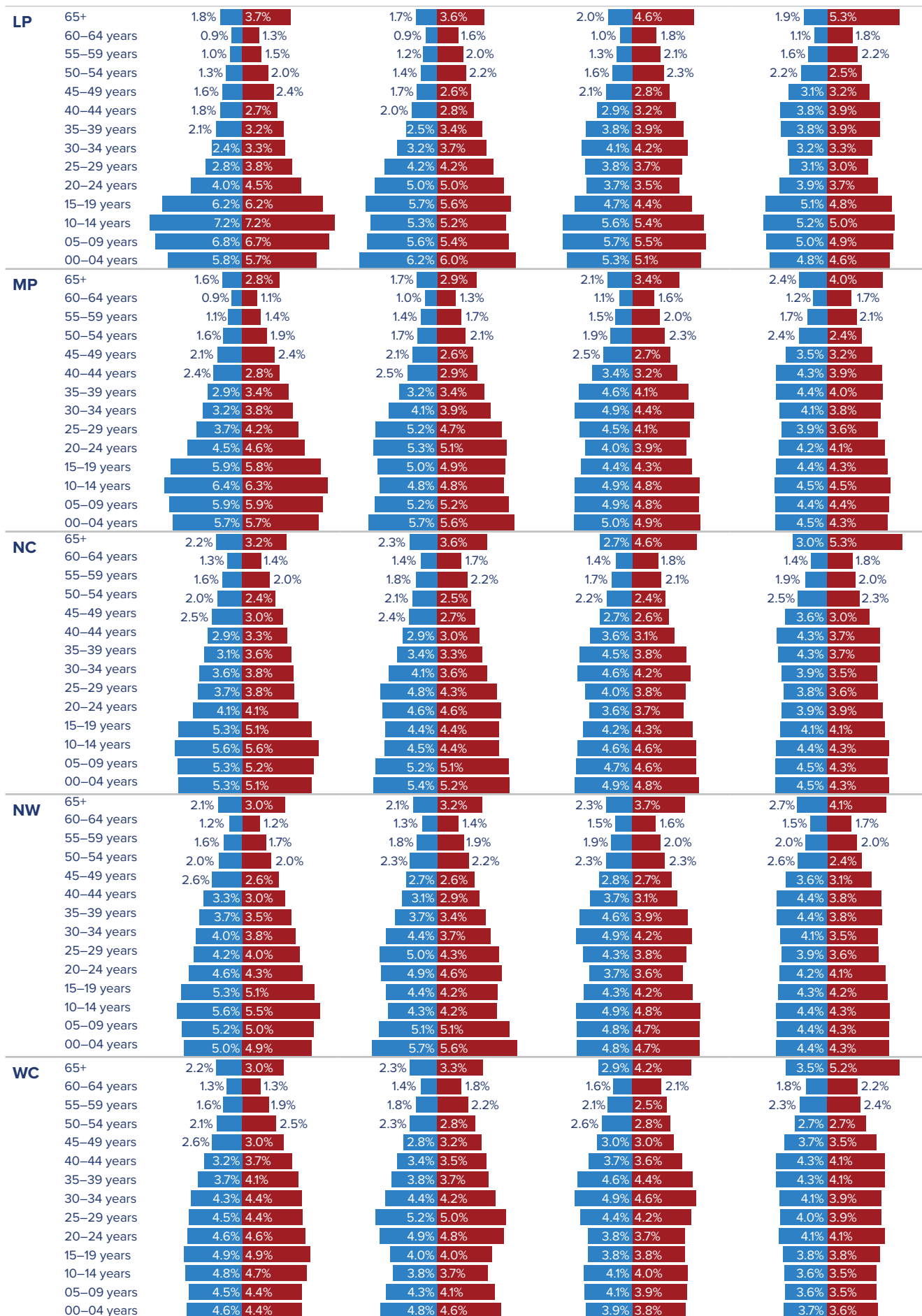|		Total Population (DHIS Pop Est 2000–30)					Med schemes coverage (Insight Actuaries model 2019)	Uninsured (Calculated)				
		2018	2019	2020	2021	2022	2018	2018	2019	2020	2021	2022
Country	ZA	58 147 306	58 979 654	59 797 656	60 604 086	61 402 320	15.4	49 192 621	49 896 787	50 588 817	51 271 057	51 946 363
Province	EC	6 705 472	6 711 899	6 713 318	6 714 789	6 711 415	9.8	6 048 336	6 054 133	6 055 413	6 056 740	6 053 696
	FS	2 878 655	2 890 007	2 900 278	2 910 130	2 920 478	13.5	2 490 037	2 499 856	2 508 740	2 517 262	2 526 213
	GP	14 902 655	15 268 630	15 635 579	15 997 809	16 362 152	24.6	11 236 602	11 512 547	11 789 227	12 062 348	12 337 063
	KZ	11 193 611	11 319 610	11 441 785	11 563 182	11 683 165	11.2	9 939 927	10 051 814	10 160 305	10 268 106	10 374 651
	LP	5 945 275	5 993 527	6 039 032	6 084 467	6 124 442	7.2	5 517 215	5 561 993	5 604 222	5 646 385	5 683 482
	MP	4 538 262	4 609 880	4 680 103	4 748 543	4 815 060	12.5	3 970 979	4 033 645	4 095 090	4 154 975	4 213 178
	NC	1 252 486	1 267 621	1 282 813	1 297 034	1 310 808	15.1	1 063 361	1 076 210	1 089 108	1 101 182	1 112 876
	NW	3 978 839	4 043 350	4 107 283	4 169 094	4 231 279	11.9	3 505 357	3 562 191	3 618 516	3 672 972	3 727 757
	WC	6 752 051	6 875 130	6 997 465	7 119 038	7 243 521	20.1	5 394 889	5 493 229	5 590 975	5 688 111	5 787 573
District	BUF	800 293	799 711	798 388	796 759	794 314	22.4	621 027	620 576	619 549	618 285	616 388
	CPT	4 422 382	4 510 747	4 598 783	4 686 530	4 776 492	22.2	3 440 613	3 509 361	3 577 853	3 646 120	3 716 111
	DC1	447 783	455 676	463 390	471 043	478 958	17.3	370 317	376 844	383 224	389 553	396 098
	DC2	909 738	925 999	942 232	958 398	974 747	16.4	760 541	774 135	787 706	801 221	814 888
	DC3	288 834	294 278	299 764	305 203	310 662	16.4	241 465	246 016	250 603	255 150	259 713
	DC4	609 139	614 134	618 954	623 516	628 217	16.5	508 631	512 802	516 827	520 636	524 561
	DC5	74 175	74 296	74 342	74 348	74 445	12.5	64 903	65 009	65 049	65 055	65 139
	DC6	113 865	113 937	114 035	114 077	114 245	17.5	93 939	93 998	94 079	94 114	94 252
	DC7	202 266	204 290	206 326	208 167	209 912	13.1	175 769	177 528	179 297	180 897	182 414
	DC8	269 352	273 681	278 104	282 362	286 400	15.8	226 794	230 439	234 164	237 749	241 149
	DC9	406 229	410 232	414 190	417 771	421 181	15.7	342 451	345 826	349 162	352 181	355 056
	DC10	475 732	478 448	480 810	483 024	484 665	8.8	433 868	436 345	438 499	440 518	442 014
	DC12	812 362	804 398	795 781	787 417	778 884	4.3	777 430	769 809	761 562	753 558	745 392

District	Total Population (DHIS Pop Est 2000–30)					Med schemes coverage (Insight Actuaries model 2019)	Uninsured (Calculated)				
	2018	2019	2020	2021	2022	2018	2018	2019	2020	2021	2022
DC13	750 351	741 095	731 081	721 434	712 004	4.9	713 584	704 781	695 258	686 084	677 116
DC14	345 862	344 401	342 580	340 685	338 445	5.0	328 569	327 181	325 451	323 651	321 523
DC15	1 492 421	1 508 997	1 524 972	1 541 080	1 555 812	4.2	1 429 739	1 445 619	1 460 923	1 476 355	1 490 468
DC16	126 849	126 989	127 071	127 119	127 251	10.5	113 530	113 655	113 729	113 772	113 890
DC18	642 037	642 629	643 043	643 503	644 397	12.0	564 993	565 514	565 878	566 283	567 069
DC19	754 141	755 188	755 842	756 396	757 178	9.2	684 760	685 711	686 305	686 808	687 518
DC20	503 110	504 155	505 057	505 879	506 744	13.2	436 699	437 607	438 389	439 103	439 854
DC21	793 526	804 993	816 195	827 384	838 645	7.1	737 186	747 838	758 245	768 640	779 101
DC22	1 109 621	1 123 554	1 137 023	1 150 285	1 163 352	11.0	987 563	999 963	1 011 950	1 023 754	1 035 383
DC23	701 596	704 433	706 771	708 994	711 516	6.4	656 694	659 349	661 538	663 618	665 979
DC24	551 724	557 752	563 568	569 454	575 760	5.4	521 931	527 633	533 135	538 703	544 669
DC25	551 591	558 701	565 495	572 008	577 873	7.4	510 773	517 357	523 648	529 679	535 110
DC26	854 033	858 938	863 111	867 237	872 128	5.2	809 623	814 273	818 229	822 141	826 777
DC27	666 163	671 378	676 068	680 655	685 592	5.0	632 855	637 809	642 265	646 622	651 312
DC28	955 063	960 065	964 828	969 742	975 004	8.7	871 973	876 539	880 888	885 374	890 179
DC29	663 584	671 846	680 361	688 960	696 590	8.6	606 516	614 067	621 850	629 709	636 683
DC30	1 196 496	1 218 483	1 240 644	1 262 612	1 283 719	13.1	1 039 755	1 058 862	1 078 120	1 097 210	1 115 552
DC31	1 547 482	1 580 378	1 613 205	1 645 648	1 677 409	14.8	1 318 455	1 346 482	1 374 451	1 402 092	1 429 152
DC32	1 794 284	1 811 019	1 826 254	1 840 283	1 853 932	10.2	1 611 267	1 626 295	1 639 976	1 652 574	1 664 831
DC33	1 200 020	1 209 120	1 218 016	1 226 939	1 234 474	6.8	1 118 419	1 126 900	1 135 191	1 143 507	1 150 530
DC34	1 445 233	1 460 085	1 474 045	1 488 161	1 501 251	6.6	1 349 848	1 363 719	1 376 758	1 389 942	1 402 168
DC35	1 338 982	1 344 562	1 349 214	1 353 845	1 357 666	8.3	1 227 846	1 232 963	1 237 229	1 241 476	1 244 980
DC36	756 335	763 309	769 853	776 172	781 264	9.1	687 509	693 848	699 796	705 540	710 169
DC37	1 839 837	1 884 307	1 929 057	1 972 917	2 015 765	14.0	1 582 260	1 620 504	1 658 989	1 696 709	1 733 558
DC38	895 747	901 629	906 601	910 841	916 394	9.7	808 860	814 171	818 661	822 489	827 504

District	Total Population (DHIS Pop Est 2000–30)					Med schemes coverage (Insight Actuaries model 2019)	Uninsured (Calculated)				
	2018	2019	2020	2021	2022	2018	2018	2019	2020	2021	2022
DC39	468 326	470 086	471 910	473 588	475 637	7.3	434 138	435 770	437 461	439 016	440 915
DC40	774 929	787 328	799 715	811 748	823 483	12.8	675 738	686 550	697 351	707 844	718 077
DC42	956 471	960 427	963 811	966 230	968 999	20.8	757 525	760 658	763 338	765 254	767 447
DC43	499 804	503 616	506 908	510 113	513 778	5.6	471 815	475 414	478 521	481 547	485 006
DC44	824 690	826 587	828 210	830 067	831 112	3.8	793 352	795 177	796 738	798 524	799 530
DC45	260 774	265 481	270 158	274 657	279 070	13.9	224 526	228 579	232 606	236 480	240 279
DC47	1 204 705	1 216 451	1 227 904	1 239 350	1 249 787	5.6	1 137 242	1 148 330	1 159 141	1 169 946	1 179 799
DC48	929 477	943 535	956 893	969 545	982 753	24.1	705 473	716 143	726 282	735 885	745 910
EKU	3 824 195	3 910 546	3 996 528	4 080 699	4 165 110	23.8	2 914 037	2 979 836	3 045 354	3 109 493	3 173 814
ETH	3 846 906	3 904 334	3 961 457	4 018 350	4 072 927	18.9	3 119 841	3 166 415	3 212 742	3 258 882	3 303 144
JHB	5 613 109	5 781 281	5 951 077	6 121 322	6 295 072	22.2	4 366 999	4 497 837	4 629 938	4 762 389	4 897 566
MAN	852 518	861 046	869 265	877 233	884 908	20.0	682 014	688 837	695 412	701 786	707 926
NMA	1 203 761	1 208 262	1 211 496	1 214 323	1 216 179	20.4	958 194	961 777	964 351	966 601	968 078
TSH	3 579 403	3 672 841	3 767 270	3 860 013	3 950 218	30.6	2 484 106	2 548 952	2 614 485	2 678 849	2 741 451

Reference notes
DHIS Pop Est 2000–2030[11] and Insight med schemes 2019[14]

Figure 1: A comparison of the female and male population in each province

Trends in provincial population, % by age-sex group

Sex: Male (blue), Female (red)

Prov	Age Group	2002 Male	2002 Female	2012 Male	2012 Female	2022 Male	2022 Female	2030 Male	2030 Female
EC	65+	2.3%	4.0%	2.4%	4.4%	2.8%	5.8%	2.8%	6.7%
	60–64 years	1.2%	1.7%	1.1%	1.8%	1.2%	2.2%	1.2%	2.1%
	55–59 years	1.3%	1.8%	1.4%	2.3%	1.4%	2.3%	1.6%	2.3%
	50–54 years	1.6%	2.2%	1.6%	2.6%	1.7%	2.4%	2.1%	2.5%
	45–49 years	1.9%	2.7%	1.8%	2.7%	2.1%	2.6%	2.9%	3.2%
	40–44 years	2.1%	3.1%	2.1%	2.8%	2.7%	2.9%	3.6%	3.7%
	35–39 years	2.3%	3.2%	2.5%	3.0%	3.5%	3.6%	3.5%	3.5%
	30–34 years	2.5%	3.2%	3.1%	3.2%	3.8%	3.8%	2.8%	2.8%
	25–29 years	2.9%	3.4%	3.9%	3.9%	3.4%	3.3%	2.8%	2.8%
	20–24 years	3.9%	4.1%	4.7%	4.7%	3.3%	3.3%	3.8%	3.8%
	15–19 years	6.0%	5.9%	5.5%	5.3%	4.8%	4.7%	5.1%	4.9%
	10–14 years	7.1%	6.9%	5.1%	4.9%	5.7%	5.5%	5.2%	5.1%
	05–09 years	6.4%	6.2%	5.7%	5.6%	5.6%	5.5%	5.0%	4.8%
	00–04 years	5.3%	5.0%	6.0%	5.8%	5.1%	4.9%	4.8%	4.7%
FS	65+	1.9%	3.1%	2.1%	3.5%	2.5%	4.4%	2.7%	5.0%
	60–64 years	1.1%	1.3%	1.3%	1.8%	1.4%	1.9%	1.3%	2.0%
	55–59 years	1.5%	1.8%	1.7%	2.2%	1.7%	2.3%	1.7%	2.3%
	50–54 years	2.0%	2.3%	2.0%	2.5%	2.0%	2.6%	2.2%	2.6%
	45–49 years	2.5.%	2.9%	2.4%	2.9%	2.4%	2.8%	3.2%	3.3%
	40–44 years	2.9%	3.3%	2.7%	3.2%	3.1%	3.2%	4.0%	4.0%
	35–39 years	3.3%	3.8%	3.2%	3.5%	4.1%	4.0%	4.0%	3.9%
	30–34 years	3.6%	4.0%	3.8%	3.8%	4.5%	4.3%	3.8%	3.7%
	25–29 years	3.8%	4.2%	4.6%	4.5%	4.1%	4.0%	3.8%	3.7%
	20–24 years	4.4%	4.6%	5.0%	4.9%	3.9%	3.9%	4.4%	4.3%
	15–19 years	5.5%	5.4%	4.7%	4.6%	4.5%	4.5%	4.6%	4.5%
	10–14 years	5.8%	5.6%	4.5%	4.4%	4.9%	4.9%	4.4%	4.3%
	05–09 years	5.1%	5.0%	4.9%	4.9%	4.8%	4.7%	4.2%	4.1%
	00–04 years	4.8%	4.7%	5.3%	5.2%	4.4%	4.3%	4.2%	4.2%
GP	65+	1.6%	2.5%	1.9%	2.7%	2.5%	3.3%	3.0%	3.9%
	60–64 years	1.1%	1.1%	1.3%	1.5%	1.5%	1.7%	1.5%	1.6%
	55–59 years	1.6%	1.7%	1.8%	2.0%	1.9%	2.0%	2.1%	2.0%
	50–54 years	2.2%	2.3%	2.3%	2.4%	2.4%	2.3%	2.6%	2.5%
	45–49 years	2.9%	3.0%	2.8%	2.8%	3.1%	2.8%	3.5%	3.3%
	40–44 years	3.6%	3.6%	3.5%	3.2%	3.8%	3.6%	4.3%	4.2%
	35–39 years	4.3%	4.1%	4.4%	3.8%	4.8%	4.6%	4.6%	4.5%
	30–34 years	5.1%	4.6%	5.2%	4.8%	5.5%	5.3%	4.6%	4.5%
	25–29 years	5.8%	5.1%	6.0%	5.8%	5.1%	5.1%	4.7%	4.6%
	20–24 years	5.6%	5.1%	5.5%	5.4%	4.2%	4.2%	4.7%	4.6%
	15–19 years	4.6%	4.5%	3.8%	3.8%	3.6%	3.6%	3.7%	3.7%
	10–14 years	4.1%	4.1%	3.3%	3.2%	3.8%	3.7%	3.5%	3.4%
	05–09 years	3.8%	3.8%	3.8%	3.7%	3.9%	3.8%	3.5%	3.4%
	00–04 years	4.1%	4.1%	4.7%	4.6%	4.1%	4.0%	3.8%	3.7%
KZ	65+	1.6%	3.2%	1.7%	3.4%	1.9%	3.8%	2.0%	4.5%
	60–64 years	0.9%	1.3%	1.1%	1.7%	1.0%	1.8%	1.0%	1.7%
	55–59 years	1.2%	1.7%	1.3%	1.9%	1.3%	2.0%	1.5%	2.1%
	50–54 years	1.6%	2.2%	1.5%	2.3%	1.6%	2.2%	2.0%	2.4%
	45–49 years	1.9%	2.6%	1.8%	2.6%	2.1%	2.6%	2.9%	3.1%
	40–44 years	2.2%	3.0%	2.2%	2.8%	2.8%	3.1%	3.8%	3.9%
	35–39 years	2.6%	3.5%	2.8%	3.3%	3.9%	4.0%	3.9%	4.0%
	30–34 years	3.0%	3.6%	3.5%	3.8%	4.5%	4.4%	3.7%	3.7%
	25–29 years	3.7%	4.1%	4.7%	4.7%	4.3%	4.3%	3.6%	3.6%
	20–24 years	4.4%	4.7%	5.3%	5.2%	4.1%	4.0%	4.3%	4.3%
	15–19 years	5.8%	5.9%	5.3%	5.2%	4.5%	4.5%	4.7%	4.6%
	10–14 years	6.3%	6.2%	4.9%	4.9%	5.1%	5.0%	4.9%	4.7%
	05–09 years	6.0%	5.9%	5.3%	5.2%	5.2%	5.1%	4.9%	4.7%
	00–04 years	5.5%	5.4%	5.8%	5.7%	5.4%	5.3%	4.9%	4.7%

LP

Age	P1 (M)	P1 (F)	P2 (M)	P2 (F)	P3 (M)	P3 (F)	P4 (M)	P4 (F)
65+	1.8%	3.7%	1.7%	3.6%	2.0%	4.6%	1.9%	5.3%
60–64 years	0.9%	1.3%	0.9%	1.6%	1.0%	1.8%	1.1%	1.8%
55–59 years	1.0%	1.5%	1.2%	2.0%	1.3%	2.1%	1.6%	2.2%
50–54 years	1.3%	2.0%	1.4%	2.2%	1.6%	2.3%	2.2%	2.5%
45–49 years	1.6%	2.4%	1.7%	2.6%	2.1%	2.8%	3.1%	3.2%
40–44 years	1.8%	2.7%	2.0%	2.8%	2.9%	3.2%	3.8%	3.9%
35–39 years	2.1%	3.2%	2.5%	3.4%	3.8%	3.9%	3.8%	3.9%
30–34 years	2.4%	3.3%	3.2%	3.7%	4.1%	4.2%	3.2%	3.3%
25–29 years	2.8%	3.8%	4.2%	4.2%	3.8%	3.7%	3.1%	3.0%
20–24 years	4.0%	4.5%	5.0%	5.0%	3.7%	3.5%	3.9%	3.7%
15–19 years	6.2%	6.2%	5.7%	5.6%	4.7%	4.4%	5.1%	4.8%
10–14 years	7.2%	7.2%	5.3%	5.2%	5.6%	5.4%	5.2%	5.0%
05–09 years	6.8%	6.7%	5.6%	5.4%	5.7%	5.5%	5.0%	4.9%
00–04 years	5.8%	5.7%	6.2%	6.0%	5.3%	5.1%	4.8%	4.6%

MP

Age	P1 (M)	P1 (F)	P2 (M)	P2 (F)	P3 (M)	P3 (F)	P4 (M)	P4 (F)
65+	1.6%	2.8%	1.7%	2.9%	2.1%	3.4%	2.4%	4.0%
60–64 years	0.9%	1.1%	1.0%	1.3%	1.1%	1.6%	1.2%	1.7%
55–59 years	1.1%	1.4%	1.4%	1.7%	1.5%	2.0%	1.7%	2.1%
50–54 years	1.6%	1.9%	1.7%	2.1%	1.9%	2.3%	2.4%	2.4%
45–49 years	2.1%	2.4%	2.1%	2.6%	2.5%	2.7%	3.5%	3.2%
40–44 years	2.4%	2.8%	2.5%	2.9%	3.4%	3.2%	4.3%	3.9%
35–39 years	2.9%	3.4%	3.2%	3.4%	4.6%	4.1%	4.4%	4.0%
30–34 years	3.2%	3.8%	4.1%	3.9%	4.9%	4.4%	4.1%	3.8%
25–29 years	3.7%	4.2%	5.2%	4.7%	4.5%	4.1%	3.9%	3.6%
20–24 years	4.5%	4.6%	5.3%	5.1%	4.0%	3.9%	4.2%	4.1%
15–19 years	5.9%	5.8%	5.0%	4.9%	4.4%	4.3%	4.4%	4.3%
10–14 years	6.4%	6.3%	4.8%	4.8%	4.9%	4.8%	4.5%	4.5%
05–09 years	5.9%	5.9%	5.2%	5.2%	4.9%	4.8%	4.4%	4.4%
00–04 years	5.7%	5.7%	5.7%	5.6%	5.0%	4.9%	4.5%	4.3%

NC

Age	P1 (M)	P1 (F)	P2 (M)	P2 (F)	P3 (M)	P3 (F)	P4 (M)	P4 (F)
65+	2.2%	3.2%	2.3%	3.6%	2.7%	4.6%	3.0%	5.3%
60–64 years	1.3%	1.4%	1.4%	1.7%	1.4%	1.8%	1.4%	1.8%
55–59 years	1.6%	2.0%	1.8%	2.2%	1.7%	2.1%	1.9%	2.0%
50–54 years	2.0%	2.4%	2.1%	2.5%	2.2%	2.4%	2.5%	2.3%
45–49 years	2.5%	3.0%	2.4%	2.7%	2.7%	2.6%	3.6%	3.0%
40–44 years	2.9%	3.3%	2.9%	3.0%	3.6%	3.1%	4.3%	3.7%
35–39 years	3.1%	3.6%	3.4%	3.3%	4.5%	3.8%	4.3%	3.7%
30–34 years	3.6%	3.8%	4.1%	3.6%	4.6%	4.2%	3.9%	3.5%
25–29 years	3.7%	3.8%	4.8%	4.3%	4.0%	3.8%	3.8%	3.6%
20–24 years	4.1%	4.1%	4.6%	4.6%	3.6%	3.7%	3.9%	3.9%
15–19 years	5.3%	5.1%	4.4%	4.4%	4.2%	4.3%	4.1%	4.1%
10–14 years	5.6%	5.6%	4.5%	4.4%	4.6%	4.6%	4.4%	4.3%
05–09 years	5.3%	5.2%	5.2%	5.1%	4.7%	4.6%	4.5%	4.3%
00–04 years	5.3%	5.1%	5.4%	5.2%	4.9%	4.8%	4.5%	4.3%

NW

Age	P1 (M)	P1 (F)	P2 (M)	P2 (F)	P3 (M)	P3 (F)	P4 (M)	P4 (F)
65+	2.1%	3.0%	2.1%	3.2%	2.3%	3.7%	2.7%	4.1%
60–64 years	1.2%	1.2%	1.3%	1.4%	1.5%	1.6%	1.5%	1.7%
55–59 years	1.6%	1.7%	1.8%	1.9%	1.9%	2.0%	2.0%	2.0%
50–54 years	2.0%	2.0%	2.3%	2.2%	2.3%	2.3%	2.6%	2.4%
45–49 years	2.6%	2.6%	2.7%	2.6%	2.8%	2.7%	3.6%	3.1%
40–44 years	3.3%	3.0%	3.1%	2.9%	3.7%	3.1%	4.4%	3.8%
35–39 years	3.7%	3.5%	3.7%	3.4%	4.6%	3.9%	4.4%	3.8%
30–34 years	4.0%	3.8%	4.4%	3.7%	4.9%	4.2%	4.1%	3.5%
25–29 years	4.2%	4.0%	5.0%	4.3%	4.3%	3.8%	3.9%	3.6%
20–24 years	4.6%	4.3%	4.9%	4.6%	3.7%	3.6%	4.2%	4.1%
15–19 years	5.3%	5.1%	4.4%	4.2%	4.3%	4.2%	4.3%	4.2%
10–14 years	5.6%	5.5%	4.3%	4.2%	4.9%	4.8%	4.4%	4.3%
05–09 years	5.2%	5.0%	5.1%	5.1%	4.8%	4.7%	4.4%	4.3%
00–04 years	5.0%	4.9%	5.7%	5.6%	4.8%	4.7%	4.4%	4.3%

WC

Age	P1 (M)	P1 (F)	P2 (M)	P2 (F)	P3 (M)	P3 (F)	P4 (M)	P4 (F)
65+	2.2%	3.0%	2.3%	3.3%	2.9%	4.2%	3.5%	5.2%
60–64 years	1.3%	1.3%	1.4%	1.8%	1.6%	2.1%	1.8%	2.2%
55–59 years	1.6%	1.9%	1.8%	2.2%	2.1%	2.5%	2.3%	2.4%
50–54 years	2.1%	2.5%	2.3%	2.8%	2.6%	2.8%	2.7%	2.7%
45–49 years	2.6%	3.0%	2.8%	3.2%	3.0%	3.0%	3.7%	3.5%
40–44 years	3.2%	3.7%	3.4%	3.5%	3.7%	3.6%	4.3%	4.1%
35–39 years	3.7%	4.1%	3.8%	3.7%	4.6%	4.4%	4.3%	4.1%
30–34 years	4.3%	4.4%	4.4%	4.2%	4.9%	4.6%	4.1%	3.9%
25–29 years	4.5%	4.4%	5.2%	5.0%	4.4%	4.2%	4.0%	3.9%
20–24 years	4.6%	4.6%	4.9%	4.8%	3.8%	3.7%	4.1%	4.1%
15–19 years	4.9%	4.9%	4.0%	4.0%	3.8%	3.8%	3.8%	3.8%
10–14 years	4.8%	4.7%	3.8%	3.7%	4.1%	4.0%	3.6%	3.5%
05–09 years	4.5%	4.4%	4.3%	4.1%	4.1%	3.9%	3.6%	3.5%
00–04 years	4.6%	4.4%	4.8%	4.6%	3.9%	3.8%	3.7%	3.6%

Source: DHIS-NDoH 2000-2030 population time series. Received August 2020.[11]

2. Socio-economic and environmental risk factors

Although some social determinants of health, such as access to safe water and sanitation or air quality, would not be expected to change in the short term, the immediate economic effects of the COVID-19 pandemic have been dramatic. For example, the *State of Global Air 2020* report noted short-term reductions in air pollution, but predicted that these would quickly be reversed as economic activity resumed.[21] Table 5 shows a selection of socio-economic and environmental risk factor indicators.

At a global level, the *Human Development Report 2020* was sub-titled 'The Next Frontier: Human development and the Anthropocene', underscoring the risk posed by environmental pressures.[22] COVID-19 is presumed to be a zoonotic disease, probably originating as an animal disease before 'jumping' to humans. The *Human Development Report* notes that the pandemic "has spread quickly around an interconnected world, taking root wherever it has landed and thriving especially in the cracks in societies, exploiting and exacerbating myriad inequalities in human development". Globally, the pandemic has plunged some 100 million people into extreme poverty. A decline in the overall human development index is anticipated in 2020, far exceeding the impact of the 2008/09 global financial crisis. Although South Africa is ranked as having "high human development", at position 114 in 2019, its society is highly unequal.[23] Stats SA has highlighted inequalities across important measures: "household share and distribution of income and expenditure; ownership of assets; access to employment and dynamics in the labour market; social mobility; and the general inequality that exists in terms of access to and quality of services such as education, health, as well as basic services".

South Africa depends on the Stats SA Quarterly Labour Force Surveys (QLFS) to track trends in unemployment in those aged 15 to 64 years. Due to the COVID-19 pandemic, Stats SA suspended all face-to-face data collection in March 2020. Unemployment data were therefore gathered using Computer-assisted Telephone Interviewing (CATI). The same sample was used from Quarter 1 of 2020 to Quarter 1 of 2021. Sample rotation was possible in Quarter 2 of 2021, but some difficulties were encountered in obtaining a full sample. Comparisons with previous quarters should therefore be made with some caution. As shown in Table 5, the Quarter 2 unemployment rate in 2021 (34.4%) was the highest recorded in South Africa since the start of the Quarterly Labour Force Survey in 2008.[24] Compared to the same quarter in 2020, an increase of 11.1 percentage points in the unemployment rate was shown, from 23.3% to 34.4%, although the Quarter 2: 2020 estimates were not based on a full sample and changes were made in the survey mode of collection as Stats SA suspended face-to-face data collection for all its surveys due to COVID-19. Marked inter-provincial differences were shown, as depicted in Figure 2.

Unique insights into the socio-economic impact of COVID-19 have been provided by two additional sources. The Gauteng City-Region Observatory (GCRO) has conducted a Quality of Life Survey (QoL) every two years since 2009. The sixth survey was run between October 2020 and May 2021, to track the impact of the pandemic.[25] The survey results showed significant socio-economic impacts of COVID-19, varying as expected by race, sex and income group. Black Africans and the lowest income groups were most heavily impacted by the pandemic. Respondents reported missing debt repayments, being unable to pay bills, and skipping meals. The National Income Dynamics Study – Coronavirus Rapid Mobile Survey (NIDS-CRAM) surveys have elicited responses from a nationally representative sample. The Wave 3 survey was conducted between 2 November and 13 December 2020.[26] One of the key findings was that 47% of households reported running out of money for food. Overall, the findings were described as "sobering" and as underlining the "need for social relief efforts".

Figure 2: Unemployment rate in South Africa by province, 2020 Q2 and 2021 Q2

Indicator	Sex|Age|Series|Cat	Year	Ref Name	Geo	
Unemployment rate (official definition)	Both sexes 15–64 years LFS	2020	Labour Force Survey Q2 2020	EC	36.9
				FS	25.3
				GP	26.4
				KZ	18.9
				LP	21.9
				MP	13.3
				NC	25.1
				NW	21.6
				WC	16.6
				SA	23.3
		2021	Labour Force Survey Q2 2021	EC	47.1
				FS	36.5
				GP	35.4
				KZ	32.5
				LP	30.4
				MP	35.2
				NC	28.1
				NW	35.2
				WC	25.8
				SA	34.4

Geo
- EC
- FS
- GP
- KZ
- LP
- MP
- NC
- NW
- WC
- SA
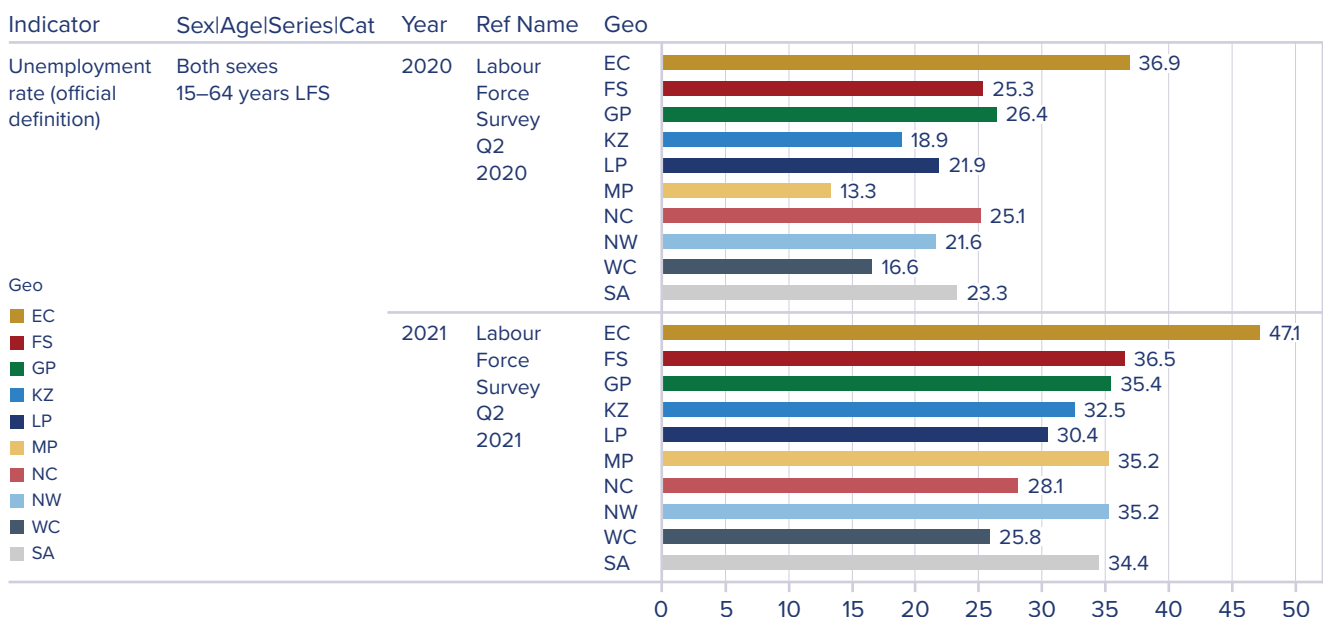
Source: DHIS

Table 5: Socio-economic indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Age-standardised mortality rate attributed to household and ambient air pollution (per 100 000 population)	2016	both sexes WHO	86.7										a
Air pollution level in cities (particulate matter [PMI])	2016	WHO PM2.5	23.6										a
Education level: percentage of population with no schooling	2019	both sexes 20+ years GHS	3.7	2.1	3.3	1.3	4.8	7.1	6.1	4.4	6.6	1.2	b
Human development index (high value = best)	2019	both sexes all ages HDR	0.7										c
Human development index rank (1 = best)	2019	both sexes all ages HDR	114.0										c
Mortality rate attributed to exposure to unsafe WASH services (per 100 000 population)	2016	both sexes WHO	13.7										a
Percentage of households with access to improved sanitation	2019	both sexes all ages GHS	82.1	87.6	82.3	90.0	80.9	63.4	63.7	83.9	68.8	94.5	b
Unemployment rate (official definition)	2019 Q4	both sexes 15–64 years LFS	29.1	39.5	34.5	30.8	25.0	23.1	33.6	26.9	28.8	21.5	d
	2020 Q2	both sexes 15–64 years LFS	23.3	36.9	25.3	26.4	18.9	21.9	13.3	25.1	21.6	16.6	e
	2020 Q3	both sexes 15–64 years LFS	30.8	45.8	35.5	33.7	26.4	26.3	27.8	23.1	28.3	21.6	f
	2020 Q4	both sexes 15–64 years LFS	32.5	47.9	33.4	34.1	29.6	27.3	33.0	28.7	33.3	22.5	g
	2021 Q1	both sexes 15–64 years LFS	32.6	43.8	35.6	34.4	30.5	29.4	33.5	23.4	32.2	23.7	h
	2021 Q2	both sexes 15–64 years LFS	34.4	47.1	36.5	35.4	32.5	30.4	35.2	28.1	35.2	25.8	i

Reference notes

a   World Health Statistics 2021[6]
b   Stats SA GHS 2019[13]
c   HDR 2020[22]
d   Labour Force Survey Q4 2019[27]
e   Labour Force Survey Q2 2020[28]
f   Labour Force Survey Q3 2020[29]
g   Labour Force Survey Q4 2020[30]
h   Labour Force Survey Q1 2021[31]
i   Labour Force Survey Q2 2021[24]

Definitions

- Percentage of households with access to improved sanitation [Percentage]: Percentage of households using improved sanitation facilities (including flush to piped sewer system, flush to septic tank, flush/pour flush to pit, flush/pour flush to elsewhere).
- Unemployment rate (official definition) [Percentage]: The official definition of the unemployed is that they are those people within the economically active population (aged 15–65) who
  (a) did not have a job or business during the seven days prior to the interview,
  (b) want to work and are available to work within two weeks of the interview, and
  (c) have taken active steps to look for work or to start some form of self-employment in the 4 weeks prior to the interview.
  Note that the Census produces lower estimates of labour force participation because there are fewer prompts to identify employed people, and the Labour Force Survey provides the official labour market statistics.
- Age-standardised mortality rate attributed to household and ambient air pollution (per 100 000 population) [per 100 000]: The mortality attributable to the joint effects of

  household and ambient air pollution.
- Air pollution level in cities (particulate matter [PMI]) [ug/m³]: Annual mean concentration of particulate matter of less than 2.5 microns of diameter (PM2.5) [ug/m³] (or of less than 10 microns [PM10] if PM2.5 is not available) in cities.
- Education level: percentage of population with no schooling [Percentage]: Percentage of people in a given age group who have received a particular level of education. Data are presented for the percentage of population aged 20 years and older with no schooling. In some cases, the indicator is presented for a different age category depending on what is available in the source.
- Human development index (high value = best) [Number]: The HDI is a summary measure of human development. It measures the average achievements in a country in three basic dimensions of human development:
  ○ A long and healthy life, as measured by life expectancy at birth
  ○ Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weight)
  ○ A decent standard of living, as measured by GDP per capita (PPP US$).
  Caution: Calculation of HDI is an evolving methodology, and comparisons should not be made between years (when methods might have varied) but can be made between countries, as issued by the same source. A high value for the HDI represents better human development.
- Human development index rank (1 = best) [Number]: Rank from 1 to end given to each country according to value of HDI. Value of 1 represents the best (highest) human development index.
- Mortality rate attributed to exposure to unsafe WASH services (per 100 000 population) [per 100 000]: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)

3. Health status indicators

3.1 Mortality

At the time of writing, the global death toll from the COVID-19 pandemic had exceeded 5 million. When the World Health Statistics 2021 were compiled, the number of reported COVID-19 deaths in 2020 was estimated at 1.8 million, which would have placed that cause in 6th position in the leading causes of death described in the WHO Global Health Estimates 2019. Only ischaemic heart disease (8.9 million), stroke (6.2 million), chronic obstructive pulmonary disease (3.2 million), lower respiratory infections (2.6 million) and neonatal conditions (2.0 million) ranked higher.[6] Preliminary data for the United States indicate that COVID-19 was the third leading cause of death in the US in 2020, behind heart disease and cancer.[32] In South Africa, cause-of-death statistics are released only after about three years. The Stats SA report *Mortality and causes of death in South Africa: Findings from death notification* for 2018 was released in June.[33] Table 7 shows the current mortality indicators, by province.

However, recorded COVID-19 deaths exclude those from undocumented COVID-19 infections, as well as non-COVID-19 deaths that might have resulted because of delayed or denied access to healthcare services. Countries with highly developed civil registration and vital statistics (CRVS) systems have detected increases in non-COVID-19 deaths during the pandemic, for causes such as heart disease and diabetes.[34] Where such systems are poorly developed, COVID-19 deaths are likely to be underestimated.[35] In South Africa, the crude death rate increased from 8.7 deaths per 1 000 population in 2018 to 11.5 deaths in 2021. The inpatient crude death rate also increased, especially in the Eastern Cape and Gauteng, from 5.8% and 4.5% in the financial year before COVID-19 to 7.7 and 6.3 in 2020/21, respectively [Figure 3]. An estimate of all 'excess deaths', which are all deaths over and above what would be expected based on the expected mortality rate in the population – had the pandemic not occurred – has been prepared on a weekly basis by the SAMRC Burden of Disease Research Unit since May 2020. By the end of October 2021, a cumulative total of 268 183 excess deaths was estimated in South Africa since 3 May 2020 (183 249 of those since 3 January 2021).[36] The estimates have also been made per province, as shown in Table 6. Considerable differences were evident in the age-standardised excess mortality rate, per 100 000 population, per province. The three waves of COVID-19 are clearly evident in Figure 4, which also depicts the seasonal variation in expected mortality. The SAMRC used the Holt-Winters time series forecasting method to produce the expected mortality values and 95% prediction intervals.[37]

Figure 3: Inpatient crude death rate, 2018/19–2020/21
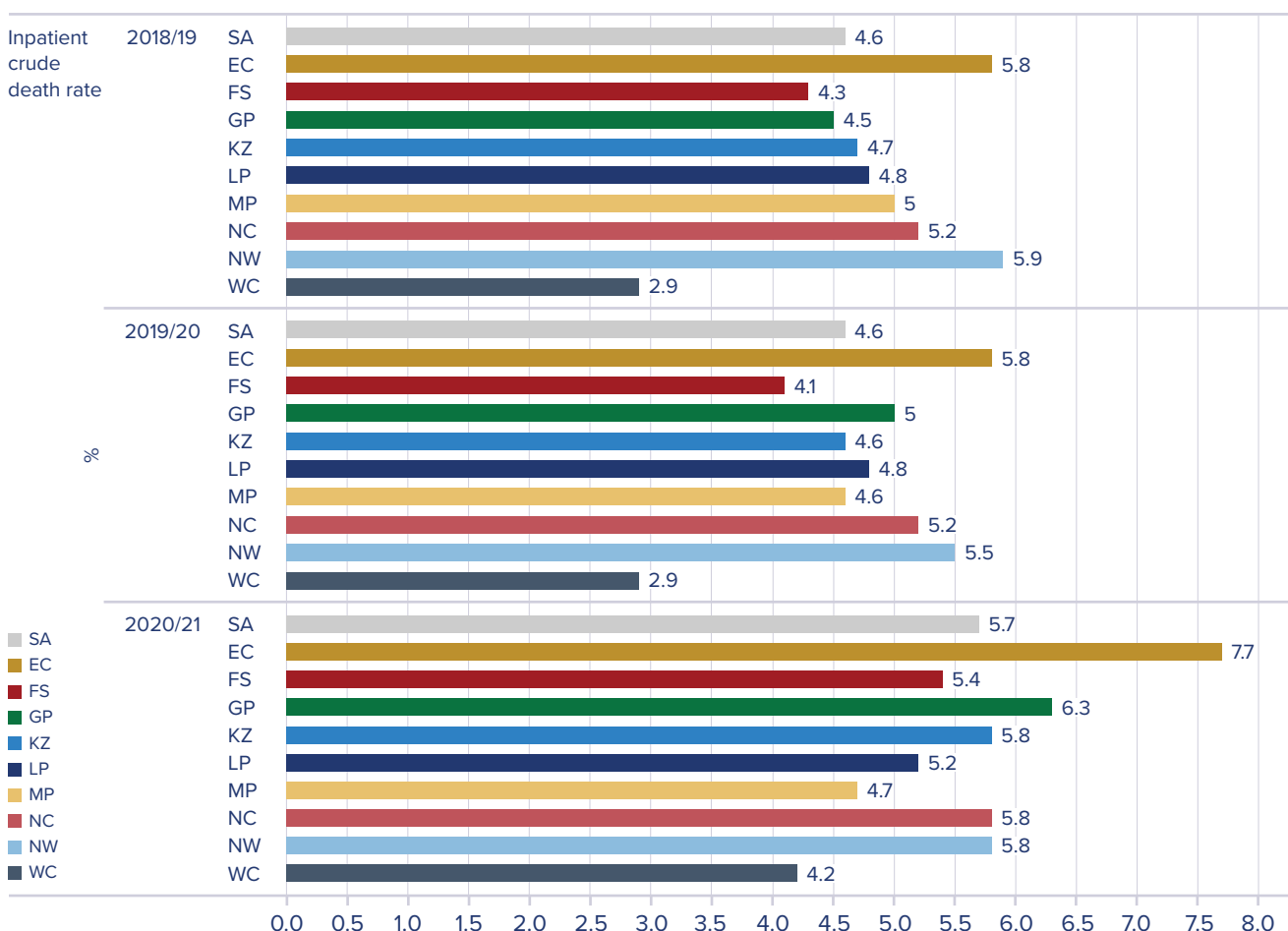
Source: DHIS

Table 6: Estimated number of excess natural deaths and death rates by province, South Africa 2020/21 (all ages)

Region	Excess deaths 3 May 2020 – 6 November 2021	Excess deaths per 100 000 population	Age-standardised excess death rate per 100 000 population
Eastern Cape	44 140	671	541
Free State	15 320	526	526
Gauteng	55 473	485	558
KwaZulu-Natal	54 372	475	547
Limpopo	28 393	481	421
Mpumalanga	21 106	439	473
Northern Cape	7 442	636	595
North West	15 489	385	395
Western Cape	27 920	396	348
South Africa	271 311	456	456

Source: SAMRC

Figure 4: South Africa weekly deaths from all causes: 29 December 2019 – 13 November 2021
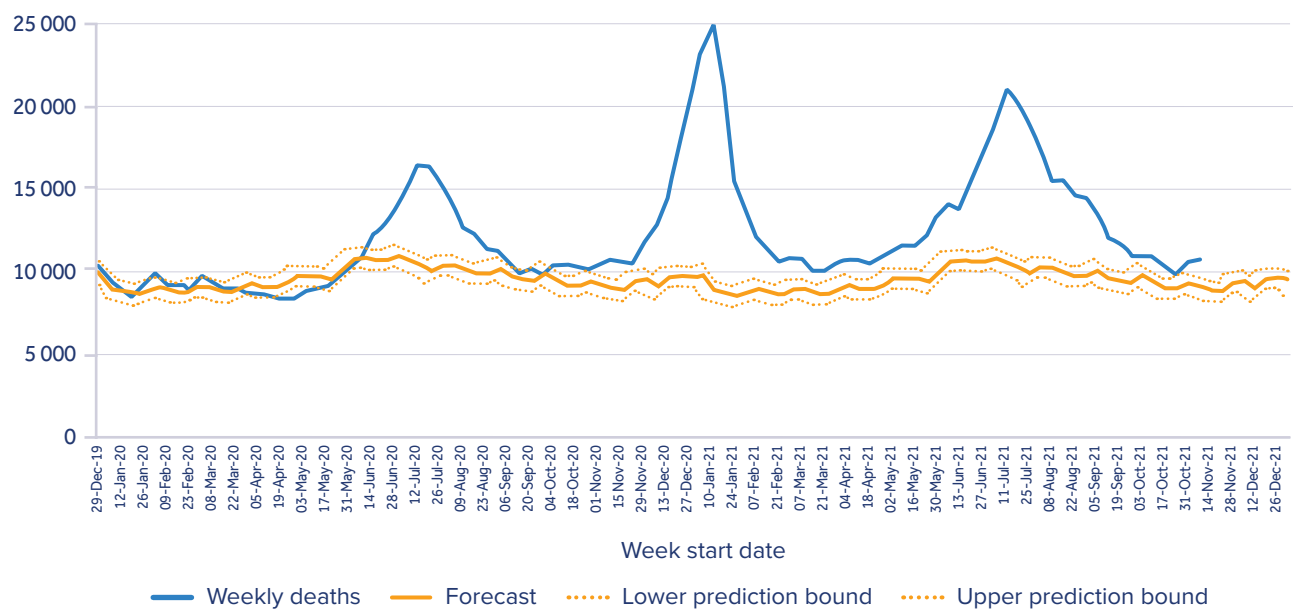
Source: SAMRC

Table 7: Mortality indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Adult mortality (45q15 - probability of dying between 15-60 years of age)	2018	both sexes RMS	31.0										a
		female RMS	25.0										a
		male RMS	37.0										a
Early neonatal death in facility rate	2018/19	both sexes DHIS	9.8	10.3	13.5	9.8	9.0	11.7	10.2	10.0	8.9	7.2	b
	2019/20	both sexes DHIS	9.6	10.0	11.9	9.3	8.7	12.5	9.6	13.1	9.5	6.5	b
	2020/21	both sexes DHIS	9.7	10.4	11.9	9.6	9.4	10.6	10.3	11.5	10.8	6.5	b
Infant mortality rate (deaths under 1 year per 1 000 live births)	2019	both sexes <1 year mid-year	22.1										c
	2020	both sexes <1 year mid-year	23.6										d
	2021	both sexes mid-year	24.1										e
Life expectancy at birth	2016-2021	female mid-year	64.6	65.0	61.4	67.7	63.6	66.5	66.0	64.3	64.2	70.3	e
		male mid-year	59.3	58.7	55.5	63.1	57.4	61.2	60.8	57.6	57.7	64.9	e
Maternal death in facility	2018/19	DHIS	1,065	118	85	281	188	143	78	17	86	69	b
	2019/20	DHIS	928	123	61	245	176	134	59	26	57	47	b
	2020/21	DHIS	1,315	171	94	294	279	174	110	20	82	91	b
Maternal mortality in facility ratio	2018/19	female DHIS	105.9	106.1	168.3	122.8	88.4	111.6	92.4	71.3	137.4	66.8	b
	2019/20	female DHIS	88.0	108.2	116.2	102.9	76.9	97.8	67.1	109.9	88.0	43.6	b
	2020/21	female DHIS	120.9	146.2	178.8	118.7	123.9	120.1	108.3	80.6	124.6	83.9	b
Maternal mortality ratio (MMR)	2016	female RMS	134.0										a
		WHO	119.0										f
Mortality between 30-70 years from cardiovascular, cancer, diabetes or chronic respiratory disease	2016	both sexes 30-70 years RMS	29.0										a
	2019	WHO	16.8										f
Neonatal death in facility rate	2018/19	both sexes DHIS	12.1	12.5	16.8	13.0	11.5	13.2	11.5	11.7	10.6	8.9	b
	2019/20	both sexes DHIS	11.9	12.3	15.6	12.4	10.9	14.3	11.2	15.5	11.5	8.2	b
	2020/21	both sexes DHIS	12.6	13.1	16.0	13.2	12.1	12.7	12.7	13.8	13.9	8.3	b
Neonatal mortality rate (NMR) (deaths <28 days old per 1 000 live births)	2018	both sexes RMS	11.0										a
	2019	both sexes GBD	20.7										g
		both sexes WHO	11.0										f

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Perinatal death in facility rate	**2019/20**	both sexes DHIS	29.1	29.0	35.4	27.9	29.7	31.7	28.2	36.8	31.0	22.9	b
	2020/21	both sexes DHIS	29.8	31.3	38.7	29.1	32.7	30.9	13.3	33.9	33.9	24.6	b
Stillbirth in facility rate	**2018/19**	both sexes DHIS	20.4	18.2	26.7	19.0	22.0	20.3	20.2	24.6	21.9	18.5	b
	2019/20	both sexes DHIS	19.7	19.2	23.8	18.8	21.2	19.5	18.8	24.0	21.7	16.5	b
	2020/21	both sexes DHIS	19.9	21.1	27.1	19.7	23.6	20.5	3.0	22.6	23.4	18.3	b

Reference notes

a   RMS 2018[38]
b   DHIS
c   Stats SA MYE 2019[15]
d   Stats SA MYE 2020[16]
e   Stats SA MYE 2021[10]
f   World Health Statistics 2021[6]
g   GBD 2021 Child Health[39]

Definitions

- Adult mortality (45q15 - probability of dying between 15 and 60 years of age) [Percentage]: The probability of dying between the ages of 15 and 60 years (percentage of 15-year-olds who die before their 60th birthday).
- Life expectancy at birth [Years]: The average number of additional years a person could expect to live if current mortality trends were to continue for the rest of the person's life.
- Maternal death in facility [Number]: Maternal death is death occurring during pregnancy, childbirth and puerperium within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy and the cause of death (obstetric and non-obstetric).
- Maternal mortality in facility ratio [per 100 000 live births]: Women who die as a result of childbearing, during pregnancy or within 42 days of delivery or termination of pregnancy, per 100 000 live births, and where the death occurs in a health facility.
- Maternal mortality ratio (MMR) [per 100 000 live births]: The number of women who die as a result of childbearing, during the pregnancy or within 42 days of delivery or termination of pregnancy in one year, per 100 000 live births during that year.
- Early neonatal death in facility rate [per 1 000 live births]: Early neonatal deaths per 1 000 infants who were born alive in health facilities.

- Neonatal death in facility rate [per 1 000 live births]: Infants aged 0 to 28 days who died during their stay in the facility per 1 000 live births in facility.
- Neonatal mortality rate (NMR) (deaths <28 days old per 1 000 live births) [per 1 000 live births]: Number of deaths within the first 28 days of life, in a year, per 1 000 live births during that year.
- Perinatal death in facility rate [per 1 000 total births]: Stillbirths and deaths in facility under 7 days of life (Early Neonatal Death) per 1 000 births.
- Stillbirth in facility rate [per 1 000 births]: Stillbirths in facility per 1 000 total births in a facility.
- Mortality between 30 and 70 years from cardiovascular, cancer, diabetes or chronic respiratory disease [Percentage]: Unconditional probability of dying between exact ages 30 and 70 from any of cardiovascular disease, cancer, diabetes, or chronic respiratory disease. Deaths from these four causes will be based on the following ICD codes: I00–I99, COO–C97, E10–E14 and J30–J98. According to WHO Core indicators: Modelling, using multiple inputs, is often used if no complete and accurate data are available. Age standardisation is done for comparability over time and between populations.

THE PANDEMIC HAS COMPROMISED YEARS OF PROGRESS IN PROVIDING TB SERVICES

Disruptions due to COVID-19 have caused a decrease in testing and treatment.
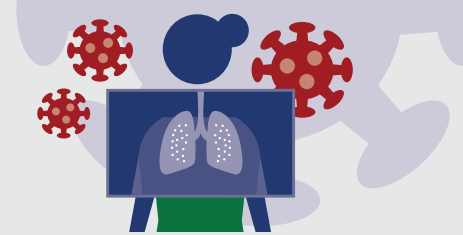
TREATMENT

TB treatment dropped significantly after the first lockdown in March 2020 and again during the peak of the second wave.

TESTING

Level 5 restrictions resulted in a 48% average weekly decrease in TB GeneXpert testing and a 33% decrease in the number of positive TB diagnoses.

The impact of COVID-19 on TB must be measured so that steps can be taken to reverse any setbacks.

Number of GeneXpert tests for TB between Jan 2020 and Feb 2021

Number of clients >5 years started on TB treatment
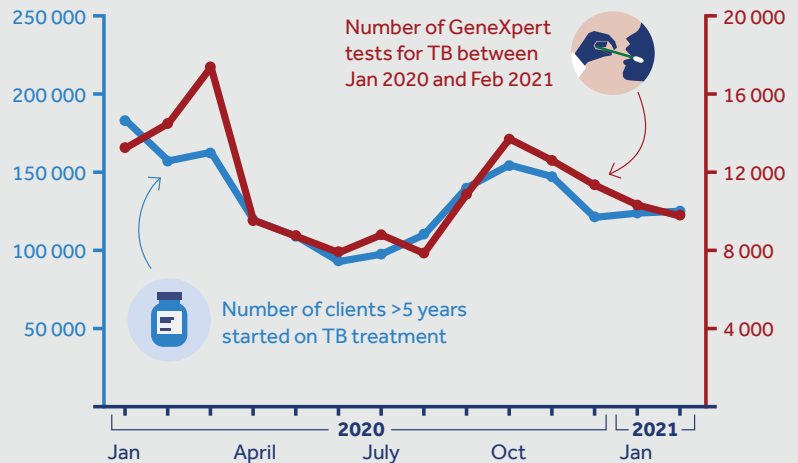
3.2 Infectious disease

3.2.1 Tuberculosis

The *WHO Global Tuberculosis Report 2021* pointed out that, until the outbreak of the COVID-19 pandemic, TB was the leading cause of death from a single infectious agent.[40] More importantly, it showed how the pandemic has "reversed years of progress in providing essential TB services and reducing TB disease burden". For example, the number of people newly diagnosed with TB fell from 7.1 million in 2019 to 5.8 million in 2020, and provisional data up to June 2021 showed ongoing shortfalls in diagnosis. An increase in TB deaths was also estimated, from 1.2 million HIV-negative people in 2019 to 1.3 million TB deaths in 2020, and from 209 000 people living with HIV (PLHIV) in 2019 to 214 000 in 2020. Access to treatment for drug-resistant TB and to TB preventive treatment declined. There were also declines in global spending on TB diagnostic, treatment and prevention services. The WHO *Global Tuberculosis Report* provides estimates of important TB indicators per country. The WHO estimates for South Africa were that 328 000 people were incident TB cases in 2020, of which 234 000 were PLHIV. Approximately 25 000 HIV-negative and 36 000 HIV-positive TB patients died. South Africa remained on the 'high-burden' lists for TB, HIV-associated TB and multidrug-resistant (MDR)/rifampicin-resistant (RR-TB). Only China, India, Indonesia, Mozambique,

Myanmar, Nigeria, the Philippines and Zambia also appear on all three lists, each of which includes 30 countries.

The WHO estimate of TB coverage for 2020 was 58%. Only 191 074 incident cases were notified in 2020. A key component of the calculation is the estimated prevalence. The findings from the long-awaited first National TB Prevalence Survey that was conducted in 2018 were published in 2021[41], accompanied by a commentary in the *South African Medical Journal*.[42] Of 53 250 people who were eligible to participate in the survey, across 110 clusters, 35 191 (66.1%) participated. The overall prevalence of TB was estimated to be 737 per 100 000 population. Stark differences in prevalence were estimated for females (675) and males (1 094). Critically, the survey was not powered to provide estimates of prevalence in children younger than 15 years, or at provincial or district levels. Nonetheless, the survey has highlighted important population sub-groups in which the gap between prevalence and notification is higher, including young people, men and the elderly.

South Africa has set targets of screening 90% of high-risk and vulnerable populations for TB, treating 100% of those with prevalent TB, and successfully treating 90% with TB drug-susceptible (DS).[43] The full set of targets, in absolute numbers per year, is shown in Table 8.

Table 8: Tuberculosis targets for South Africa, 2018–2022

Indicators	Targets					
	2018	2019	2020	2021	2022	Cumulative Total
Childhood TB diagnosis and treatment	18 200	20 100	20 400	19 100	17 700	95 500
MDR-TB diagnosis and treatment	9 750	10 050	10 600	10 090	9 190	49 680
Preventative Therapy (PT) for under-five child contacts	25 360	36 420	43 950	48 430	52 350	206 510
Preventative Therapy (PT) in contacts older than 5 years	21 831	36 092	76 152	125 205	152 482	411 762
Preventative Therapy (PT) in PLHIV	453 149	367 294	421 584	383 514	344 892	1 970 433
TB diagnosis and treatment	235 700	251 300	239 100	216 100	196 900	1 139 100
Total Preventative Therapy (PT)	500 340	439 810	541 690	557 150	549 720	2 588 710

The possible longer-term global impact of the COVID-19 pandemic on TB care has been modelled, showing that even temporary disruptions in service provision can cause long-term increases in both incidence and mortality.[44] However, the modelling exercise also showed that remedial actions to improve TB case detection and access to treatment could reverse these impacts, once restrictions were lifted.

It is therefore imperative that the impact of the COVID-19 pandemic on TB services be measured, to inform remedial actions. The actual number of events captured by the DHIS for the period January 2020 to March 2021 has been contrasted with the forecast values (95% confidence intervals) using the Holt-Winters method. Figure 5 shows the actual and forecast number of children under five years screened for TB symptoms in public health facilities in South Africa over that period. There was a sharp decline in the number of children screened between March and April 2020 (during the first national lockdown), and the number screened remained lower than expected until September 2020.

Figure 5: Observed and forecasted number of children under 5 years screened for TB symptoms in a facility
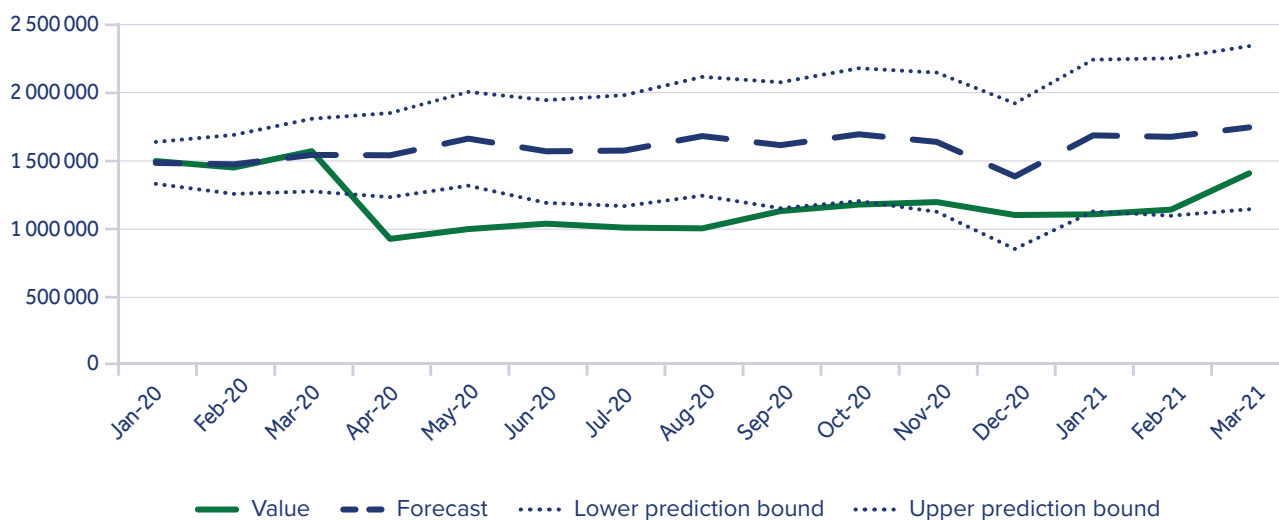
Source: DHIS

A similar pattern was seen in those aged five years and older (Figure 6) and also in the number of GeneXpert tests conducted by the National Health Laboratory Service (NHLS), as reported by Pillay et al. (Figure 7).[42] A study conducted by the National Institute for Communicable Diseases on the impact of COVID-19 on TB testing in South Africa showed that daily testing volumes declined sharply after commencement of the national lockdown in March 2020.[45] The imposition of Level 5 restrictions resulted in a 48% average weekly decrease in TB GeneXpert testing volumes and a 33% decrease in the number of positive TB diagnoses. The authors speculated that the primary factor was the restrictions limiting movement and therefore access to services, but also noted that access to public transport

was severely limited, and that individual motivation to seek care might also have been a factor. It is possible that those with advanced TB were more likely to seek care. Similar impacts were shown using a segmental linear regression method.[46] Importantly, TB testing capacity was not affected by the pandemic.

Figure 6: Observed and forecasted number of TB clients, 5 years and older screened for TB symptoms in a facility
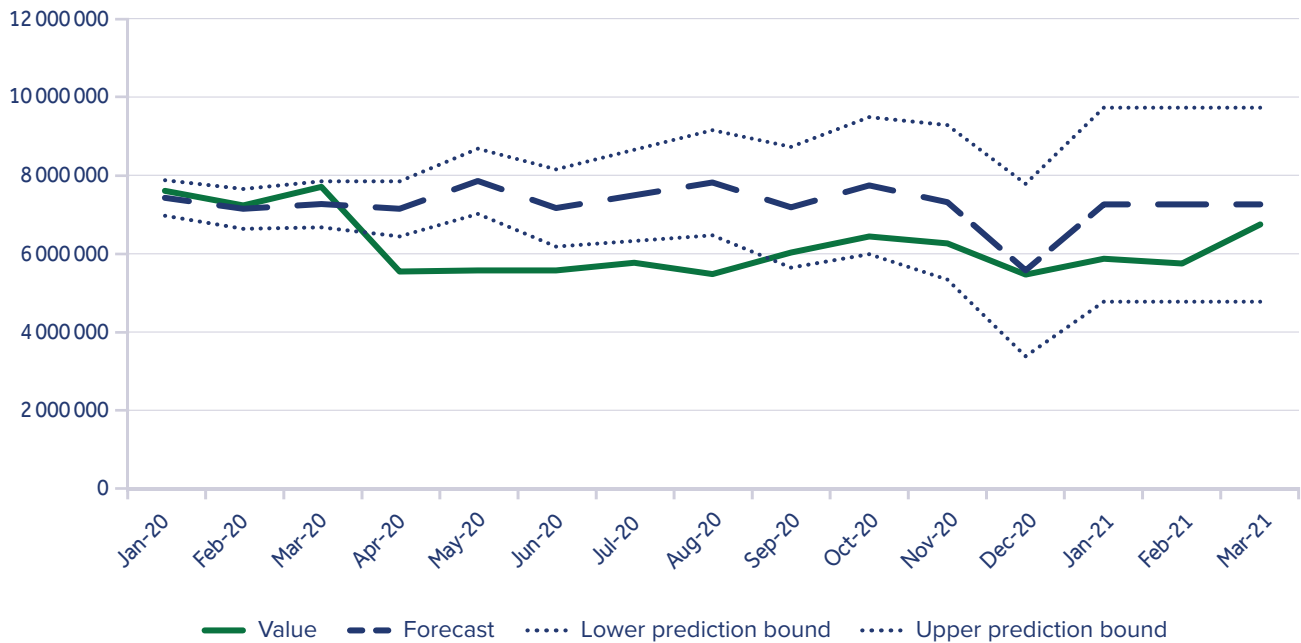
Source: DHIS

Figure 7: Number of GeneXpert tests done for tuberculosis between January 2020 and February 2021 compared with the expected number
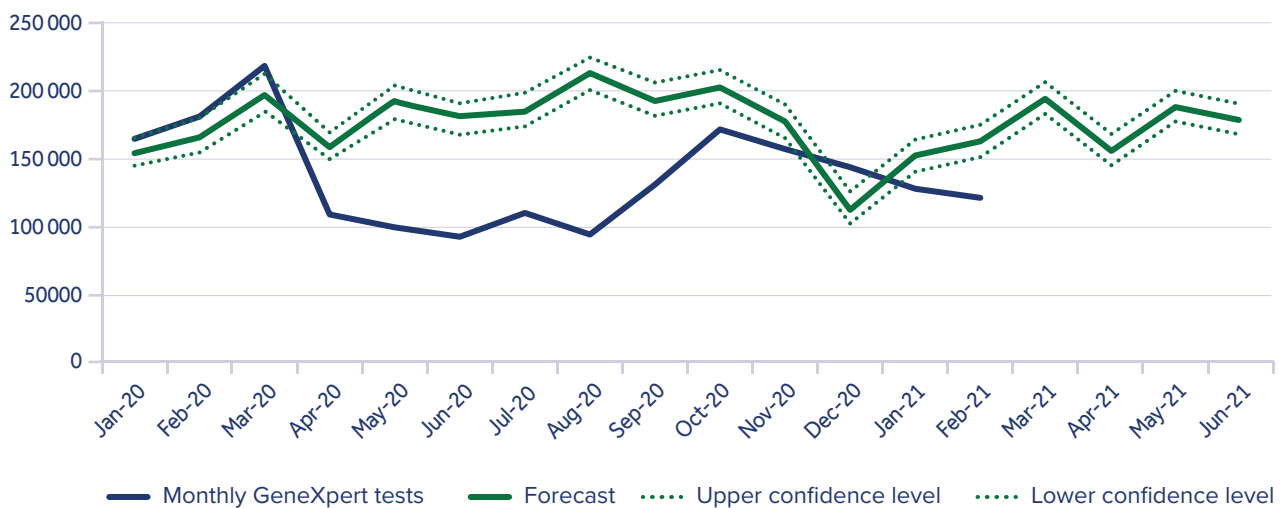
Source: Pillay et al.[42]

Figures 8 and 9 apply the same method for depicting the difference between observed and forecast numbers of patients both younger and older than five years who started on TB treatment during the period under scrutiny, both reflecting the impact of the lockdowns instituted at the beginning of the COVID-19 pandemic in South Africa and at the peak of the second wave.

Figure 8: Observed and forecasted number of children under 5 years who started TB treatment

Value ——— Forecast – – Lower prediction bound ········ Upper prediction bound
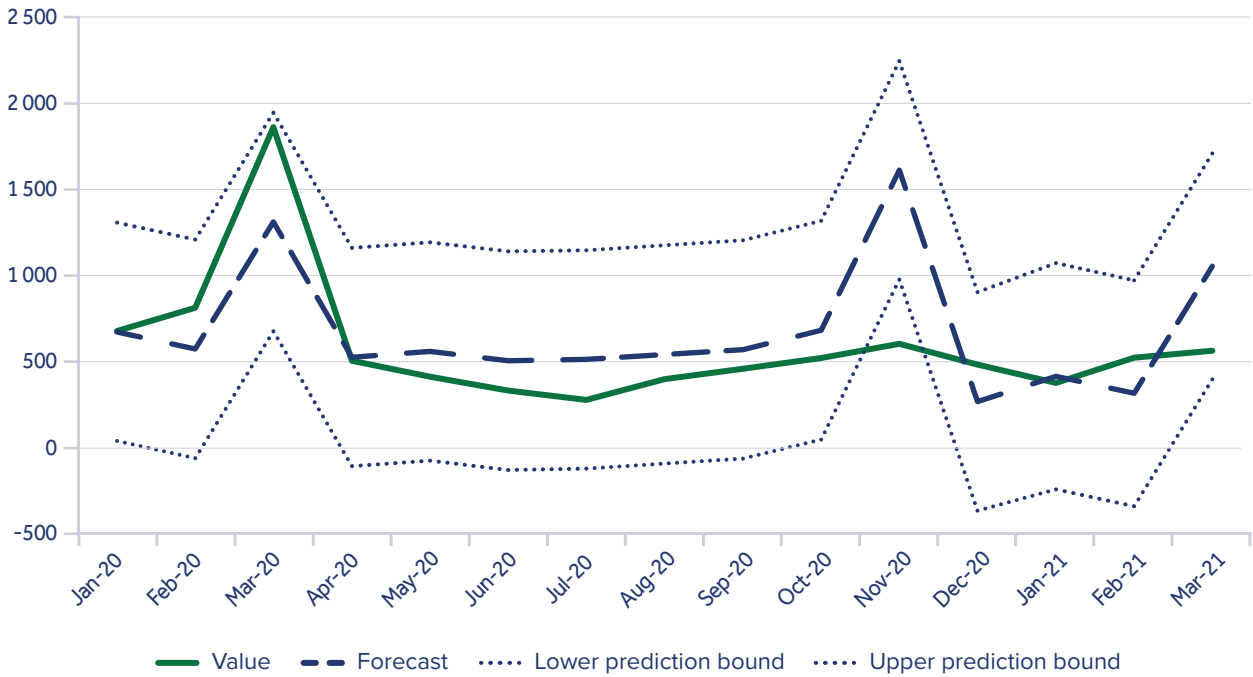
Source: DHIS

Figure 9: Observed and forecasted number of clients, 5 years and older who started TB treatment

Value ——— Forecast – – Lower prediction bound ········ Upper prediction bound
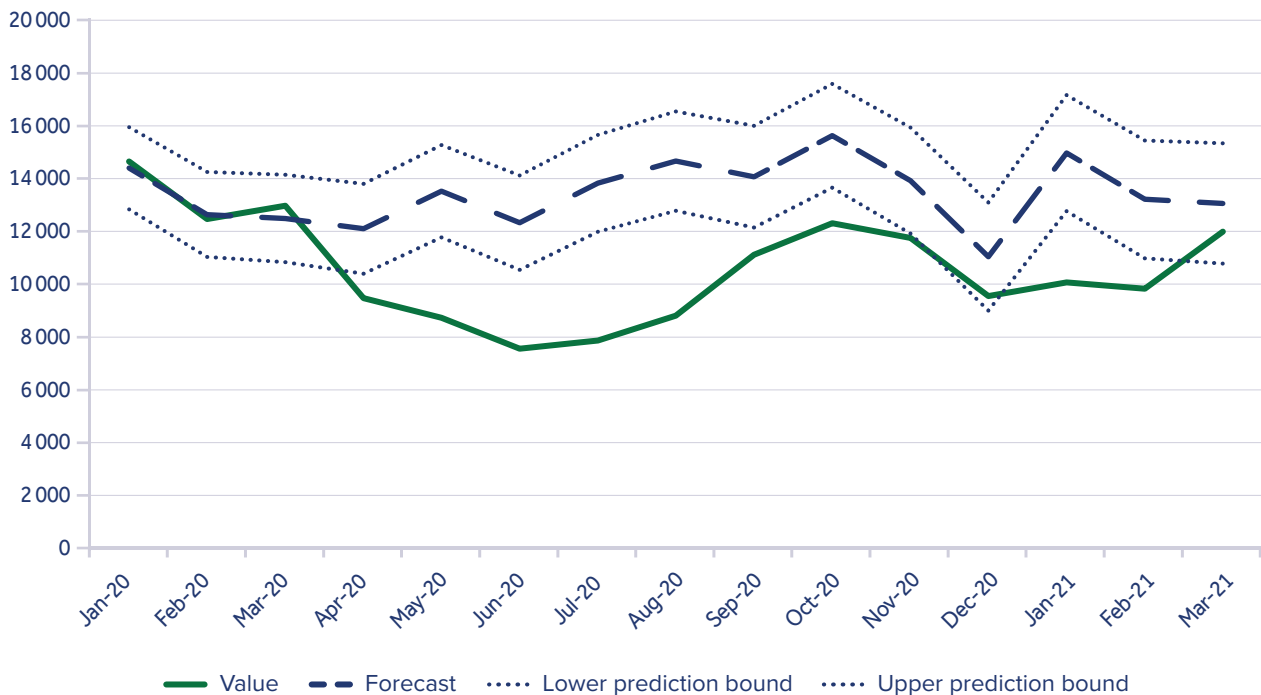
Source: DHIS

Table 9 shows a selection of TB indicators, taken predominantly from routine data sources, where possible showing differences per province. Poor data quality is a possible reason for the very low XDR-TB rates in the North West and Mpumalanga.

Table 9: TB indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Case detection rate (all forms)	2020	both sexes Global TB (2021)	62										a
Incidence of TB (all types) (per 100 000)	2020	both sexes Global TB (2021)	554										a
	2019	both sexes WHO	615										b
TB DS client lost to follow up rate	2017	both sexes all ages ETR/Tier.Net	8.0	7.8	6.3	8.9	6.5	5.7	7.4	6.7	9.8	11.1	c
	2018	both sexes all ages ETR/Tier.Net	10.5	11.8	9.1	9.4	10.7	7.4	8.7	10.0	10.9	11.7	d
	2019	both sexes DHIS	12.6	13.8	10.8	8.5	10.0	9.6	10.5	18.8	12.4	18.6	d
TB DS death rate	2017	both sexes all ages ETR/Tier.Net	6.5	6.2	10.4	6.3	6.0	9.3	7.3	9.9	9.0	3.9	c
	2018	both sexes all ages ETR/Tier.Net	7.0	7.2	10.1	7.0	7.4	10.6	8.5	7.2	8.8	3.8	d
	2019	both sexes DHIS	7.4	7.5	10.6	7.4	7.5	12.5	9.0	7.3	9.5	3.9	d
TB DS treatment success rate	2017	both sexes all ages ETR/Tier.Net	76.3	77.1	70.8	74.5	73.2	81.2	80.3	77.1	78.8	79.0	c
	2018	both sexes all ages ETR/Tier.Net	79.2	78.3	78.1	82.0	80.0	79.9	81.1	76.5	77.5	77.1	d
	2019	both sexes DHIS	79.3	77.9	77.3	83.6	81.9	77.2	80.0	72.6	77.6	76.5	d
TB MDR treatment success rate	2017	both sexes all ages EDRWeb	59.3	58.7	59.9	55.1	63.4	65.1	60.6	53.8	60.9	54.2	d
	2018	both sexes all ages EDRWeb	54.8	53.8	56.7	46.7	61.9	61.5	60.3	56.3	54.6	44.6	d
	2019	both sexes EDRWeb	60.7	60.4	59.1	58.7	66.0	55.8	66.3	60.3	65.4	51.6	d
TB XDR treatment success rate	2017	both sexes all ages EDRWeb	59.5	58.1	52.9	62.8	63.0	66.7	50.0	58.3	50.0	61.9	d
	2019	both sexes EDRWeb	49.9	52.1	46.2	51.7	55.8	50.0	25.0	47.6	0.0	41.9	d
Tuberculosis prevalence rate per 100 000 population	2018	both sexes all ages	737.0										e

Reference notes
a   Global TB Report 2021[40]
b   World Health Statistics 2021[6]
c   Electronic TB Register
d   DHIS
e   TB Prevalence Survey[41]

COVID-19 HAS HAD A NEGATIVE IMPACT ON HIV TESTING AND ANTIRETROVIRAL TREATMENT (ART) COUNTRYWIDE

Initiation of ART was heavily affected during the 2020 lockdown. There was also a dramatic decrease in patients remaining on ART at the end of each month, with only a modest recovery thereafter.

THE NUMBER OF HIV TESTS DECREASED DRAMATICALLY DURING LOCKDOWN.

Between March and December 2020

3.4 million

fewer tests were conducted in the public health system than in the same period in 2019.
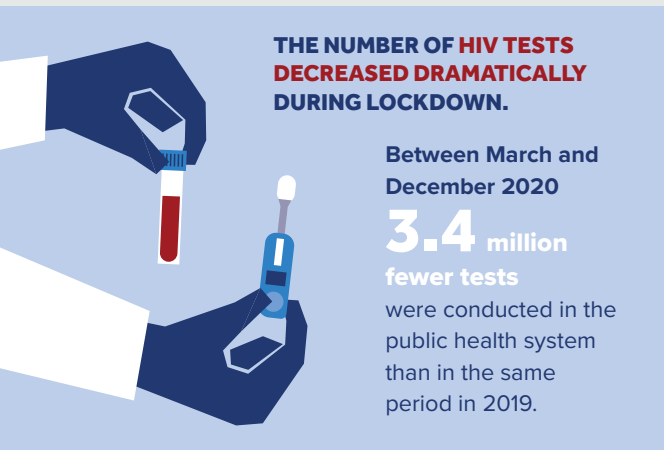
Tracking disruptions to HIV testing and treatment is vital in order to measure and counteract future disturbances.

NATIONAL ART CLIENTS REMAINING ON ART AT THE END OF EACH MONTH

Average number forecast

Actual number

Million

5,4 — 5,2 — 5,0 — 4,8

Jan — April — July — Oct — Jan

2020 — 2021
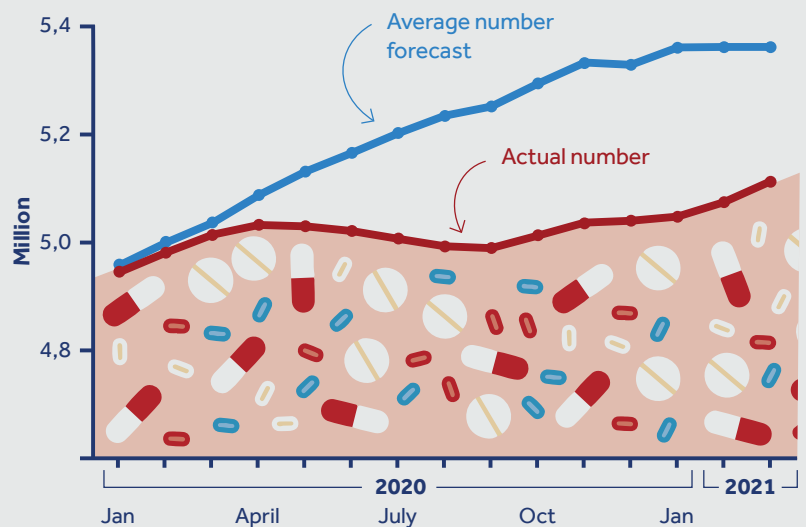
3.2.2 HIV and AIDS

The Joint United Nations Programme on HIV/AIDS (UNAIDS) *Global AIDS Strategy 2021–2026* is sub-titled 'End inequalities. End AIDS'.[47] Despite making considerable progress, South Africa remains at the epicentre of the HIV pandemic. The 2020 UNAIDS estimate is that there were 7 800 000 (5 200 000 – 10 000 000) adults and children living with HIV in South Africa (of whom 310 000 (200 000 – 540 000) were under 15 years of age).[48] The number of women (aged 15 and older) living with HIV (4 800 000 (3 200 000 – 6 100 000)) exceeded the number of men (aged 15 and older) living with HIV (2 700 000 (1 800 000 – 3 400 000)).

South Africa has the largest antiretroviral therapy (ART) programme in the world. Updated estimates from the Thembisa 4.4 model were published in March 2021, showing that progress towards the 90-90-90 targets in the provinces was mixed.[49] Although progress towards the first target (90% of PLHIV diagnosed by 2020) was relatively uniform

across provinces, progress towards the second target (90% of HIV-diagnosed individuals on ART) varied from 62% in Western Cape to 81% in KwaZulu-Natal. Nonetheless, most provinces had reached the third target (90% of ART patients virally suppressed).

It is therefore important to carefully track the extent to which the COVID-19 pandemic has disrupted HIV prevention and treatment programmes in South Africa. An interrupted time series analysis of programmatic data from 65 Primary Health Care clinics in KwaZulu-Natal showed that, although ART provision was generally maintained during the 2020 lockdown period, HIV testing and ART initiations were heavily disrupted.[50] Routine national data show a more concerning picture. Figure 10 shows the dramatic impact of the first national lockdown on the number of patients remaining on ART at the end of each month, and the relatively modest recovery thereafter.

Figure 10: Actual and forecasted number of clients remaining on ART at the end of each month, January 2020 to March 2021
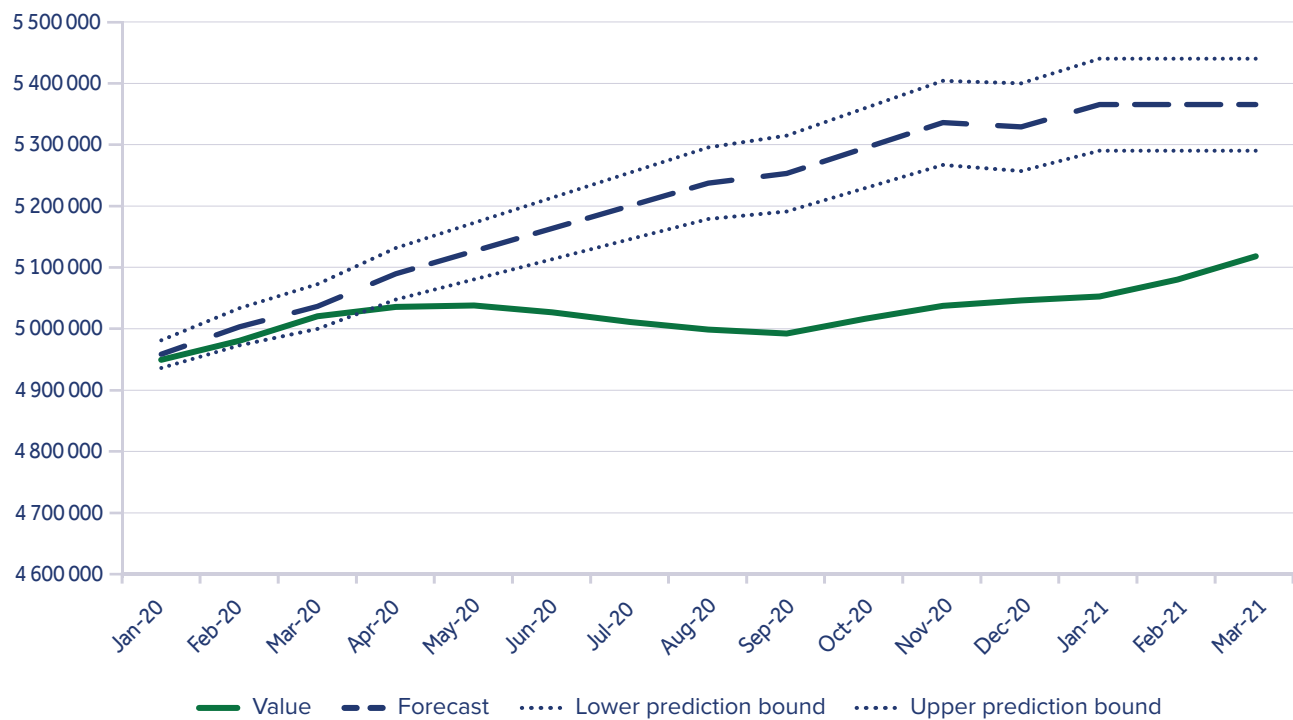
Source: DHIS

As with TB, the number of HIV tests conducted decreased dramatically during the first lockdown. Pillay et al. reported that 3.44 million fewer HIV tests were conducted in the public health system between March and December 2020 compared with the same period in 2019.[7] Figures 11 and 12 compare the actual and forecast number of HIV tests conducted and the number of clients initiated on ART between January 2020 and March 2021.

Figure 11: Actual and forecasted number of HIV tests done, January 2020 to March 2021
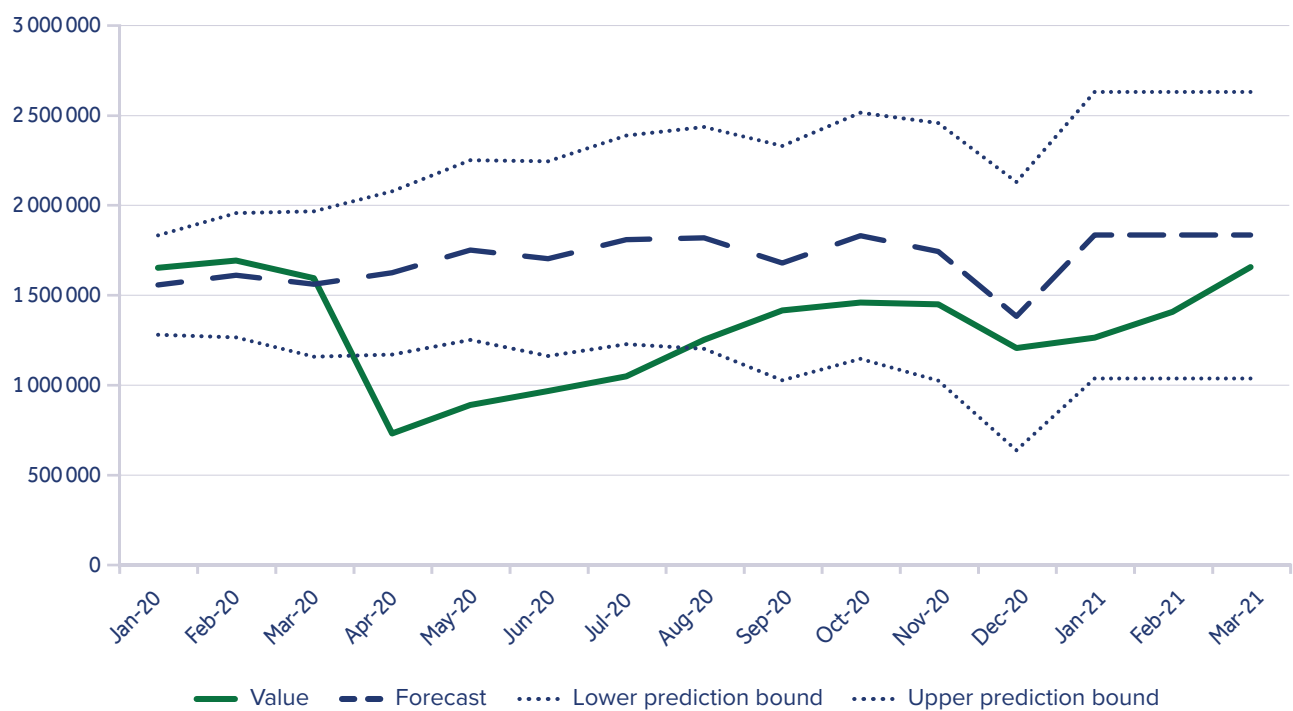
Source: DHIS

Figure 12: Actual and forecasted number of clients who started ART during the month, January 2020 to March 2021

Value — Forecast ····· Lower prediction bound ····· Upper prediction bound
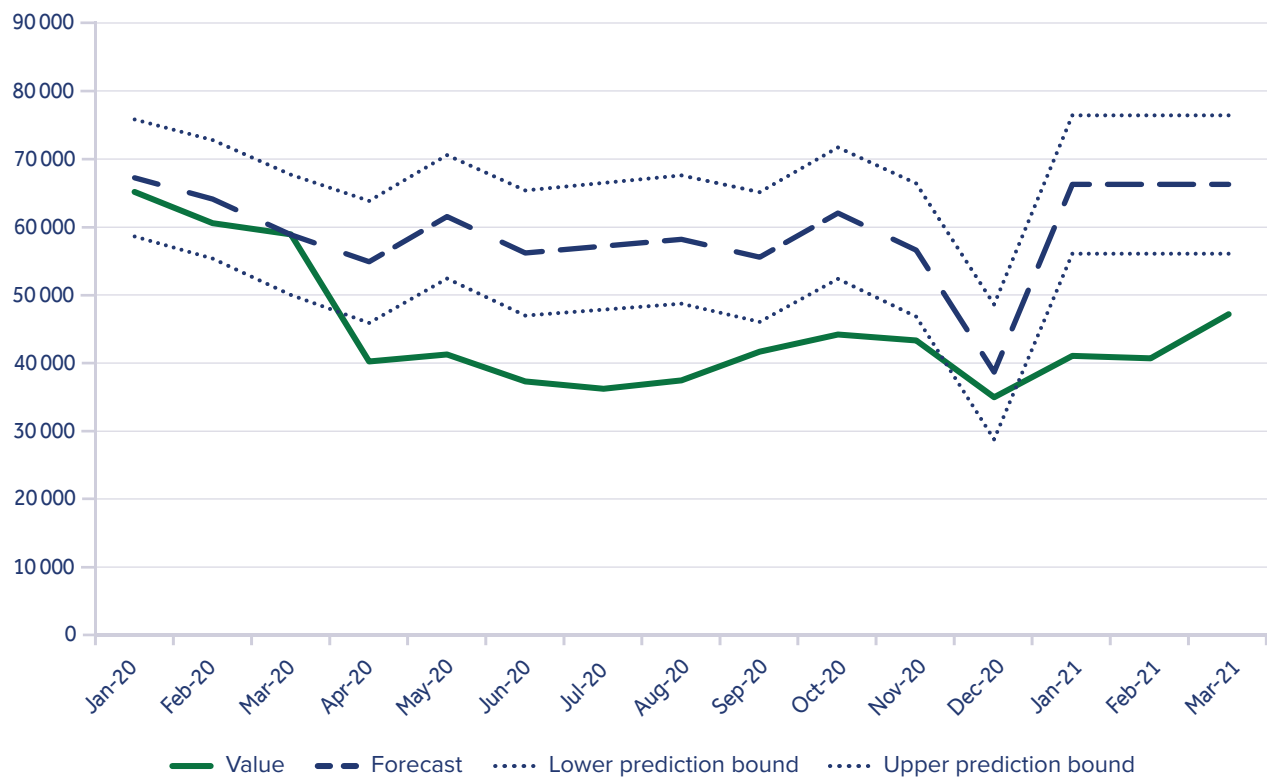
Source: DHIS

Table 10 shows a selection of HIV indicators from routine data sources, modelling and global estimates. Tracking the longer-term impacts of the pandemic in future years will be crucial if the necessary remedial action is to be effectively applied.

Table 10: HIV indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Child living with HIV	2018 Q1	both sexes 0-14 years NDoH-Thembisa	330 964	41 830	19 097	62 205	102 821	25 962	35 557	5 058	24 413	14 021	a
	2019 Q1	both sexes 0-14 years NDoH-Thembisa	327 972	39 206	17 834	59 263	95 682	24 302	50 594	4 702	22 846	13 543	a
	2020 Q1	both sexes 0-14 years NDoH-Thembisa	326 567	42 576	19 529	58 700	100 371	27 699	35 720	4 862	23 536	13 574	a
Adult living with HIV	2018 Q1	both sexes 15+ years NDoH-Thembisa	6 635 312	728 875	346 041	1 743 611	1 835 501	419 136	629 485	74 598	450 335	407 730	a
	2019 Q1	both sexes 15+ years NDoH-Thembisa	6 781 905	746 058	351 139	1 792 825	1 872 066	429 228	632 129	76 061	459 172	423 227	a
	2020 Q1	both sexes 15+ years NDoH-Thembisa	7 174 336	808 940	403 021	1 866 419	1 950 240	461 625	668 118	79 737	501 315	434 921	a
Total living with HIV	2019 Q1	both sexes all ages NDoH-Thembisa	7 109 877	785 264	368 973	1 852 088	1 967 748	453 530	682 723	80 763	482 018	436 770	a
	2020 Q1	both sexes all ages NDoH-Thembisa	7 500 903	851 516	422 550	1 925 119	2 050 611	489 324	703 838	84 599	524 851	448 495	a
	2021 Q1	both sexes all ages NDoH-Thembisa	7 426 448	857 315	413 274	1 801 439	1 928 321	594 954	709 537	106 905	516 920	497 783	a
People living with HIV (PLHIV)	2020	both sexes all ages Global Report	7 800 000										b
		both sexes all ages Thembisa 4.4	7 892 070	863 517	404 619	1 878 400	1 985 710	692 685	746 915	107 814	532 097	556 517	c
		both sexes all ages mid-year	7 800 000										d
	2021	both sexes all ages Thembisa 4.4	8 008 080	874 329	405 266	1 910 980	1 992 300	704 108	754 254	109 608	538 115	574 861	c
HIV prevalence (total population)	2019	both sexes all ages Thembisa 4.4	13.4	13.1	14.1	12.1	17.7	11.8	15.7	9.4	13.3	7.9	c
	2020	both sexes all ages mid-year	13.0										d
		both sexes all ages Thembisa 4.4	13.4	13.3	14.0	12.0	17.6	11.9	15.6	9.6	13.3	8.1	c
	2021	both sexes all ages Thembisa 4.4	13.4	13.4	14.0	12.0	17.5	12.0	15.5	9.7	13.2	8.2	c
		both sexes mid-year	13.7										e
Percentage of people living with HIV (PLHIV) who know their status (1st 90)	2020	both sexes all ages Global Report	92.0										b
		female 15+ years Global Report	94.0										b
		male 15+ years Global Report	91.0										b
Number of patients receiving ART	2019	both sexes all ages Thembisa 4.4	4 664 790	534 869	288 946	1 113 790	1 469 860	381 994	508 223	65 179	315 897	294 650	c
	2020	both sexes all ages Thembisa 4.4	4 976 670	565 489	299 766	1 175 690	1 522 030	405 754	539 588	69 361	334 696	315 474	c
	2021	both sexes all ages Thembisa 4.4	5 240 800	590 495	306 668	1 219 410	1 557 130	426 306	562 597	72 965	349 713	334 444	c
Total clients remaining on ART at the end of the month	Mar 2020	both sexes all ages DHIS	5 020 308	531 135	294 215	1 134 719	1 481 679	381 733	514 347	66 439	315 571	300 470	a
	Mar 2021	both sexes all ages DHIS	5 117 541	543 572	296 971	1 136 662	1 508 336	394 335	536 165	62 471	339 672	299 357	a
Clients remaining on ART rate	Mar 2020	both sexes all ages DHIS	66.9	62.4	69.4	58.9	72.2	77.8	73.1	77.5	59.9	67.1	a
	Mar 2021	both sexes all ages DHIS	68.9	63.4	71.9	63.1	78.2	66.3	75.6	58.4	65.7	60.1	a

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Antiretroviral coverage (2nd 90)	2019	both sexes all ages Thembisa 4.4	70.5	69.4	79.0	67.2	80.0	62.6	76.3	68.1	67.1	60.8	c
	2020	both sexes all ages Thembisa 4.4	71.9	71.4	80.2	68.1	81.3	64.8	78.3	70.5	68.7	62.3	c
	2021	both sexes all ages Thembisa 4.4	73.7	73.3	81.5	69.6	82.5	66.6	80.4	72.8	70.7	64.0	c
ART client viral load suppressed rate (VLS)	2020 Q1	both sexes all ages DHIS-Tier	87.5	85.9	89.0	87.1	89.9	85.3	85.5	83.2	84.9		a
	2021 Q1	both sexes all ages DHIS	88.0	87.8	89.1	88.3	88.5	87.3	87.7	81.5	86.1	88.6	a
HIV viral load suppression (3rd 90)	2019	both sexes all ages Thembisa 4.4	56.0	53.1	65.3	51.9	67.6	47.3	59.6	53.8	52.3	50.1	c
	2020	both sexes all ages Thembisa 4.4	59.6	57.1	68.8	55.4	71.0	51.0	64.3	57.7	56.2	52.7	c
	2021	both sexes all ages Thembisa 4.4	62.8	60.8	71.5	58.2	73.7	54.4	68.2	61.2	59.7	55.1	c
Antiretroviral effective coverage	2020	both sexes all ages Thembisa 4.4	66.4	65.5	74.1	62.6	76.7	58.6	72.2	64.4	62.9	56.7	c
	2020 Q1	both sexes 0-14 years DHIS-Tier	18.7	19.1	17.4	18.8	21.2	19.1	20.2	13.9	17.5		a
		both sexes 15+ years DHIS-Tier	41.8	37.8	39.9	41.6	49.0	53.6	52.5	17.8	37.7		a
		both sexes all ages DHIS-Tier	40.8	36.8	38.8	40.9	47.6	51.6	50.8	17.6	36.8		a
	2021	both sexes all ages Thembisa 4.4	68.3	67.6	75.7	63.8	78.2	60.6	74.6	66.6	65.0	58.2	c
	2021 Q1	both sexes all ages DHIS-Tier	59.4	58.8	53.8	65.5	61.3	62.4	59.3	28.5	61.8	32.6	a
Infant PCR test positive around 10 weeks rate	2018/19	both sexes DHIS	0.7	1.0	0.7	0.7	0.6	0.7	0.9	1.4	0.9	0.3	a
	2019/20	both sexes DHIS	0.7	0.9	0.5	0.7	0.5	0.7	0.9	1.3	0.9	0.3	a
	2020/21	both sexes DHIS	0.6	0.7	0.5	0.7	0.4	0.7	0.6	1.0	0.7	0.3	a

Reference notes

a   DHIS
b   UNAIDS Data 2021
c   Thembisa v4.4
d   Stats SA MYE 2020[16]
e   Stats SA MYE 2021[10]

Definitions

- Adult living with HIV [Number]: Estimated number of adults (15+ years) living with HIV.
- Antiretroviral coverage (2nd 90) [Percentage]: The number of patients receiving ART, divided by the number needing treatment. The denominator has changed over time, due to changes in treatment guidelines affecting the criteria for treatment eligibility. The latest definition is that all HIV-infected patients should be on ART. This indicator is also one of the 90-90-90 global targets for AIDS (UNAIDS).
- Antiretroviral effective coverage [Percentage]: Proportion of HIV-positive people on ART and virally suppressed. Any implausible values (>100) capped at 100, zero or missing values set to 1.
- ART client viral load suppressed rate (VLS) [Percentage]: ART viral load suppressed – total as a proportion of ART viral load done – total
- Child living with HIV [Number]: Estimated number of children (0 to 14 years) living with HIV.

- Clients remaining on ART rate [Percentage]: Percentage of estimated people living with HIV who remain on ART. (Routine data equivalent for 'Antiretroviral coverage')
- HIV prevalence (total population) [Percentage]: Percentage of population estimated to be HIV-positive.
- Infant PCR test positive around 10 weeks' rate [Percentage]: Infants tested PCR-positive for follow-up test as a proportion of Infants PCR tested around 10 weeks.
- Number of patients receiving ART [Number]: Number of patients receiving ART.
- Percentage of people living with HIV (PLHIV) who know their status (1st 90) [Percentage]: Percentage of people living with HIV who know their HIV status. This indicator is also one of the 90-90-90 global targets for AIDS (UNAIDS).

3.3.3 COVID-19

As of 6 January 2022, there had been 3 504 554 confirmed cases of COVID-19 in South Africa and 92 112 deaths. South Africa became one of the first African countries to receive stocks of the COVID-19 vaccine in February 2021, but vaccine hesitancy has proven to be a stumbling block in the roll-out. Only 39.5% of the adult population had been fully vaccinated by 6 January 2022. A total of 28 233 512 vaccine doses had been administered by 6 January 2022. The majority had been vaccinated with the two-dose Pfizer vaccine (21 327 631 doses) rather than the one-dose Janssen (Johnson & Johnson) vaccine (6 905 5581 doses). Healthcare workers had initially received the Janssen vaccine via the Phase 3b Sisonke study, which started administering booster doses on 8 November 2021.

The highest number of vaccinations (7.8 million) have been administered in Gauteng, where 42.2% of their adult population (4.8 million people) had been vaccinated by 6 January 2022. As shown in Figures 13 and 14, the Free State, Limpopo and Western Cape have fully vaccinated over 50% of their adult populations, but KwaZulu-Natal and Mpumalanga have lagged behind, with only 39% of adults being vaccinated.

As expected, the age cohort that was vaccinated first (60 years and older) has the highest proportion of vaccinated individuals (66%). Only 31% of those aged 18 to 34 years are vaccinated (Figure 15).

Figure 13: Total number of vaccine doses administered, by province[a]
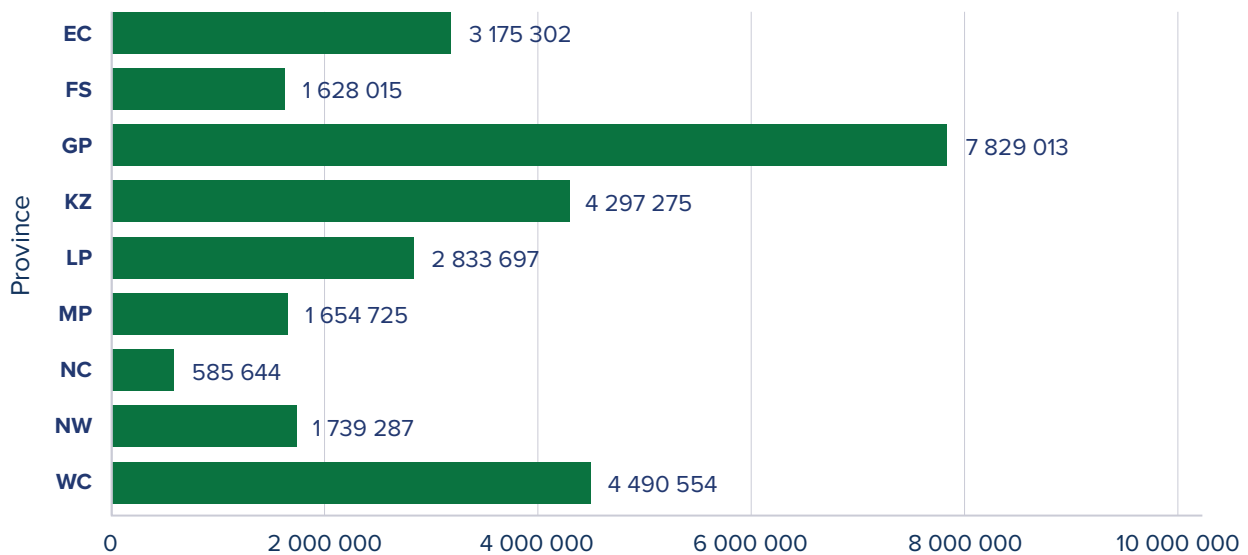
Figure 14: Individuals vaccinated as a percentage of the adult population[a]
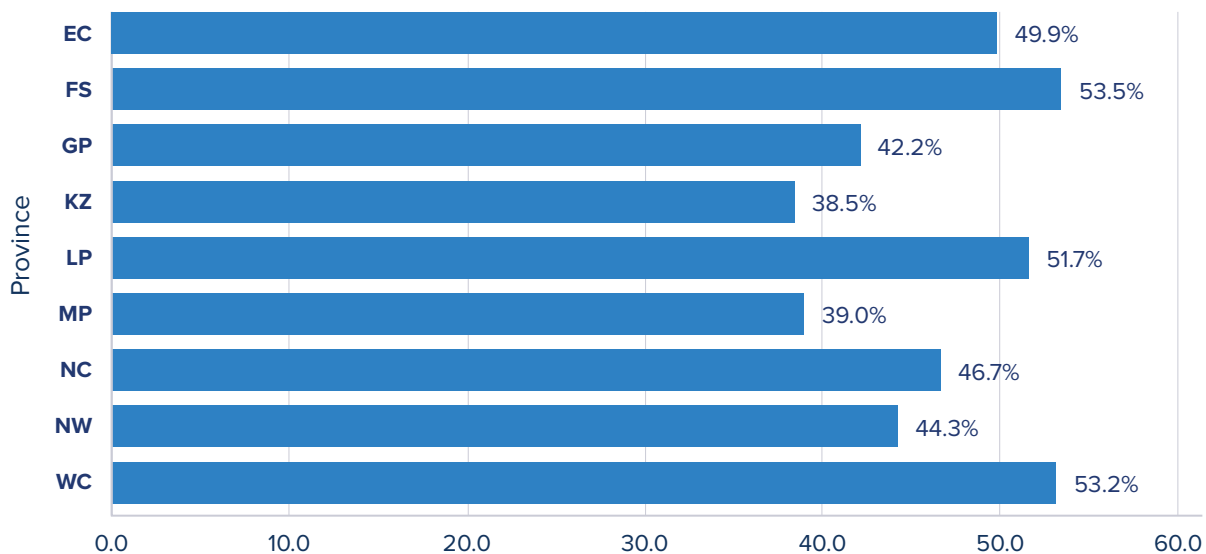
a   https://sacoronavirus.co.za/

VACCINE HESITANCY IS A STUMBLING BLOCK IN THE ROLL-OUT OF VACCINATIONS

As of 6 January 2022, only 39.5% of the adult population were fully vaccinated, with the largest number of the unvaccinated being in the 18-34-year age group.

INDIVIDUALS VACCINATED (% OF THE ADULT POPULATION) ACROSS AGE GROUPS

COVID-19 VACCINATIONS

18 – 34 YRS	35 - 49 YRS	50 – 59 YRS	60+ YRS
31.0%	**49.6%**	**62.1%**	**66.3%**
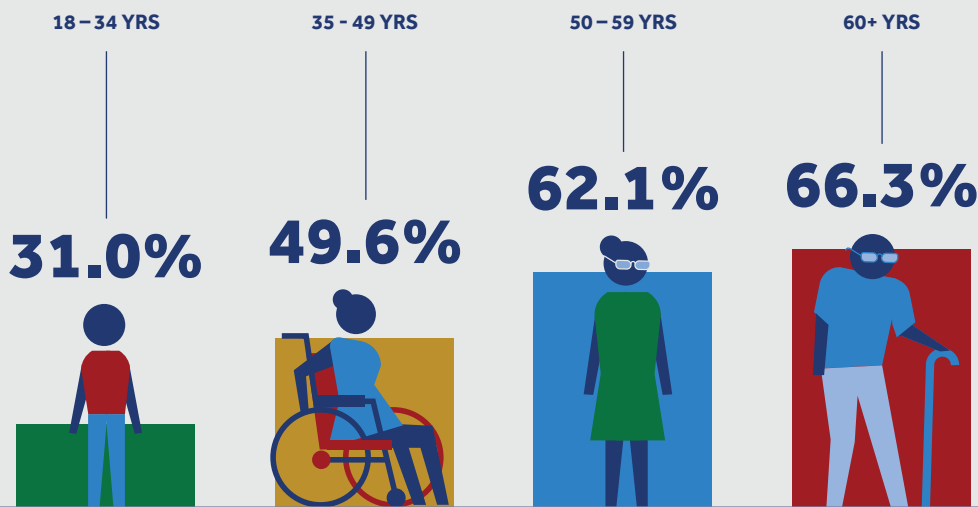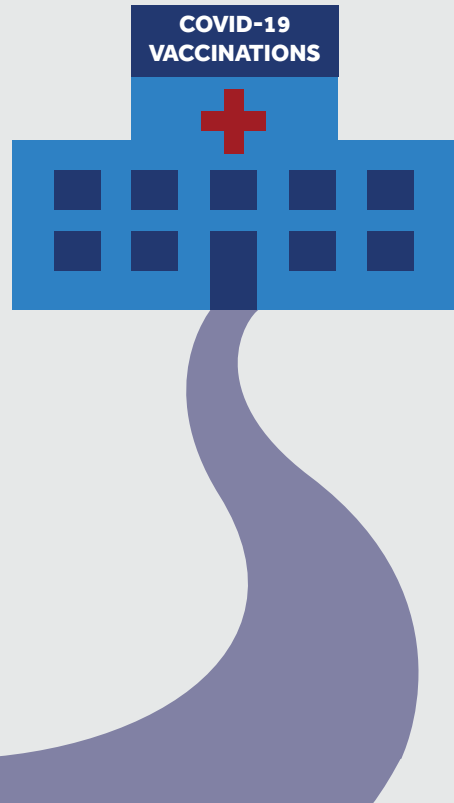
Figure 15: Individuals fully vaccinated as a percentage of the adult population, by age group[a]
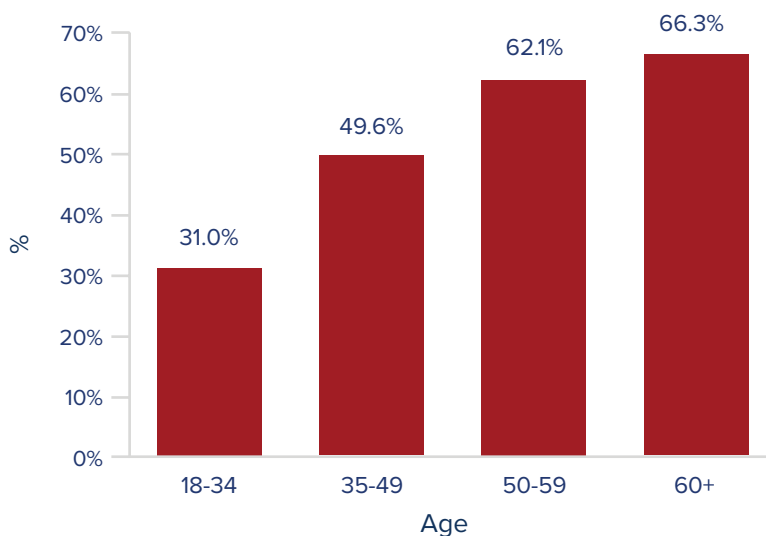
a   https://sacoronavirus.co.za/

4. Maternal and reproductive health

An initial analysis of routine data for 2020 showed a reduction in the number of antenatal visits before 20 weeks' gestation in some provinces (Free State, Gauteng, Northern Cape, Western Cape, North West and Eastern Cape), but not in others (KwaZulu-Natal, Limpopo, Mpumalanga).[7] However, in all provinces apart from Limpopo, a reduction in the number of contraceptives prescribed was demonstrated. The impact over a longer timeframe (January 2020 to March 2021) is depicted in Figures 16 and 17. The provision of contraceptive methods, as measured by the couple year protection rate, appears to have returned to expected levels.

Figure 16: Actual and forecasted antenatal 1st visit before 20 weeks rate
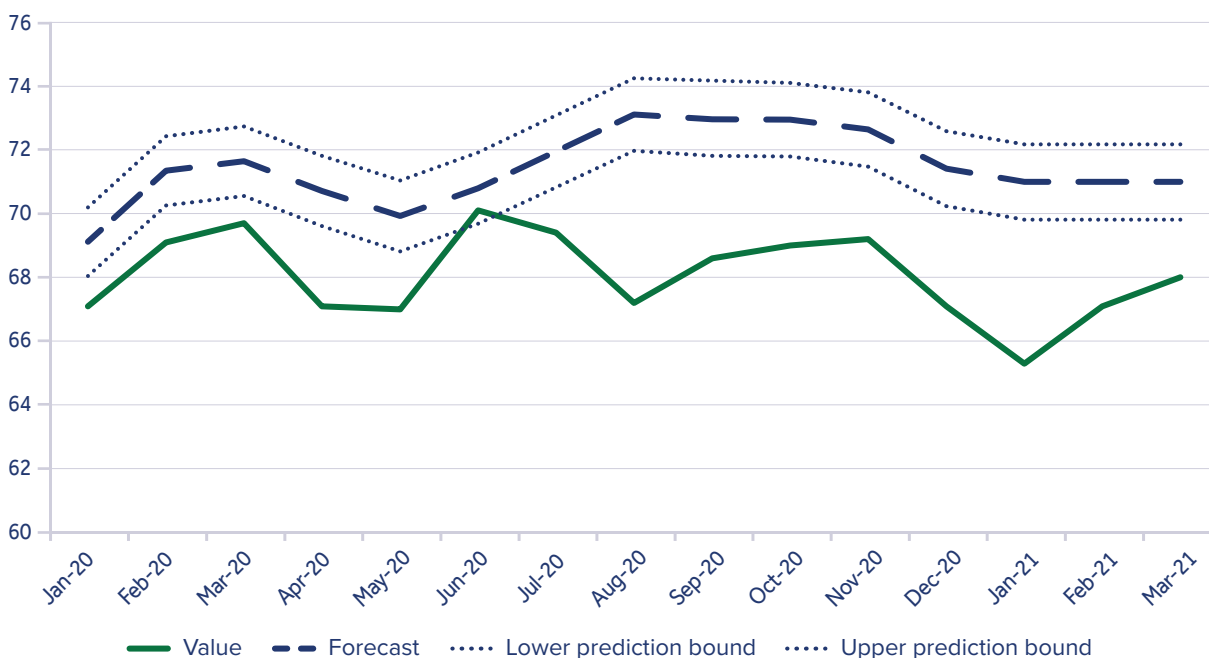
Source: DHIS

Figure 17: Actual and forecasted couple year protection rate, January 2020 – March 2021
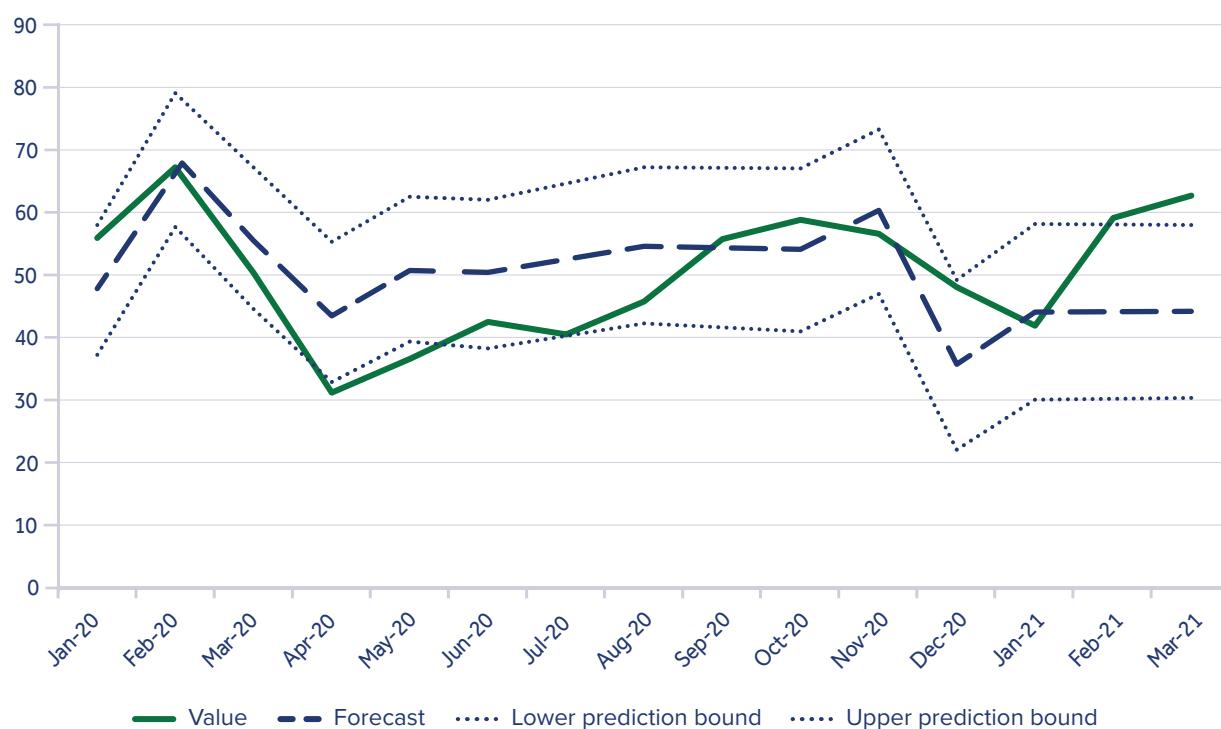
Source: DHIS

A key concern has been the impact of school closures during the pandemic, and the resulting increases in early pregnancy, child marriage and gender-based violence.[22,51] Media attention was particularly drawn to the figures released by the Gauteng Department of Health, showing a 60% increase in the number of children born to teenage mothers since the start of the COVID-9 pandemic.[52] Between April 2020 and March 2021, 23 000 girls younger than 18 gave birth in Gauteng, compared to 14 577 girls in the previous 12-month period. Nationally, the proportion of deliveries in facility in those aged 10 to 19 years increased from 12.9% in 2018/19 to 14.3% in 2020/21, as shown in Figure 18. The corresponding figures for Gauteng were 6.7% and 8.9%, far exceeded by the Northern Cape, which increased from 18.4% to 19.3% over the same time period. Of note is that the Western Cape and Limpopo reported a decrease compared to the previous year.

Figure 18: Deliveries in facility rate, in women aged 10 to 19 years, per province
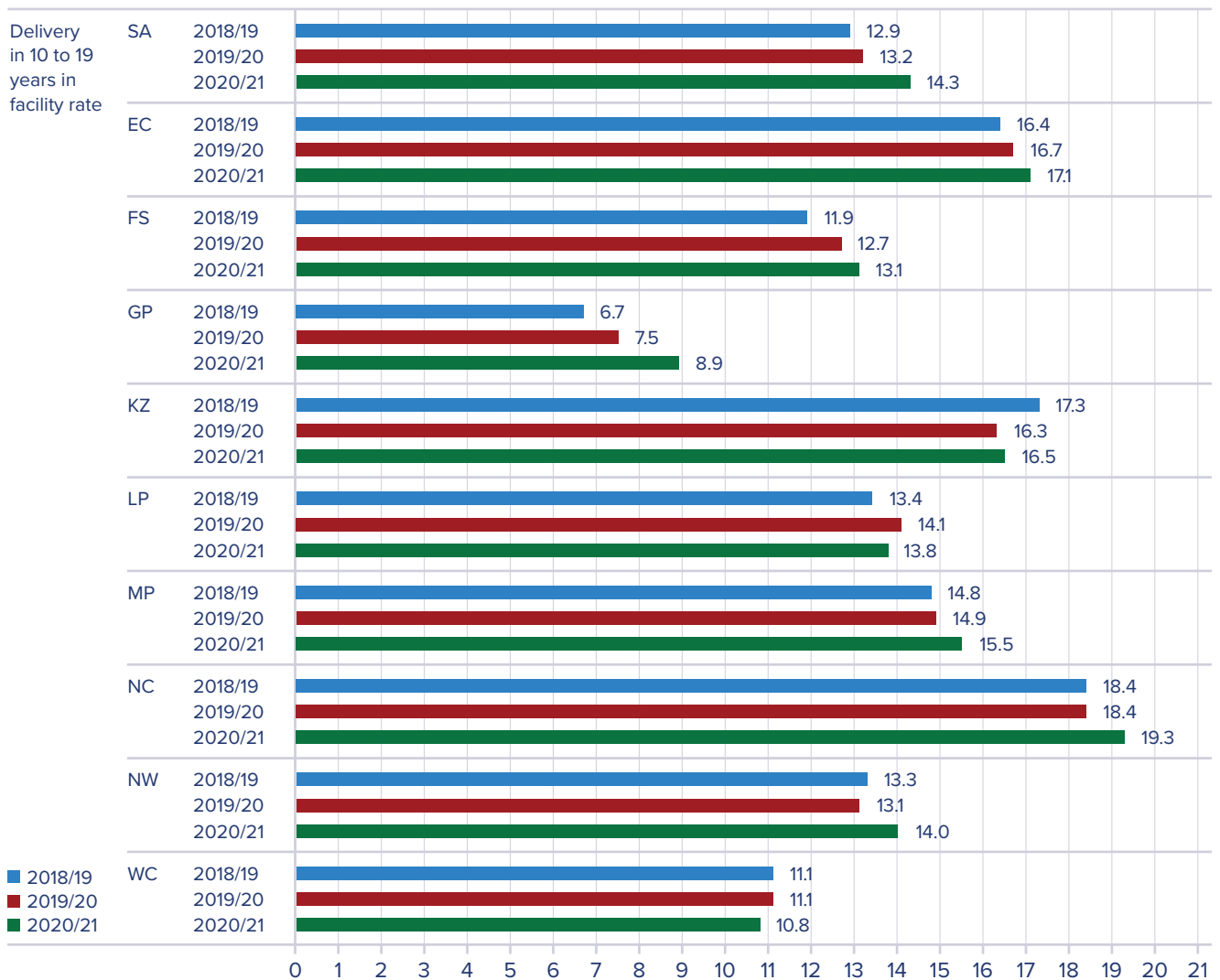
Source: DHIS

WOMEN'S AND GIRLS' ACCESS TO HEALTH SERVICES HAS DECREASED DURING THE LOCKDOWN PERIODS

ACCESS TO CONTRACEPTIVES

In all provinces apart from Limpopo, a reduction in the number of contraceptives supplied was noted.

TEENAGE PREGNANCY

Since the start of the COVID-19 pandemic there has been a 60% increase in the number of children born to teenage mothers.

GENDER-BASED VIOLENCE

School closures and the level 5 national lockdown resulted in an increase in cases of gender-based violence country-wide.
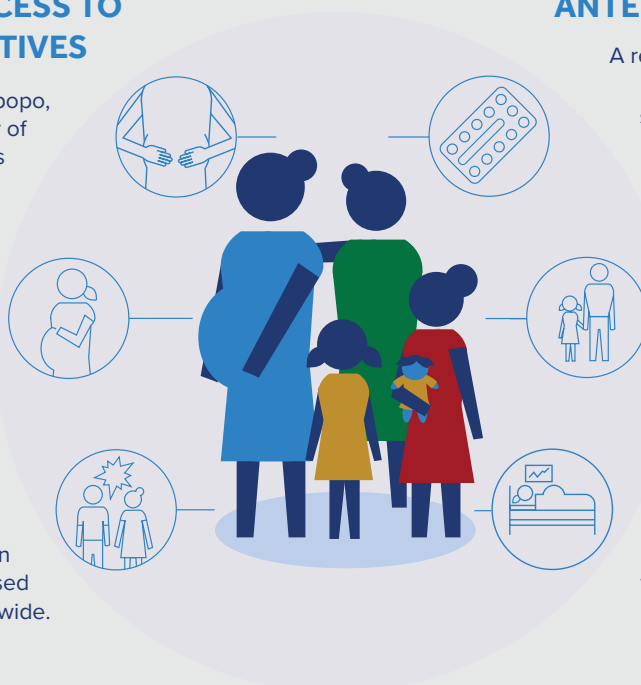
ANTENATAL VISITS

A reduction in the number of antenatal visits before 20 weeks' gestation in some provinces was demonstrated.

CHILD MARRIAGE

School closures have been cited as a cause of the spike in child marriage.

INSTITUTIONAL MATERNAL MORTALITY RATIO (iMMR)

The ratio dropped below 100 per 100 000 live births for the first time in 2019; however it has now increased from 88 in 2019/20 to 120 in 2020/21.

In 2020, a review marked seven consecutive triennial reports from the South African National Committee for the Confidential Enquires into Maternal Deaths (NCCEMD).[53] The review noted that the institutional maternal mortality ratio (iMMR) dropped below 100 per 100 000 live births for the first time in 2019. However, as shown in Table 7, that ratio increased from 88.0 in 2019/20 to 120.9 in 2020/21. An increase was seen in all provinces.

Table 11 shows the routine maternal and reproductive health indicators, nationally and per province. A marked reduction in the number of terminations of pregnancy was shown between fiscal years 2019/20 and 2020/21, from 124 446 to 103 350. Robust routine health information systems are critical for ensuring that the impacts of the pandemic on reproductive, maternal, newborn and child health (RMNCH) services are identified and addressed.[54]

Table 11: Reproductive health indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Antenatal 1st visit before 20 weeks rate	**2018/19**	female DHIS	68.1	61.7	65.2	64.7	73.2	67.2	75.6	63.1	69.0	70.3	a
	2019/20	female DHIS	69.7	62.5	66.6	66.5	74.5	69.0	77.4	65.0	70.9	71.9	a
	2020/21	female DHIS	67.9	62.5	61.3	63.3	74.6	66.8	74.9	58.6	68.0	70.6	a
Antenatal 1st visit coverage	**2018/19**	female DHIS	80.8	65.6	79.2	88.9	74.9	85.7	88.0	107.3	78.1	84.1	a
	2019/20	female DHIS	83.1	68.7	79.3	90.2	75.0	90.7	92.7	105.6	77.7	91.1	a
	2020/21	female DHIS	83.9	68.2	78.5	88.3	76.3	93.9	107.4	109.9	76.4	86.7	a
Couple year protection rate	**2018/19**	DHIS	60.7	53.2	76.5	54.1	59.2	63.4	64.4	60.6	59.3	75.9	a
	2019/20	DHIS	54.5	55.2	78.9	43.7	56.5	55.3	48.2	56.6	62.4	64.5	a
	2020/21	DHIS	49.8	41.0	74.9	44.9	51.5	46.9	39.8	50.9	48.0	50.5	a
Delivery in facility rate	**2018/19**	female DHIS	78.1	60.2	87.0	79.2	74.3	90.6	85.5	100.3	73.0	86.8	a
	2019/20	female DHIS	79.3	61.4	87.5	75.2	78.4	94.9	88.1	98.4	72.9	89.5	a
	2020/21	female DHIS	82.1	62.4	85.9	82.7	76.0	100.6	97.8	92.1	74.6	90.6	a
Male condom distribution coverage	**2018/19**	DHIS	36.8	33.3	50.2	32.7	31.5	44.4	43.8	31.4	36.3	42.7	a
	2019/20	DHIS	32.1	34.7	52.3	25.1	30.1	35.5	32.8	28.9	38.7	33.2	a
	2020/21	DHIS	26.5	22.3	50.9	26.3	26.6	27.5	23.9	23.8	27.4	21.4	a
ToPs (Terminations of Pregnancy)	**2018/19**	DHIS	116 419	12 267	8 563	20 768	28 595	12 467	5 559	1 621	8 363	18 216	a
	2019/20	DHIS	124 446	12 597	7 776	23 048	27 441	14 960	8 127	1 497	9 806	19 194	a
	2020/21	DHIS	103 350	9 696	6 888	22 832	21 754	13 660	2 494	1 454	8 367	16 205	a

Reference notes
a   DHIS

Definitions
- Antenatal 1st visit before 20 weeks rate [Percentage]: Women who have a booking visit (first visit) before they are 20 weeks (about half way) into their pregnancy as a proportion of all antenatal 1st visits.
- Antenatal 1st visit coverage [Percentage]: The proportion of pregnant women coming for at least one antenatal visit. Note: This DHIS indicator uses total estimated pregnancies as the denominator rather than the estimated public sector pregnancies, so the denominator is over-estimated. The numerator is conversely under-estimated, as many pregnant women pay cash to have their antenatal visit in the private sector, and then when it is time for delivery, they go to a public-sector hospital/facility.
- Couple year protection rate [Percentage]: Women protected against pregnancy by using modern contraceptive methods, including sterilisations, as proportion of female population aged 15 to 49 years. Couple year protection is the total of (Oral pill cycles / 15) + (Medroxyprogesterone injection / 4) + (Norethisterone enanthate injection / 6) + (IUCD x 4.5) + (Sub dermal implant x 2.5) + Male condoms distributed / 120) + (Female condoms distributed / 120) + (Male sterilisation x 10) + (Female sterilisation x 10).
- Delivery in facility rate [Percentage]: Deliveries in health facilities as a proportion of expected deliveries in the population. Expected deliveries are estimated as population under 1 year multiplied by 1.025 to compensate for stillbirths and infant mortality. Note: This indicator accounts only for deliveries in the public sector and excludes private sector deliveries, which is demonstrated by rural provinces with low medical aid populations such as Limpopo and Mpumalanga having much higher rates than Western Cape and Gauteng.
- Male condom distribution coverage [Condoms per male 15+]: Male condoms distributed from a primary distribution site to health facilities or points in the community (e.g. campaigns, non-traditional outlets, etc.).
- ToPs (terminations of pregnancy) [Number]: The number of terminations of pregnancy.

5. Child health

Globally, there has been a significant decrease in the under 5 mortality rate (U5MR) over the last two decades, with neonatal deaths being the main contributor to U5MR.[55] However, COVID-19 has led to significant disruptions in health services worldwide. These disruptions have been due to, inter alia: shifting of resources towards the COVID-19 response, lockdown mandates restricting movement and travel, physical distancing regulations as well as fear of contracting COVID-19 during visits to health facilities, all of which may alter health-seeking behaviour and affect access to essential health services.[8,56] While the full impact of COVID-19 on child health has yet to be understood, it is anticipated to be significant given the interlinked complex social determinants of child health.[57] Some early modelling estimates suggested that additional child deaths as a result of health service disruptions and wasting could reach a magnitude of over 1 million globally.[56]

The socio-economic effects of the pandemic have been significant, leading to children being particularly vulnerable to malnutrition due to food insecurity, hunger and micronutrient deficiency.[58] Published annually by the Children's Institute, the *South African Child Gauge 2020*

focused on the lifelong impact of poor nutrition on child health in the context of the pandemic.[58]

Prior to the COVID-19 pandemic, there were notable gaps in immunisation coverage, with South Africa having experienced repeated measles outbreaks in recent years.[8,59,60] It is expected that these gaps in coverage would have worsened during the pandemic. National coverage of immunisation under one year has shown a general upward trend over the last three years, but at 83.5%, it is still well below the Global Vaccine Action Plan (GVAP) 2020 target of 90% coverage.[61] The WHO and the United Nations Children's Fund (UNICEF) estimates of immunisation coverage for South Africa show that since 2014, coverage of individual doses has either plateaued or dropped.[62]

Monthly DHIS figures indicate that coverage dipped below predicted levels during the first COVID-19 wave, but recovered and stayed relatively stable over the rest of the year (Figure 19). Coverage of individual vaccines, however, was variable, with many provinces reporting a concerning decrease in coverage of BCG, measles 2nd, DTaP-IPV-Hib-HBV 3rd and PCV 3rd doses. This may point to the need for catch-up immunisation campaigns to be conducted in the coming months.

Figure 19: Actual and forecasted immunisation under 1 year coverage, January 2020 to March 2021
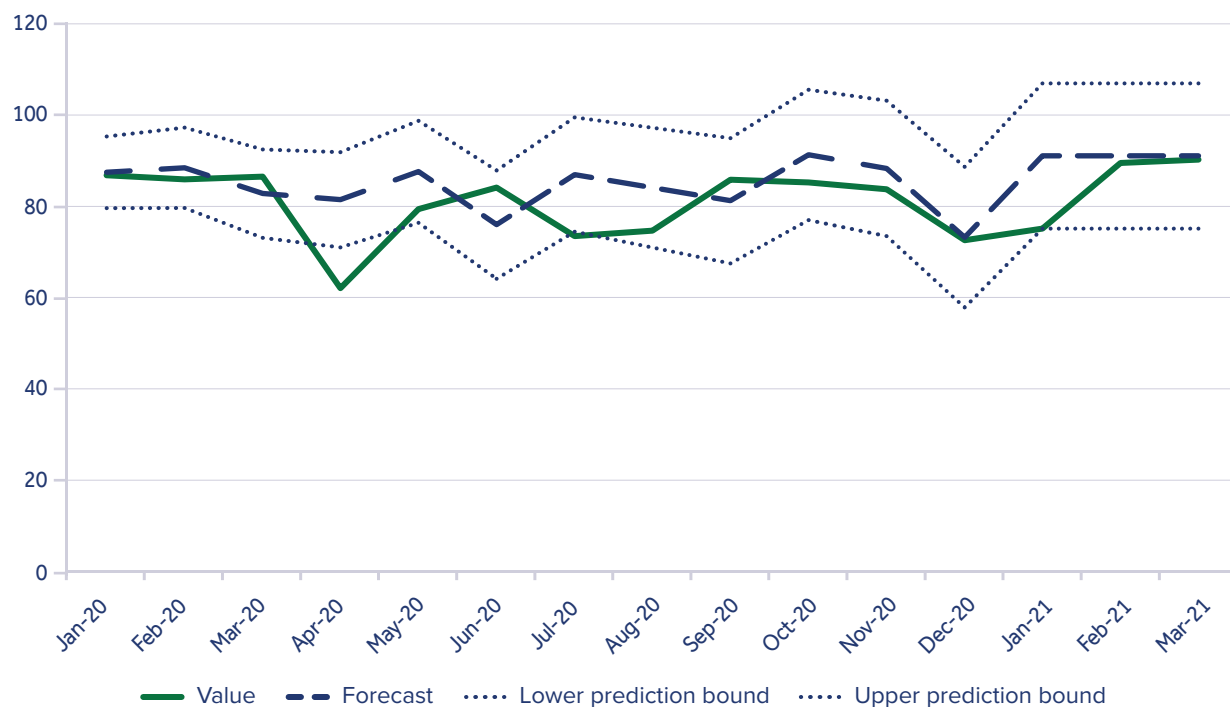

Source: DHIS

Unsurprisingly, there was a significant sharp decline in incidence of pneumonia in children under 5 years coinciding with the first hard lockdown in March 2020, continuing until the second COVID-19 wave in December 2020 when it rose

above predicted values (Figure 20). Despite this decrease in the incidence of pneumonia, overall pneumonia case fatality rates (CFRs) increased over the same period in all but two provinces.

THE IMPACT OF COVID-19 ON CHILD HEALTH IS ANTICIPATED TO BE SIGNIFICANT

During the pandemic, case fatality rates for children under 5 years showed concerning increases for:

Acute malnutrition
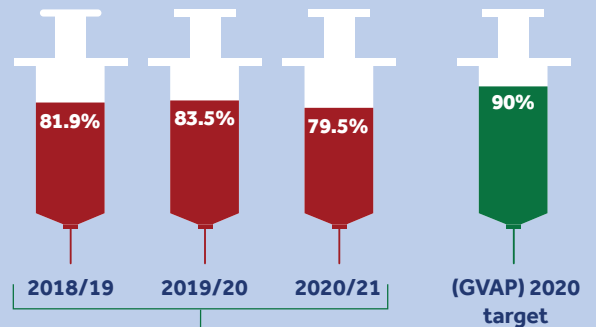
Diarrhoea

Pneumonia
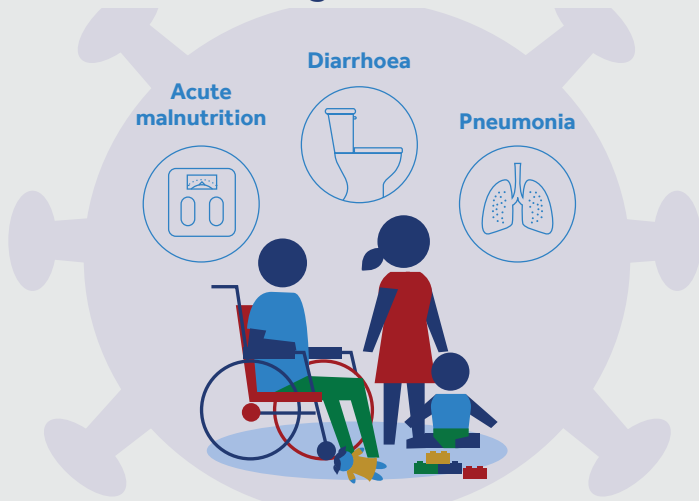
This may be attributed to:

- late presentation to health facilities
- resource diversion
- undiagnosed COVID-19 in children
- less care-seeking, resulting in a greater proportion of serious cases presenting

Even before COVID-19 there were notable gaps in immunisation coverage, which worsened during the pandemic.

SOUTH AFRICA IMMUNISATION UNDER 1 YEAR COVERAGE

81.9%	83.5%	79.5%	90%
2018/19	2019/20	2020/21	(GVAP) 2020 target

SA's coverage has remained well below the Global Vaccine Action Plan 2020 target of 90%.

Figure 20: Actual vs forecasted pneumonia in children under 5 years

Value — Forecast ..... Lower prediction bound ..... Upper prediction bound
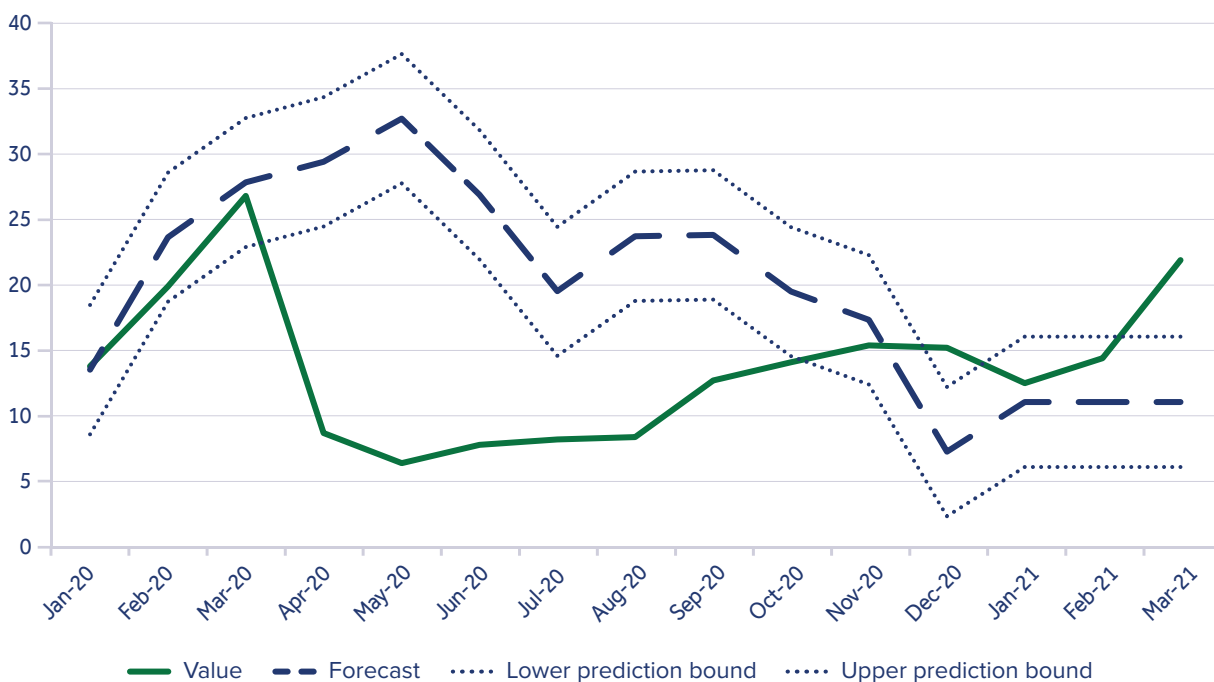
Source: DHIS

Figure 21 shows the reported national incidence of diarrhoea with dehydration in children under 5 years over 2020/21. There was a marked decline below predicted levels during the first COVID-19 wave, returning to predicted values in October 2020. However, there was an increase in diarrhoea CFRs in all but one province. National coverage of rotavirus 2nd dose remained stable at 83.2%.

## Figure 21: Actual vs forecasted incidence of diarrhoea with dehydration in children under 5 years
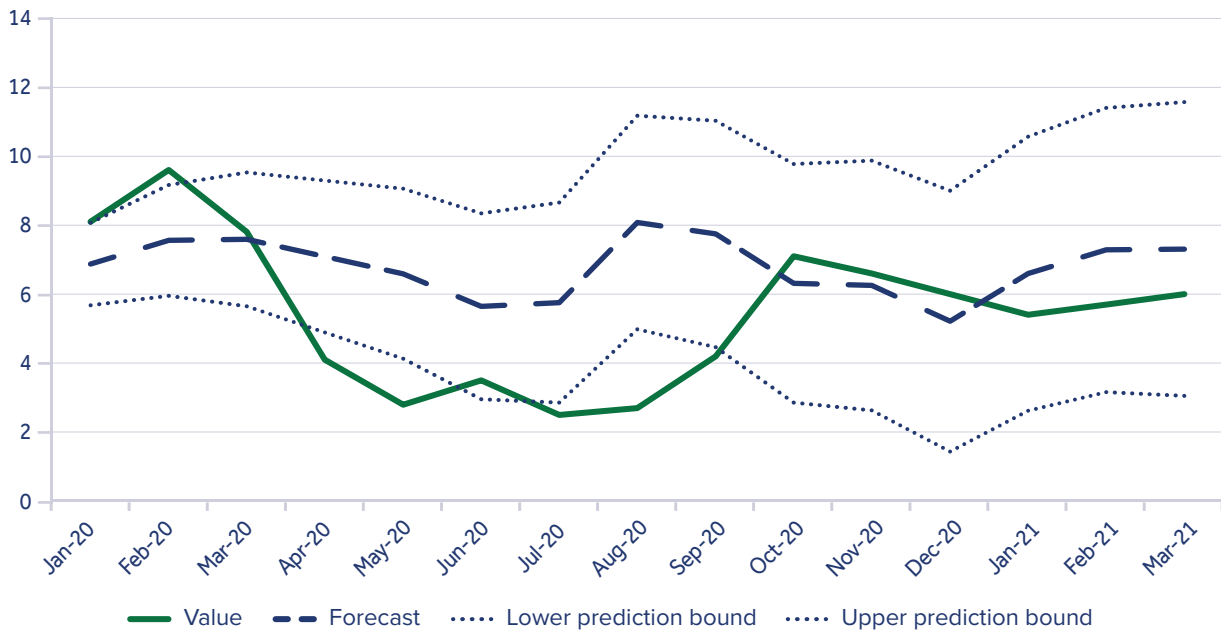
Source: DHIS

Similarly, despite an overall decline in incidence of severe acute malnutrition, six out of nine provinces showed a worrisome increase in CFRs over the same period.

Figures 22 and 23 present trends in national and provincial CFRs over several years. They show a concerning increase in case fatality rates for diarrhoea, pneumonia and severe acute malnutrition over this period. Whether this is due to late presentation to health facilities during the pandemic, service diversion to adult care for COVID-19, or undiagnosed COVID-19 in children, is unclear from these data. Further research is required to understand the reasons underpinning the observed increase in CFR.

Child immunisation coverage data are generally under-estimated, as immunisations conducted in the private sector are for the most part excluded from the numerator; however, the denominator accounts for the total child population estimate.

Figure 22: Trends in national case fatality under 5 years rate
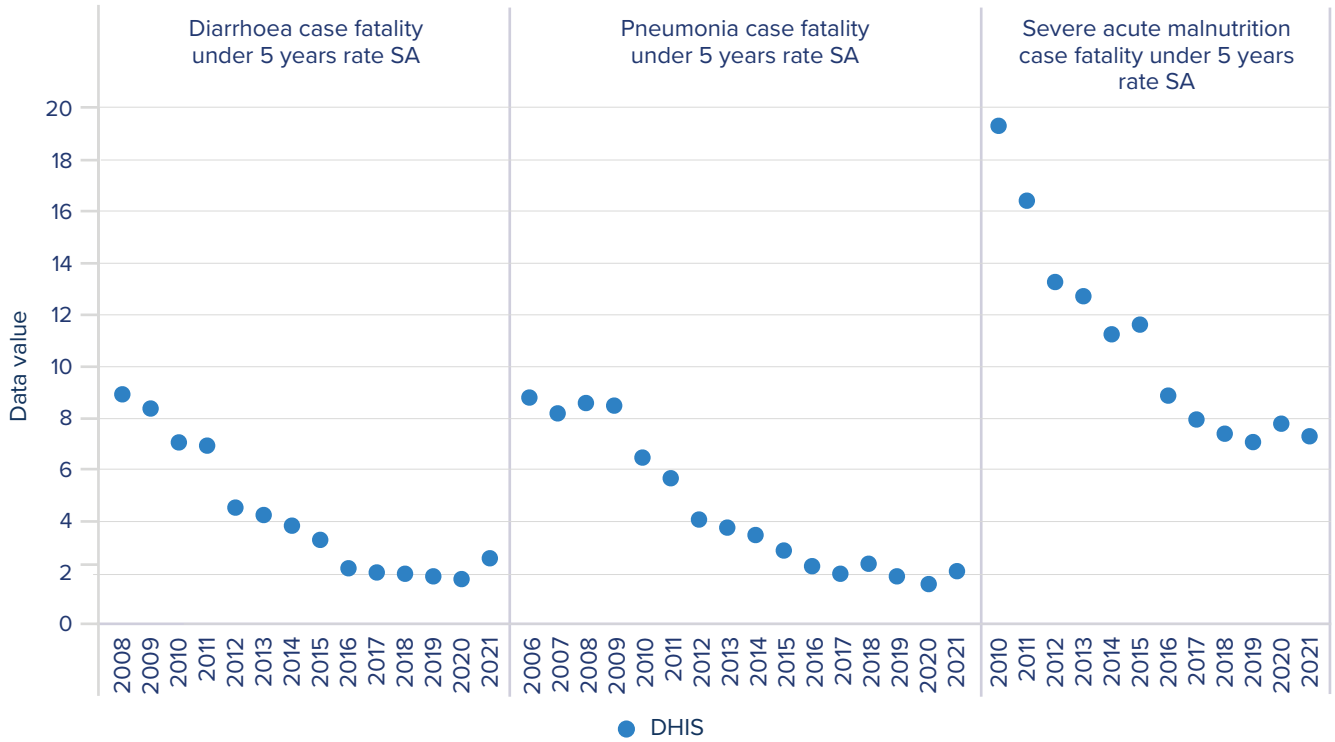
Source: DHIS

Figure 23: Trends in provincial case fatality under 5 years rate
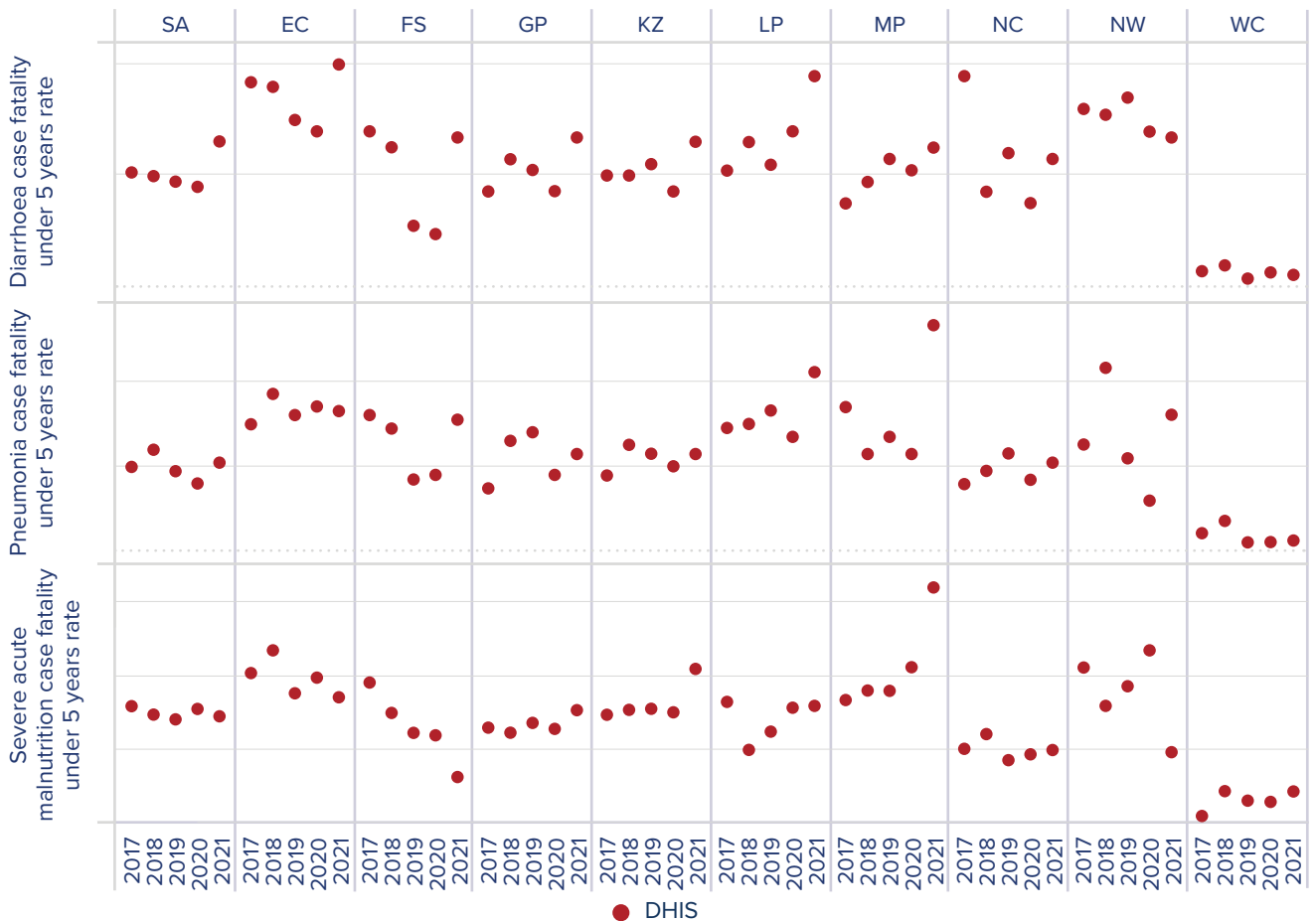
Source: DHIS

Table 12: Child health indicators, by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
BCG coverage	2020	both sexes WHO/UNICEF	86.0										a
	2020/21	both sexes DHIS	88.4	68.0	93.2	102.5	73.0	93.2	98.7	106.7	65.3	94.9	b
Child under 5 years pneumonia incidence	2018/19	both sexes DHIS	27.2	13.8	33.5	17.7	39.3	15.9	4.5	25.6	8.3	84.1	b
	2019/20	both sexes DHIS	23.6	10.3	32.2	16.8	28.9	14.2	4.0	27.7	8.4	80.8	b
	2020/21	both sexes DHIS	12.6	5.5	13.1	10.5	11.6	5.8	3.3	12.3	3.4	48.1	b
Child under 5 years severe acute malnutrition incidence	2017/18	both sexes DHIS	2.2	0.7	4.2	1.5	2.4	3.1	1.5	5.1	4.0	2.0	b
	2019/20	both sexes DHIS	1.9	0.8	5.9	1.5	1.9	1.1	0.8	8.3	4.3	1.7	b
	2020/21	both sexes DHIS	1.5	1.3	4.1	1.1	1.3	1.5	0.7	5.6	2.1	1.0	b
Diarrhoea case fatality under 5 years rate	2018/19	both sexes DHIS	1.9	3.0	1.1	2.1	2.2	2.2	2.3	2.4	3.4	0.1	b
	2019/20	both sexes DHIS	1.8	2.8	0.9	1.7	1.7	2.8	2.1	1.5	2.8	0.2	b
	2020/21	both sexes DHIS	2.6	4.0	2.7	2.7	2.6	3.8	2.5	2.3	2.7	0.2	b
DTaP-IPV-Hib-HBV 3rd dose coverage	2018/19	both sexes DHIS	83.0	67.1	78.6	84.2	77.9	97.5	90.4	96.9	77.9	92.9	b
	2019/20	both sexes DHIS	84.5	69.8	83.0	90.3	82.3	93.3	90.9	100.5	62.3	96.1	b
	2020/21	both sexes DHIS	82.7	67.2	79.8	90.2	78.6	79.0	95.7	93.7	72.9	98.3	b
DTP3 coverage	2018	both sexes WHO/UNICEF	74.0										c
	2019	both sexes WHO/UNICEF	77.0										d
	2020	both sexes WHO/UNICEF	84.0										a
Immunisation under 1 year coverage	2018/19	both sexes DHIS	81.9	71.9	74.8	84.4	90.8	71.0	96.8	87.5	68.4	82.7	b
	2019/20	both sexes DHIS	83.5	76.0	77.4	86.9	91.4	73.6	96.6	89.0	63.0	84.9	b
	2020/21	both sexes DHIS	79.5	69.5	75.9	85.0	86.4	60.6	91.5	79.9	71.2	85.0	b
Measles 2nd dose coverage	2018/19	both sexes DHIS	76.5	65.1	72.1	78.9	77.9	80.5	85.9	86.3	69.0	77.6	b
	2019/20	both sexes DHIS	79.6	73.7	73.3	79.8	82.6	79.0	93.9	89.8	66.9	80.0	b
	2020	both sexes WHO/UNICEF	76.0										a
	2020/21	both sexes DHIS	76.4	66.7	73.3	77.8	80.6	76.3	84.2	83.5	65.0	80.6	b
PCV 3rd dose coverage	2018/19	both sexes DHIS	84.6	73.4	76.6	85.1	90.1	84.6	99.1	95.0	71.6	87.2	b
	2019/20	both sexes DHIS	86.5	77.1	78.7	87.5	91.6	90.6	97.7	95.0	65.4	89.4	b
	2020	both sexes WHO/UNICEF	83.0										a
	2020/21	both sexes DHIS	82.3	70.4	77.6	86.9	86.8	73.5	91.9	86.3	75.6	91.7	b
Pneumonia case fatality under 5 years rate	2018/19	both sexes <5 years DHIS	1.9	3.2	1.7	2.8	2.3	3.3	2.7	2.3	2.2	0.2	b
	2019/20	both sexes <5 years DHIS	1.6	3.4	1.8	1.8	2.0	2.7	2.3	1.7	1.2	0.2	b
	2020/21	both sexes <5 years DHIS	2.1	3.3	3.1	2.3	2.3	4.2	5.3	2.1	3.2	0.2	b

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
RV 2nd dose coverage	**2018/19**	both sexes DHIS	81.9	66.2	76.1	86.5	78.6	88.3	91.6	95.0	75.1	92.1	b
	2019/20	both sexes DHIS	83.1	68.3	78.4	89.5	80.9	90.0	88.6	96.2	68.7	93.2	b
	2020/21	both sexes DHIS	83.2	67.4	78.7	91.4	77.5	71.2	97.7	93.1	76.4	95.3	b
Severe acute malnutrition case fatality under 5 years rate	**2018/19**	both sexes DHIS	7.1	8.9	6.2	6.8	7.8	6.3	9.1	4.3	9.3	1.6	b
	2019/20	both sexes DHIS	7.8	9.9	6.0	6.4	7.6	7.9	10.6	4.7	11.8	1.5	b
	2020/21	both sexes DHIS	7.3	8.6	3.2	7.7	10.5	8.0	16.0	5.0	4.9	2.2	b

Reference notes

a   Immunisation 2021[62]
b   DHIS
c   Immunisation 2019[63]
d   Immunisation 2020[64]

Definitions

- BCG coverage [Percentage]: The proportion of expected live born babies who received BCG under 1 year of age (note: usually given immediately after birth.)
- Child under 5 years pneumonia incidence [Cases per 1 000 children]: Children under 5 years newly diagnosed with pneumonia per 1 000 children under 5 years in the population.
- Child under 5 years severe acute malnutrition incidence [Cases per 1 000 children]: Children under 5 years newly diagnosed with severe acute malnutrition per 1 000 children under 5 years in the population.
- Diarrhoea case fatality under 5 years rate [Percentage]: Diarrhoea deaths in children under 5 years as a proportion of diarrhoea separations under 5 years in health facilities.
- DTaP-IPV-Hib-HBV 3rd dose coverage [Percentage]: Children under 1 year who received DTaP-IPV-Hib-HBV 3rd dose, normally at 14 weeks as a proportion of population under 1 year. Both Pentaxim and Hexavalent will form part of the numerator to ensure accurate coverage of historical data.
- DTP3 coverage [Percentage]: The proportion of children who received their third DTP doses (normally at 14 weeks).
- Immunisation under 1 year coverage (index) [Scale 0–100]: The proportion of all children in the target area under one year who complete their primary course of immunisation. Any implausible values (>100) capped at 100, missing values set to 1.

- Measles 2nd dose coverage [Percentage]: Children 1 year (12 months) who received measles 2nd dose, as a proportion of the 1 year population.
- PCV 3rd dose coverage [Percentage]: Children under 1 year who received PCV 3rd dose, normally at 9 months as a proportion of population under 1 year.
- Pneumonia case fatality under 5 years rate [Percentage]: Pneumonia deaths in children under 5 years as a proportion of pneumonia separations under 5 years in health facilities
- Pneumonia case survival under 5 years rate [Scale 0–100]: The smoothed estimates of the pneumonia CFR were generated from the DHIS indicator using a generalised additive model with thin-plate splines, after removing outlier values. The smoothed CFR was then rescaled according to the maximum observed value according to the formula: index = (max CFR - CFR) / (max CFR – min CFR)*100. This rescaled value thus represents a survival rate (the inverse of the case fatality rate).
- RV 2nd dose coverage [Percentage]: Children under 1 year who received RV 2nd dose as a proportion of children under 1 year
- Severe acute malnutrition case fatality under 5 years rate [Percentage]: Severe acute malnutrition deaths in children under 5 years as a proportion of severe acute malnutrition (SAM) under 5 years in health facilities

6. Non-communicable diseases

By contrast with infectious diseases, tracking the impact of the COVID-19 pandemic on the incidence of and treatment coverage for non-communicable diseases (NCDs) is far more challenging.

Globally, the number of adults (aged 30 to 79 years) with hypertension was estimated to have doubled between 1990 and 2019.[65] Little improvement in effective treatment coverage was seen in sub-Saharan African countries. Among South African adults living with HIV, the prevalence of hypertension increased between 2005 and 2017, but the prevalence of diabetes remained constant.[66] However, although noting the paucity of data on type 2 diabetes mellitus prevalence in particular, a systematic review of the available evidence pointed to a high burden of glucose intolerance in South Africa.[67] In 2020, the SAMRC identified the key research priorities to inform health promotion to reduce the burden of non-communicable disease in South Africa.[68]

There is clear evidence that those with underlying NCDs are at an increased risk of severe disease or death due to COVID-19.[69-71] While this increased risk has been widely acknowledged, the COVID-19 pandemic has resulted in significant disruption of health services for NCDs. A rapid assessment conducted by the WHO in 2020 found that 75% of countries reported disruptions NCD services, but that efforts had been made to mitigate these disruptions through alternative strategies.[72]

The impact of the COVID-19 pandemic on mental health has been highlighted in many studies and commentaries, but is also evident in the data submitted for the *WHO Mental Health Atlas 2020*.[73] Fewer countries submitted data than in 2017, and data submissions were incomplete. Only 31% of Member States compile mental health-specific data, at least in the public sector. In South Africa, the NIDS-CRAM study showed an increase in depressive symptoms over time, even after lockdown restrictions were eased.[74] It was thought that this was related to socio-economic status, rather than the risk of contracting COVID-19.

Table 13: Chronic disease and risk factor indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Diabetes prevalence	**2018**	both sexes 15+ years NiDS modelled	9.7	10.5	10.3	6.9	12.1	9.6	6.9	10.3	6.6	14.4	a
	2019	both sexes 15+ years NiDS modelled	10.0	10.3	11.0	6.8	12.6	11.5	7.4	10.7	6.7	14.6	a
	2020	both sexes 15+ years NiDS modelled	10.4	10.1	11.7	6.6	13.2	13.7	8.0	11.2	7.0	15.0	a
Diabetes treatment coverage	**2018**	both sexes 15+ years NiDS modelled	38.4	32.4	36.9	45.7	32.1	36.8	48.4	35.8	40.7	33.1	a
	2019	both sexes 15+ years NiDS modelled	37.9	31.7	36.5	45.6	31.9	36.4	48.4	35.1	39.8	31.6	a
	2020	both sexes 15+ years NiDS modelled	37.5	31.1	36.0	45.4	31.6	36.0	48.5	34.4	38.8	30.1	a
Hypertension prevalence	**2017**	both sexes 15+ years NiDS	28.2	28.0	33.2	27.0	27.8	22.6	22.4	37.0	31.2	35.5	b
		female 15+ years NiDS	29.0	28.8	36.7	27.6	29.5	23.9	21.3	35.4	30.2	35.9	b
		male 15+ years NiDS	27.4	27.1	29.0	26.4	25.6	20.8	23.6	38.7	32.3	35.1	b
	2019	female 30-79 years NCD-RisC	44.3										c
		male 30-79 years NCD-RisC	43.8										c
Hypertension prevalence (per 1 000)	**2019**	both sexes med schemes all beneficiaries	101.3										d
		female med schemes all beneficiaries	105.6										d
		male med schemes all beneficiaries	96.3										d
	2020	both sexes med schemes all beneficiaries	104.8										d
		female med schemes all beneficiaries	109.8										d
		male med schemes all beneficiaries	99.2										d

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Suicide mortality rate (per 100 000 population)	**2019**	both sexes WHO	3.8										e

Reference notes:

a   DHB 2019/20[75]
b   NIDS Wave 5 v1.0[76]
c   NCD-RisC[65]
d   Medical Schemes 2020–2021[12]
e   World Health Statistics 2021[6]

Definitions

- Diabetes prevalence [Percentage]: Percentage of people with diabetes. Defined in SANHANES as those with HbA1c > 6.5%
- Diabetes treatment coverage [Percentage]: Percentage of people with diabetes receiving treatment.
- Hypertension prevalence (per 1 000) [per 1 000 population]: Number of people with hypertension per 1 000 people in the target population. Data for the private sector are based on the number of people being TREATED for this condition.

- Hypertension prevalence [Percentage]: Percentage of people with hypertension, where hypertension is usually defined as individuals with systolic blood pressure >=140 m Hg and/or diastolic blood pressure >=90 mmHg and/or who reported the current use of antihypertensive medication.
- Suicide mortality rate (per 100 000 population) [per 100 000 population]: Suicide rate per 100 000 population in a specified period (age-standardised).

7. Injuries and risk behaviours

The imposition of tobacco and alcohol sales bans during the COVID-19 pandemic has been highly contested. Based on self-reported consumption, the total cigarette market in South Africa shrank during the tobacco sales ban imposed from 25 March to 17 August 2020, but quickly rebounded.[77] The average daily number of cigarettes smoked decreased from 7.9 cigarettes in 2017 to 6.5 cigarettes during the sales ban, and rose to 8.8 cigarettes after the ban was lifted. The price of cigarettes during the ban was as much as 200% higher than the price in 2017, but the government has lost an estimated R5.8 billion in excise taxes during this period. As shown in Table 14, the available data on alcohol consumption is dated, and provides no insight into the impact of the various sales restrictions. Nonetheless, measurable[78,79] impacts on trauma caseload were demonstrated during alcohol sales restrictions.[80,81]

The most recent report from the South African Community Epidemiology Network on Drug

Use (SACENDU) covered the period from July 1996 to June 2020, thereby including the early COVID-19 pandemic in South Africa.[82] A significant decrease in the number of persons seeking treatment for alcohol use disorder across all regions was seen during the lockdown period. Treatment admissions for heroin use disorder increased in three regions, with an increasing use of injecting also noted.

Restrictions on travel were also expected to reduce road traffic accidents during various phases of lockdown. The Road Traffic Management Corporation's *State of Road Safety in South Africa* report covered the period from January to December 2020.[83] A correlation between the intensity of lockdown restrictions (including restrictions on the sale of alcoholic beverages and curfews) and the reduction in road traffic accidents, and associated fatality, was evident.[79] However, as restrictions eased (to alert Level 1), the increase in road-user activity (both vehicular and pedestrian) was accompanied by an increase in accidents and fatalities.

Table 14: Injury and risk behaviour indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Prevalence of smoking	**2017**	both sexes 15+ years NiDS	19.30	16.60	19.70	21.40	12.80	12.10	18.00	33.20	19.80	30.60	a
Road accident fatalities	**2018**	both sexes all ages RTMC	12,921	1,675	945	2,539	2,473	1,581	1,313	352	979	1,064	b
	2019	both sexes all ages RTMC	12,503	1,603	860	2,453	2,331	1,496	1,343	384	855	1,178	b
	2020	both sexes all ages RTMC	9,969	1,336	647	1,855	2,031	1,161	1,046	265	720	908	c
Road accident fatalities per 100 000 population	**2018**	both sexes all ages RTMC	22.3	24.9	32.6	17.2	22.0	27.4	29.0	27.9	24.6	15.8	b
	2019	both sexes all ages RTMC	21.7	23.8	29.5	16.2	20.5	25.7	29.1	30.1	21.2	17.1	b
	2020	both sexes all ages RTMC	16.7										c

PRIMARY HEALTH CARE (PHC) UTILISATION DROPPED SIGNIFICANTLY DURING THE COVID-19 PANDEMIC
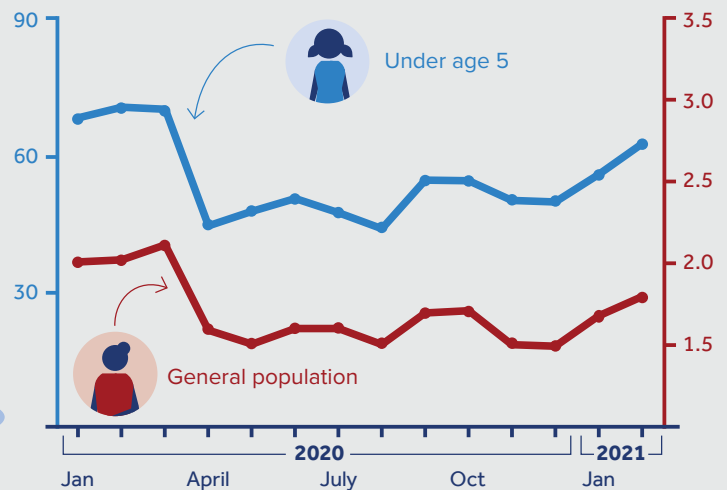
Overall, the pandemic period saw a decrease in access to health services, willingness to seek medical attention and patient day equivalents countrywide.

Among the population dependent on the public sector,

23% **reported not seeking acute care when needed.**

PHC UTILISATION RATE , JAN 2020 - MAR 2021

Under age 5

General population

| | 2020 | | 2021 |
| Jan | April | July | Oct | Jan |

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Total alcohol per capita (age 15+ years) consumption (litres per year)	**2017**	both sexes 15+ years SAWIS	7.3										d

Reference notes
a   NIDS Wave 5 v1.0[76]
b   Road Traffic report 2019[84]
c   Road Traffic report 2020[83]
d   SDG SA report 2019[85]

Definitions
*   Prevalence of smoking [Percentage]: Proportion of population who currently smoke. This indicator is also known as 'Current smokers (%)'.
*   Total alcohol per capita (age 15+ years) consumption (litres per year) [litres per person]: Total alcohol per capita is the total amount (sum of recorded alcohol per capita three-year average and unrecorded alcohol per capita) of alcohol consumed per adult

(15+ years) in a calendar year, in litres of pure alcohol. Recorded alcohol consumption refers to official statistics (production, import, export, and sales or taxation data), while unrecorded alcohol consumption refers to alcohol which is not taxed and is outside the usual system of government control. In circumstances in which the number of tourists per year is at least the number of inhabitants, tourist consumption is also taken into account and is deducted from a country's recorded alcohol per capita.
*   Road traffic fatalities [No]: Number of people killed during or immediately after a crash, or death within 30 days after a crash happened as a direct result of such crash.
*   Road accident fatalities per 100 000 population [per 100 000 population]: Number of fatalities due to road accidents per 100 000 population.

# 8. Health service indicators

8.1 Health facilities
Early in the COVID-19 pandemic, an assessment of its impact on access to public-sector health care in South

Africa was performed, combining data from the NIDS-CRAM survey, the MatCH (Maternal and Child Health) SMS survey, and routine data.[86] Importantly, a reduction in primary health care utilisation was detected. Among the population dependent on the public sector, 23% reported not seeking acute care when needed and an inability to

access medication, contraceptives or condoms. Extending the same analysis of DHIS data to March 2021 shows a sustained reduction in public-sector patient day equivalents, compared to the expected values (Figure 24).

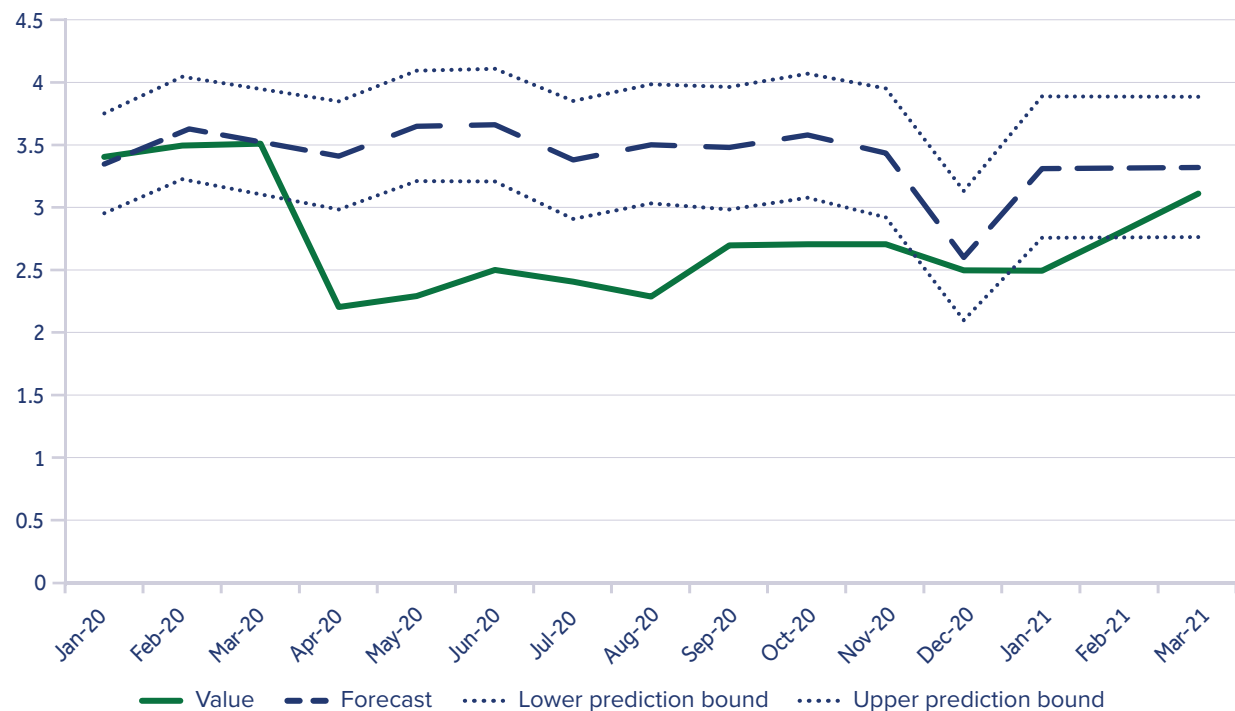## Figure 24: Actual vs forecasted patient day equivalent, January 2020 to March 2021
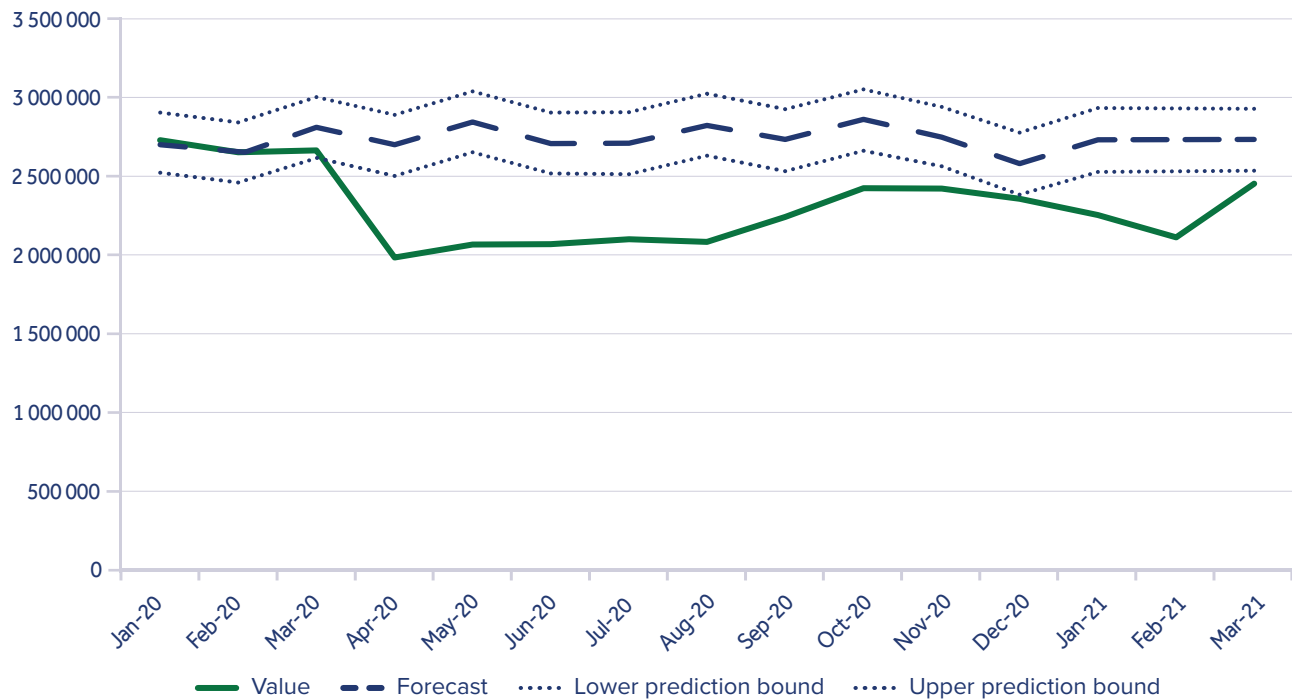
Source: DHIS

A similar impact is seen on the PHC utilisation rate under 5 years, PHC utilisation rate overall, and the in-patient utilisation rate, all in the public sector (Figures 25, 26 and 27).

## Figure 25: Actual vs forecasted PHC utilisation rate under 5 years, January 2020 to March 2021

Source: DHIS

Figure 26: Actual vs forecasted PHC utilisation rate, January 2020 to March 2021

Value — Forecast ····· Lower prediction bound ····· Upper prediction bound
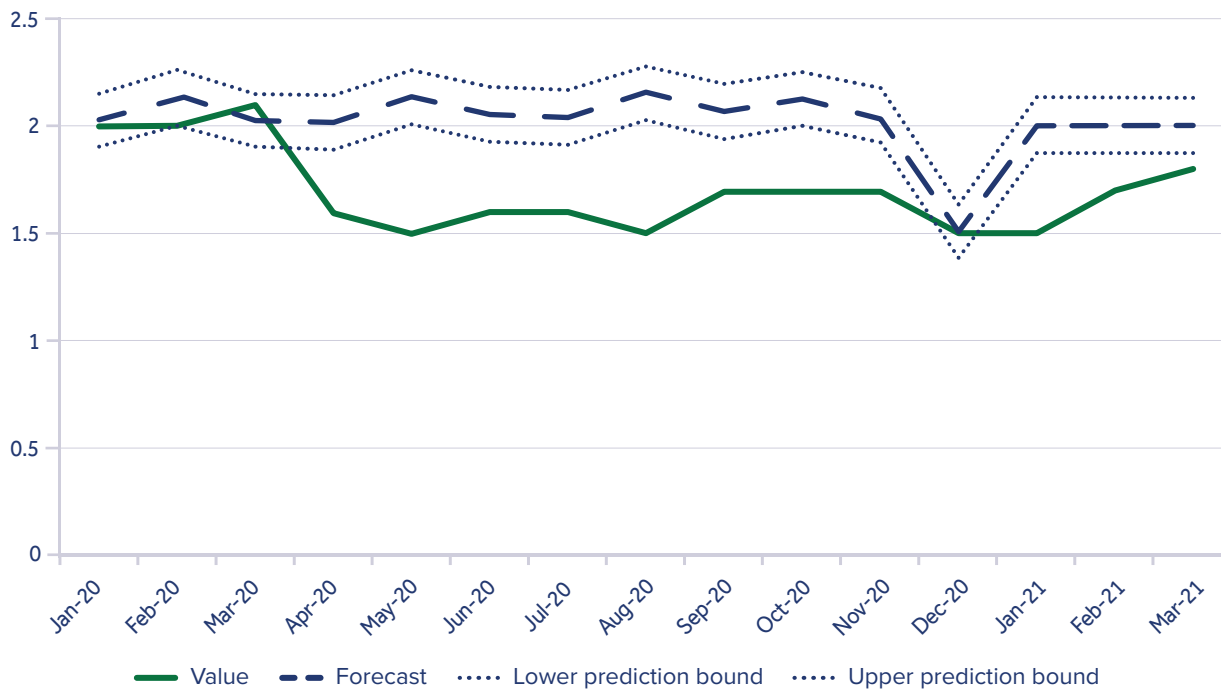
Source: DHIS

Figure 27: Actual vs forecasted inpatient bed utilisation rate, January 2020 to March 2021

Value — Forecast ····· Lower prediction bound ····· Upper prediction bound
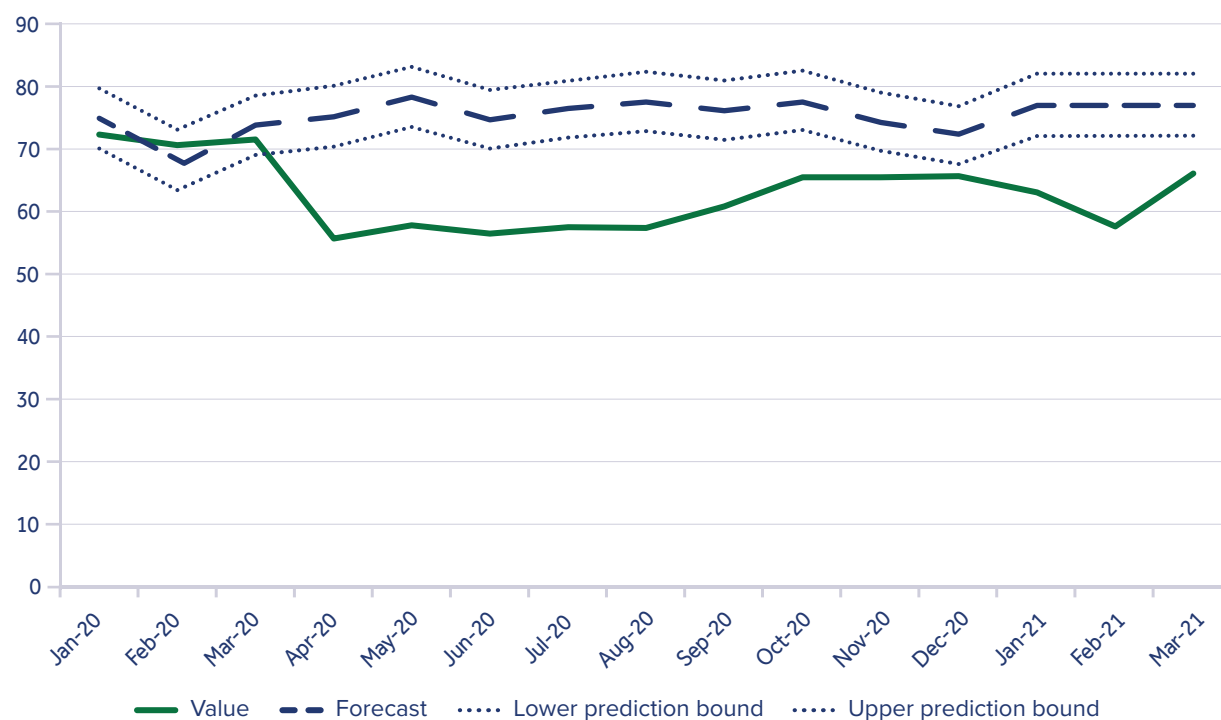
Source: DHIS

A selection of the standard health service indicators is shown in Table 15. However, far more detailed data on case mix, service provision and outcomes will be needed to support reimbursement and resource management decisions under National Health Insurance.[87] In particular, the quality of inpatient health records and discharge summaries in public-sector hospitals will have to be radically improved, with consistently coded clinical data.

Table 15: Health services indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Average length of stay - total	2018/19	DHIS	6.0	6.8	5.6	6.0	6.8	5.4	4.9	5.0	6.9	5.5	a
	2019/20	DHIS	6.1	6.8	5.6	6.7	6.6	5.3	4.5	5.1	6.8	5.3	a
	2020/21	DHIS	5.9	6.3	5.7	6.9	6.3	5.1	4.2	5.2	6.0	5.6	a
Birth registration coverage	2019	both sexes Live births of current registration	90.8										b
		both sexes Live births of total registration	80.0										b
Death registration coverage	2016	both sexes 15+ years vital registration	96.0										c
	2017	both sexes 15+ years vital registration	94.0										d
	2018	both sexes 15+ years vital registration	96.0										e
Inpatient bed utilisation rate - total	2018/19	DHIS	72.5	64.8	73.9	80.7	65.4	74.9	64.5	60.4	72.1	86.6	a
	2019/20	DHIS	72.4	64.0	72.4	82.0	65.0	74.2	63.6	61.7	73.8	86.9	a
	2020/21	DHIS	60.7	50.8	57.1	70.7	51.9	63.1	57.4	62.0	63.6	73.7	a
Inpatient crude death rate	2018/19	both sexes DHIS	4.6	5.8	4.3	4.5	4.7	4.8	5.0	5.2	5.9	2.9	a
	2019/20	both sexes DHIS	4.6	5.8	4.1	5.0	4.6	4.8	4.6	5.2	5.5	2.9	a
	2020/21	both sexes DHIS	5.7	7.7	5.4	6.3	5.8	5.2	4.7	5.8	5.8	4.2	a
International Health Regulations (IHR) core capacity index	2018	WHO	66.0										f
	2019	WHO	70.0										g
	2020	WHO	79.0										h
Number of beds	Mar 2020	DHIS public sector	85 063	13 231	4 908	17 358	20 628	7 857	4 948	1 597	4 668	9 868	a
	Mar 2021	DHIS public sector	55 913	14 322	5 652	13 130		10 067	5 798	1 728	5 216		a
Number of health facilities	Mar 2021	DHIS PHC fixed facilities	3 503	776	219	370	621	482	293	162	314	266	a
		DHIS District Hospital	251	65	25	12	39	30	23	11	13	33	a
		DHIS Regional Hospital	48	5	4	9	13	5	3	1	3	5	a
		DHIS National Central	9	1	1	4	1					2	a
		DHIS Other hospitals	62	16	1	6	16	4	5	2	2	10	a
OHH headcount under 5 years coverage	2018/19	DHIS	83.6	65.3	65.5	59.2	145.0	72.3	46.0	124.0	171.4	0.0	a
	2019/20	DHIS	86.8	67.1	53.8	60.6	160.3	84.1	54.6	126.0	138.7	0.0	a
	2020/21	DHIS	69.7	35.2	39.8	52.3	118.3	100.2	27.5	82.2	51.4	120.7	a

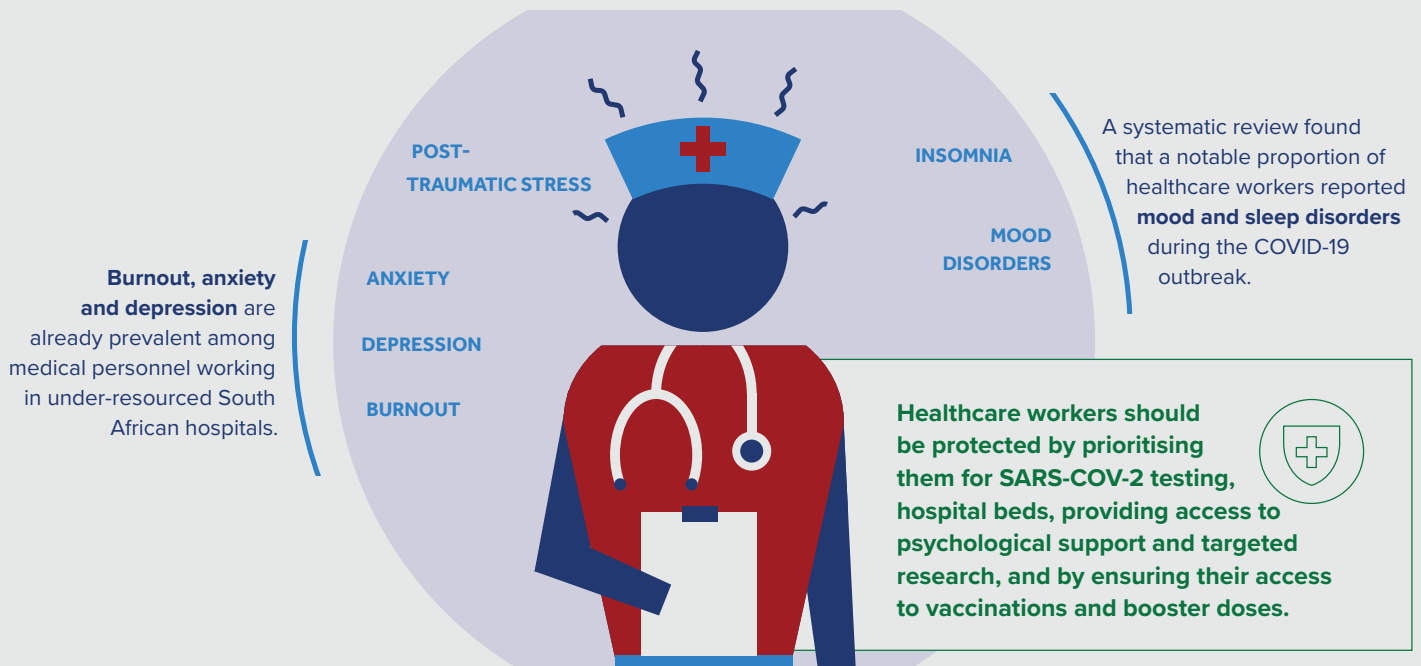	Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Patient Day Equivalent	2018/19	DHIS	32 512 977	4 387 716	2 126 047	7 467 109	7 143 300	3 009 770	1 897 671	573 412	1 610 459	4 297 493	a
	2019/20	DHIS	32 461 949	4 295 480	2 172 659	7 521 238	7 100 648	3 010 254	1 869 054	579 169	1 676 989	4 236 460	a
	2020/21	DHIS	26 607 840	3 276 297	1 708 744	6 360 779	5 539 302	2 493 263	1 579 260	509 518	1 511 852	3 628 823	a
PHC headcount total	2018/19	both sexes all ages DHIS	119 347 026	16 605 569	5 299 266	21 079 658	28 525 363	14 336 230	9 253 361	2 718 912	7 445 963	14 082 704	a
	2019/20	both sexes all ages DHIS	119 747 336	16 420 094	5 303 035	21 309 158	28 353 937	14 347 755	9 220 716	2 728 252	7 714 952	14 349 437	a
PHC headcount 5 years and older	2018/19	both sexes DHIS	99 082 287	14 060 982	4 465 459	17 363 822	23 833 478	11 409 321	7 512 561	2 268 354	6 155 833	12 012 477	a
	2019/20	both sexes DHIS	99 703 955	13 898 719	4 540 511	17 648 204	23 767 046	11 407 847	7 514 391	2 279 773	6 374 431	12 273 033	a
PHC headcount under 5 years	2018/19	both sexes DHIS	20 264 739	2 544 587	833 807	3 715 836	4 691 885	2 926 909	1 740 800	450 558	1 290 130	2 070 227	a
	2019/20	both sexes DHIS	20 149 466	2 524 151	845 825	3 672 144	4 598 365	2 936 295	1 710 321	449 974	1 333 974	2 078 417	a
	2020/21	both sexes DHIS	14 830 600	1 868 758	678 772	2 720 937	3 339 757	2 237 387	1 202 018	317 794	1 004 364	1 460 813	a
PHC utilisation rate	2018/19	DHIS	2.1	2.3	1.8	1.5	2.5	2.4	2.1	2.2	1.9	2.2	a
	2019/20	DHIS	2.0	2.2	1.8	1.5	2.4	2.4	2.0	2.2	1.9	2.2	a
	2020/21	DHIS	1.6	1.7	1.6	1.2	1.9	2.0	1.6	1.8	1.6	1.4	a
PHC utilisation rate under 5 years	2018/19	DHIS	3.5	3.1	3.1	2.9	3.5	4.4	3.9	4.3	3.3	3.8	a
	2019/20	DHIS	3.4	3.0	3.1	2.9	3.5	4.4	3.9	4.3	3.4	3.8	a
	2020/21	DHIS	2.6	2.3	2.5	2.1	2.5	3.4	2.7	3.1	2.5	2.7	a

Reference notes

a   DHIS
b   Stats SA Live Births 2019[7]
c   Stats SA Causes of death 2016[88]
d   Stats SA Causes of death 2017[89]
e   Stats SA Causes of death 2018[33]
f   World Health Statistics 2019[90]
g   World Health Statistics 2020[91]
h   World Health Statistics 2021[6]

HEALTH CARE WORKERS EXPERIENCED HIGH LEVELS OF MENTAL HEALTH CHALLENGES DURING THE PANDEMIC

By 14 October 2021, **9 514 healthcare workers** had been admitted to hospital with COVID-19, and **1 221 had died**. There were also significant mental health effects.

POST-TRAUMATIC STRESS

INSOMNIA

MOOD DISORDERS

ANXIETY

DEPRESSION

BURNOUT

A systematic review found that a notable proportion of healthcare workers reported **mood and sleep disorders** during the COVID-19 outbreak.

Burnout, anxiety and depression are already prevalent among medical personnel working in under-resourced South African hospitals.

Healthcare workers should be protected by prioritising them for SARS-COV-2 testing, hospital beds, providing access to psychological support and targeted research, and by ensuring their access to vaccinations and booster doses.

8.2 Health personnel

Tables 16 and 17 show the distribution of public-sector healthcare personnel, in absolute numbers and normalised by the uninsured population, per province. As these data rely on the Personnel Administration System (PERSAL), they exclude Community Health Workers. Despite an extensive body of international literature attesting to the potential of Community Health Worker programmes[92,93], and local evidence of their potential contribution, including as part of Ward-based Outreach Teams[94-98], their integration into the public sector remains unlikely.[99] Community Health Workers are but one element in the complex and interrelated community health system.[100]

By 14 October 2021, 9 514 healthcare workers had been admitted to hospital with COVID-19 in South Africa, and 1 221 had died.[101] A rapid scoping review showed that healthcare workers experience high levels of mental health disturbance (defined as depression, anxiety, post-traumatic stress and insomnia) during infectious disease outbreaks.[102] Burnout, anxiety and depression had already been identified as prevalent among medical personnel working in under-resourced South African hospitals facing a generalised HIV epidemic[103] and among psychiatric nurses.[104,105] A systematic review on prevalence of depression, anxiety and sleep disorders among healthcare workers during the COVID-19 outbreak found that a notable proportion reported mood and sleep disorders.[106] Chersich et al. have identified some of the ways in which healthcare workers can be protected, including prioritising them for SARS-CoV-2 testing, hospital beds and targeted research.[107] To that can be added access to COVID-19 vaccinations, and possibly booster doses. By 20 December 2021, a total of 230 953 healthcare workers had received a booster dose of the Janssen COVID-19 vaccine via the Sisonke study, representing about half of those initially vaccinated through that effort.

Table 16: Number of health personnel practising in the public sector by province

Indicator	Period	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Number of clinical associates	2019 Mar	372	84	19	38	121	11	67	2	30		a
	2020 Mar	393	113	17	35	111	10	75	2	30		a
	2021 Mar	436	107	13	104	99	9	70	3	31		a
Number of CS clinical psychologists	2019 Mar	67	4	3	31	10	4	3	3	4	5	a
	2020 Mar	66	3	3	39	7	3	0	1	3	7	a
	2021 Mar	54	1	3	28	4	2	3	1	5	7	a
Number of CS dentists	2019 Mar	198	18	29	23	48	16	10	14	25	15	a
	2020 Mar	197	21	27	15	46	14	16	15	27	16	a
	2021 Mar	179	21	21	30	36	7	16	15	17	16	a
Number of CS dieticians	2019 Mar	212	21	16	51	42	11	20	15	30	6	a
	2020 Mar	227	20	23	54	35	18	24	14	31	8	a
	2021 Mar	211	15	24	50	38	11	21	14	32	6	a
Number of CS doctors	2019 Mar	1 429	153	71	242	221	141	164	84	148	205	a
	2020 Mar	1 527	160	62	253	252	165	209	76	149	201	a
	2021 Mar	1 700	169	105	287	269	158	235	75	190	212	a
Number of CS environmental health practitioners	2019 Mar	138	2	19	21	5	40	11	14	26		a
	2020 Mar	182	3	23	43	4	47	15	13	34		a
	2021 Mar	103	1	5	24	3	30	14	8	18		a
Number of CS nurses	2019 Mar	2 945	572	94	552	591	79	231	77	404	345	a
	2020 Mar	3 109	642	120	628	479	108	340	100	326	366	a
	2021 Mar	2 245	79	77	926	203	28	231	87	254	360	a
Number of CS occupational therapists	2019 Mar	331	44	29	90	59	15	28	23	30	13	a
	2020 Mar	289	36	25	74	65	13	26	22	14	14	a
	2021 Mar	327	43	26	86	65	6	37	22	28	14	a
Number of CS pharmacists	2019 Mar	596	68	46	83	120	80	38	44	77	40	a
	2020 Mar	612	66	45	91	134	67	48	40	83	38	a
	2021 Mar	653	68	48	92	149	65	51	46	96	38	a
Number of CS physiotherapists	2019 Mar	392	42	32	98	74	19	39	24	41	23	a
	2020 Mar	352	35	29	94	73	8	36	24	29	24	a
	2021 Mar	383	41	29	95	72	17	35	29	42	23	a
Number of CS radiographers	2019 Mar	258	28	12	73	44	13	27	14	16	31	a
	2020 Mar	367	29	17	94	81	24	34	14	37	37	a
	2021 Mar	364	24	13	107	83	19	37	17	28	36	a
Number of CS speech therapists	2019 Mar	254	17	12	61	85	7	34	17	12	9	a
	2020 Mar	247	18	8	61	70	12	40	10	20	8	a
	2021 Mar	252	18	9	63	65	13	39	14	23	8	a
Number of dental practitioners	2019 Mar	1 038	143	46	234	108	175	96	25	51	160	a
	2020 Mar	1 044	145	50	242	103	168	88	23	56	169	a
	2021 Mar	1 009	149	48	229	106	164	79	25	59	150	a
Number of dental specialists	2019 Mar	146		1	108		2	1			34	a
	2020 Mar	152	1	1	113		2	1	1		33	a
	2021 Mar	126	1	1	89	1	4	1	1		28	a
Number of dental therapists	2019 Mar	342	17		45	102	138	17	8	13	2	a
	2020 Mar	359	18	1	42	100	132	26	24	14	2	a
	2021 Mar	358	18	1	45	96	130	28	24	14	2	a
Number of enrolled nurses	2019 Mar	31 039	3 350	996	7 426	9 642	3 950	1 831	237	964	2 643	a
	2020 Mar	29 638	3 321	1 033	7 188	8 939	3 591	1 639	238	962	2 727	a
	2021 Mar	32 191	4 145	1 224	7 961	9 710	3 195	1 467	268	1 267	2 954	a

Indicator	Period	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Number of environmental health practitioners	2019 Mar	348	21	48	93	81	25	40	12	28		a
	2020 Mar	362	20	50	98	82	26	45	11	30		a
	2021 Mar	448	30	52	131	75	25	45	12	78		a
Number of medical practitioners	2019 Mar	14 439	1 877	631	3 409	3 460	1 231	868	353	761	1 849	a
	2020 Mar	15 474	1 906	637	3 749	3 725	1 224	895	337	876	2 125	a
	2021 Mar	17 017	1 993	734	4 331	4 017	1 311	964	375	1 018	2 274	a
Number of medical researchers	2019 Mar	31	2	4	11	4	2		2		6	a
	2020 Mar	33	2	2	14	5	2		1		7	a
	2021 Mar	32	2	2	16	5	1		1		5	a
Number of medical specialists	2019 Mar	4 825	197	315	1 858	843	72	74	24	124	1 318	a
	2020 Mar	4 835	228	317	1 850	837	77	72	45	152	1 257	a
	2021 Mar	4 770	231	314	1 826	850	84	64	42	140	1 219	a
Number of nursing assistants	2019 Mar	33 820	5 381	2 038	6 413	6 052	4 681	1 465	856	2 735	4 199	a
	2020 Mar	33 600	5 395	2 023	6 431	5 840	4 623	1 477	822	2 768	4 221	a
	2021 Mar	36 278	6 114	2 250	7 347	5 636	4 454	2 020	892	3 138	4 427	a
Number of occupational therapists	2019 Mar	979	105	53	199	129	215	66	33	37	142	a
	2020 Mar	1 003	117	50	205	126	207	68	32	48	150	a
	2021 Mar	1 084	127	53	247	147	201	69	32	55	153	a
Number of optometrists and opticians	2019 Mar	254	5	6	52	62	113	7	2	5	2	a
	2020 Mar	255	8	5	55	60	111	7	2	5	2	a
	2021 Mar	256	6	5	54	65	111	7	2	5	1	a
Number of pharmacists	2019 Mar	5 132	787	304	1 149	765	525	283	134	226	959	a
	2020 Mar	5 337	865	315	1 169	813	520	304	103	259	989	a
	2021 Mar	5 543	912	331	1 251	818	521	332	114	264	1 000	a
Number of physiotherapists	2019 Mar	1 077	129	47	179	256	170	67	37	59	133	a
	2020 Mar	1 110	147	48	194	244	158	76	31	71	141	a
	2021 Mar	1 239	155	51	245	280	159	78	31	80	160	a
Number of professional nurses	2019 Mar	68 776	10 698	2 175	13 693	16 719	9 188	5 389	1 446	4 361	5 107	a
	2020 Mar	70 437	11 091	2 104	14 001	16 772	9 109	5 799	1 491	4 846	5 224	a
	2021 Mar	76 485	11 672	2 498	15 527	18 699	9 201	6 234	1 588	5 394	5 672	a
Number of psychologists	2019 Mar	646	66	21	192	70	120	36	18	38	85	a
	2020 Mar	637	67	27	191	61	120	32	15	43	81	a
	2021 Mar	705	69	30	224	74	115	48	16	49	80	a
Number of radiographers	2019 Mar	2 632	361	143	637	568	186	114	75	101	447	a
	2020 Mar	2 716	375	147	650	600	198	119	74	113	440	a
	2021 Mar	2 882	397	160	737	611	201	121	77	124	454	a
Number of speech therapists and audiologists	2019 Mar	487	40	11	123	100	73	38	13	18	71	a
	2020 Mar	502	47	9	131	92	69	39	15	27	73	a
	2021 Mar	600	57	10	161	146	64	43	15	31	73	a
Number of student nurses	2019 Mar	3 761			2 255	612	294	577		23		a
	2020 Mar	2 765			1 593	458	155	552		7		a
	2021 Mar	1 712			691	472	134	414		1		a

Reference notes

a   PERSAL[108]

Table 17: Health personnel per 100 000 uninsured population by province

Indicator	Period	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Clinical Associates per 100 000 population	**2019 Mar**	0.8	1.4	0.8	0.3	1.2	0.2	1.7	0.2	0.8		a
	2020 Mar	0.8	1.9	0.7	0.3	1.1	0.2	1.8	0.2	0.8		a
	2021 Mar	0.9	1.8	0.5	0.9	1.0	0.2	1.7	0.3	0.8		a
Dental practitioners per 100 000 population	**2019 Mar**	2.5	2.7	3.0	2.2	1.6	3.4	2.6	3.6	2.1	3.2	a
	2020 Mar	2.5	2.7	3.1	2.2	1.5	3.2	2.5	3.5	2.3	3.3	a
	2021 Mar	2.3	2.8	2.7	2.1	1.4	3.0	2.3	3.6	2.1	2.9	a
Dental specialists per 100 000 population	**2019 Mar**	0.3		0.0	0.9		0.0	0.0			0.6	a
	2020 Mar	0.3	0.0	0.0	1.0		0.0	0.0	0.1		0.6	a
	2021 Mar	0.3	0.0	0.0	0.7	0.0	0.1	0.0	0.1		0.5	a
Dental therapists per 100 000 population	**2019 Mar**	0.7	0.3		0.4	1.0	2.5	0.4	0.7	0.4	0.0	a
	2020 Mar	0.7	0.3	0.0	0.4	1.0	2.4	0.6	2.2	0.4	0.0	a
	2021 Mar	0.7	0.3	0.0	0.4	0.9	2.3	0.7	2.2	0.4	0.0	a
Enrolled nurses per 100 000 population	**2019 Mar**	62.2	55.3	39.8	64.5	95.9	71.0	45.4	22.0	27.1	48.1	a
	2020 Mar	58.6	54.8	41.2	61.0	88.0	64.1	40.0	21.9	26.6	48.8	a
	2021 Mar	62.8	68.4	48.6	66.0	94.6	56.6	35.3	24.3	34.5	51.9	a
Environmental health practitioners per 100 000 population	**2019 Mar**	1.0	0.4	2.7	1.0	0.9	1.2	1.3	2.4	1.5		a
	2020 Mar	1.1	0.4	2.9	1.2	0.9	1.3	1.5	2.2	1.8		a
	2021 Mar	1.1	0.5	2.3	1.3	0.8	1.0	1.4	1.8	2.6		a
Medical practitioners per 100 000 population	**2019 Mar**	31.8	33.5	28.1	31.7	36.6	24.7	25.6	40.6	25.5	37.4	a
	2020 Mar	33.6	34.1	27.9	33.9	39.1	24.8	27.0	37.9	28.3	41.6	a
	2021 Mar	36.5	35.7	33.3	38.3	41.7	26.0	28.9	40.9	32.9	43.7	a
Medical practitioners per 100 000 population **(rescaled)**	**2018 Apr**	10.0	10.1	8.5	10.6	11.3	7.5	8.5	14.3	8.6	10.6	a
	2019 Mar	10.6	11.2	9.4	10.6	12.2	8.2	8.5	13.5	8.5	12.5	a
	2020 Mar	11.2	11.4	9.3	11.3	13.0	8.3	9.0	12.6	9.4	13.9	a
Medical researchers per 100 000 population	**2019 Mar**	0.1	0.0	0.2	0.1	0.0	0.0		0.2		0.1	a
	2020 Mar	0.1	0.0	0.1	0.1	0.1	0.0		0.1		0.1	a
	2021 Mar	0.1	0.0	0.1	0.1	0.1	0.0		0.1		0.1	a
Medical specialists per 100 000 population	**2019 Mar**	9.7	3.3	12.6	16.1	8.4	1.3	1.8	2.2	3.5	24.0	a
	2020 Mar	9.6	3.8	12.6	15.7	8.2	1.4	1.8	4.1	4.2	22.5	a
	2021 Mar	9.3	3.8	12.5	15.1	8.3	1.5	1.5	3.8	3.8	21.4	a
Nursing assistants per 100 000 population	**2019 Mar**	67.8	88.9	81.5	55.7	60.2	84.2	36.3	79.5	76.8	76.4	a
	2020 Mar	66.4	89.1	80.6	54.6	57.5	82.5	36.1	75.5	76.5	75.5	a
	2021 Mar	70.8	100.9	89.4	60.9	54.9	78.9	48.6	81.0	85.4	77.8	a
Occupational therapists per 100 000 population	**2019 Mar**	2.6	2.5	3.3	2.5	1.9	4.1	2.3	5.2	1.9	2.8	a
	2020 Mar	2.6	2.5	3.0	2.4	1.9	3.9	2.3	5.0	1.7	2.9	a
	2021 Mar	2.8	2.8	3.1	2.8	2.1	3.7	2.6	4.9	2.3	2.9	a
Optometrists per 100 000 population	**2019 Mar**	0.5	0.1	0.2	0.5	0.6	2.0	0.2	0.2	0.1	0.0	a
	2020 Mar	0.5	0.1	0.2	0.5	0.6	2.0	0.2	0.2	0.1	0.0	a
	2021 Mar	0.5	0.1	0.2	0.5	0.6	2.0	0.2	0.2	0.1	0.0	a
Pharmacists per 100 000 population	**2019 Mar**	11.5	14.1	14.0	10.7	8.8	10.9	8.0	16.5	8.5	18.2	a
	2020 Mar	11.8	15.4	14.4	10.7	9.3	10.5	8.6	13.1	9.5	18.4	a
	2021 Mar	12.1	16.2	15.1	11.1	9.4	10.4	9.2	14.5	9.8	18.2	a
Physiotherapists per 100 000 population	**2019 Mar**	2.9	2.8	3.2	2.4	3.3	3.4	2.6	5.7	2.8	2.8	a
	2020 Mar	2.9	3.0	3.1	2.4	3.1	3.0	2.7	5.1	2.8	3.0	a
	2021 Mar	3.2	3.2	3.2	2.8	3.4	3.1	2.7	5.4	3.3	3.2	a
Professional nurses per 100 000 population	**2019 Mar**	143.7	186.2	90.8	123.7	172.2	166.6	139.3	141.5	133.8	99.2	a
	2020 Mar	145.4	193.8	88.7	124.1	169.8	164.5	149.9	146.1	142.9	100.0	a
	2021 Mar	153.6	194.0	102.3	136.4	184.1	163.4	155.6	152.1	153.8	106.0	a
Psychologists per 100 000 population	**2019 Mar**	1.4	1.2	1.0	1.9	0.8	2.2	1.0	2.0	1.2	1.6	a
	2020 Mar	1.4	1.2	1.2	2.0	0.7	2.2	0.8	1.5	1.3	1.6	a
	2021 Mar	1.5	1.2	1.3	2.1	0.8	2.1	1.2	1.5	1.5	1.5	a

Indicator	Period	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Radiographers **per 100 000 population**	**2019 Mar**	5.8	6.4	6.2	6.2	6.1	3.6	3.5	8.3	3.3	8.7	a
	2020 Mar	6.1	6.7	6.5	6.3	6.7	4.0	3.7	8.1	4.1	8.5	a
	2021 Mar	6.3	7.0	6.9	7.0	6.8	3.9	3.8	8.5	4.1	8.6	a
Speech therapists **and audiologists** **per 100 000 population**	**2019 Mar**	1.5	0.9	0.9	1.6	1.8	1.4	1.8	2.8	0.8	1.5	a
	2020 Mar	1.5	1.1	0.7	1.6	1.6	1.4	1.9	2.3	1.3	1.4	a
	2021 Mar	1.7	1.2	0.8	1.9	2.1	1.4	2.0	2.6	1.5	1.4	a
Student nurses **per 100 000 population**	**2019 Mar**	7.5			19.6	6.1	5.3	14.3		0.7		a
	2020 Mar	5.5			13.5	4.5	2.8	13.5		0.2		a
	2021 Mar	3.3			5.7	4.6	2.4	10.0		0.0		a

Reference notes

a   PERSAL[108]

Definitions

- Indicators are calculated as the number of the specified cadre of health professional per 100 000 uninsured population, as calculated using the DHIS 2000–2030 population time series

and the Insight Actuaries modelled estimates for medical schemes coverage at district level circa 2018.

8.3 Health financing

In order for countries to strengthen frontline services for the pandemic response, health financing and expenditure increased and funds were channelled specifically to cater for COVID-19 related expenses.[109] Although there was lower utilisation of non-COVID-19 health services during the hard lockdown, an analysis conducted by Edoka et al. showed that the average daily cost per patient increases with the level of care, with the highest average daily cost being for ICU admissions for COVID-19 patients.[110]

Provincial and local government expenditure on health in the public sector increased from R216 billion in 2019/20 to R237 billion in 2020/21, where District Health Services (DHS) expenditure was once again the highest at approximately R110 billion (Table 18). Expenditure increased among all the different programmes with the exception of health sciences and training. The highest increase was observed

for DHS and administration. Among the provinces (Table 19), provincial and local government expenditure was the highest in Gauteng and KwaZulu-Natal. Unlike other provinces that have a high proportion of expenditure on DHS compared to other programmes, Gauteng has the lowest proportion of expenditure on DHS and increasing expenditure on central services (Figure 28). Provincial health expenditure on DHS was still largely spent on the HIV/AIDS programme and district health hospitals across all provinces (Table 20).

The latest report from the Council for Medical Schemes showed the continuation of the downward trend of registered medical schemes from 144 in 2000 to 76 in 2020. COVID-19 also had an impact on the proportion of beneficiaries covered by medical aid, with a decline from 15.1% in 2019 to 14.8% in 2020. Gauteng continues to have the highest proportion of beneficiaries, at 39% of the population (Table 21).

Table 18: Trends in overall provincial and local government health expenditure by programme (Rand million, nominal prices), 2011/12 – 2020/21

Rand million	Financial Year									
Programme	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
1. Administration	3 116	3 019	3 578	3 599	4 313	4 462	4 690	5 129	5 368	8 799
2. District Health Services	47 904	53 586	57 991	64 181	69 854	76 540	83 671	90 978	98 688	109 448
3. Emergency Health Services	4 656	5 079	5 352	5 556	6 025	6 435	7 380	7 671	8 394	8 660
4. Provincial Hospital Services	25 394	27 741	26 420	28 694	29 576	29 675	32 262	34 275	36 609	37 623
5. Central Hospital Services	17 319	18 822	23 559	25 804	29 529	33 736	37 437	41 120	44 608	47 516
6. Health Sciences and Training	3 537	3 755	4 039	4 248	4 529	5 107	4 916	5 037	5 115	4 796
7. Health Care Support Services	1 472	1 640	1 877	1 322	2 834	1 796	1 806	4 661	2 301	3 469
8. Health Facilities Management	8 191	8 967	7 895	7 491	8 514	8 316	8 651	9 014	9 844	11 526

GOVERNMENT EXPENDITURE ON HEALTH INCREASED SIGNIFICANTLY DURING 2020/21

Provincial and local government expenditure on health in the public sector increased from R216 billion in 2019/20 to R237 billion in 2020/21.

R216 billion

2019/20

R237 billion

2020/21
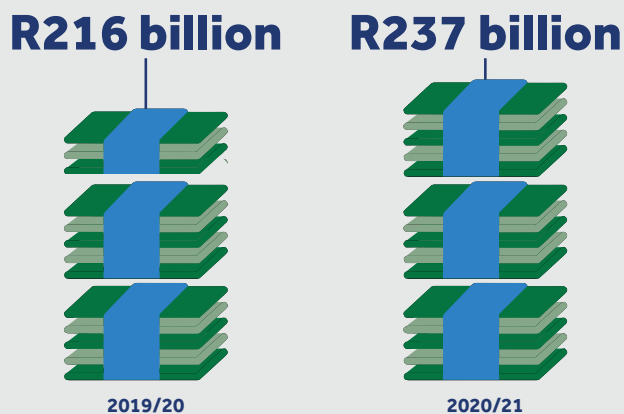
The average daily cost per patient also increased with the level of care – with the highest average daily cost being for ICU admissions for COVID-19.

COVID-19 also had an impact on the proportion of the population covered by medical schemes.

MEDICAL SCHEME COVERAGE PER PROVINCE

Beneficiaries covered by medical aid nationally

15.1%
in 2019

14.8%
in 2020

- 🔵 <10%
- 🟠 <20%
- 🔴 >30%

Rand million	Financial Year									
Programme	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Local government expenditure	2 397	2 859	2 869	3 389	3 730	4 103	4 199	4 858	4 828	5 392
Other	3	4								
Grand Total	**113 989**	**125 473**	**133 581**	**144 283**	**158 903**	**170 171**	**185 013**	**202 744**	**215 755**	**237 229**

Source: National Treasury databases
Note: 'Other' includes any other expenditure not indicated as being allocated to any of the budget programmes listed in Table 18.

Table 19: Provincial and local government health expenditure per province by programme (Rand million), 2020/21

Rand million	Financial year 2020/21								
Programme	EC	FS	GP	KZ	LP	MP	NC	NW	WC
1. Administration	653	275	3 695	1 307	278	334	229	844	1 183
2. District Health Services	15 321	5 726	17 959	24 937	14 174	10 209	2 542	7 195	11 385
3. Emergency Health Services	1 272	789	1 681	1 606	856	471	405	425	1 155
4. Provincial Hospital Services	4 000	1 624	9 906	11 326	2 672	1 486	481	2 071	4 057
5. Central Hospital Services	4 858	2 647	20 775	5 385	2 005	1 290	1 117	1 984	7 455
6. Health Sciences and Training	720	249	787	1 265	545	440	141	330	318
7. Health Care Support Services	152	157	389	431	588	210	237	773	533
8. Health Facilities Management	1 358	488	2 521	3 113	999	1 354	386	428	878
Local government expenditure	161	43	3 194	565	88	101	35	65	1 139
Total	**28 496**	**11 998**	**60 907**	**49 936**	**22 204**	**15 897**	**5 573**	**14 117**	**28 103**

Source: National Treasury databases

Figure 28: Percentage of expenditure per programme by province, 2018/19 compared to 2020/21
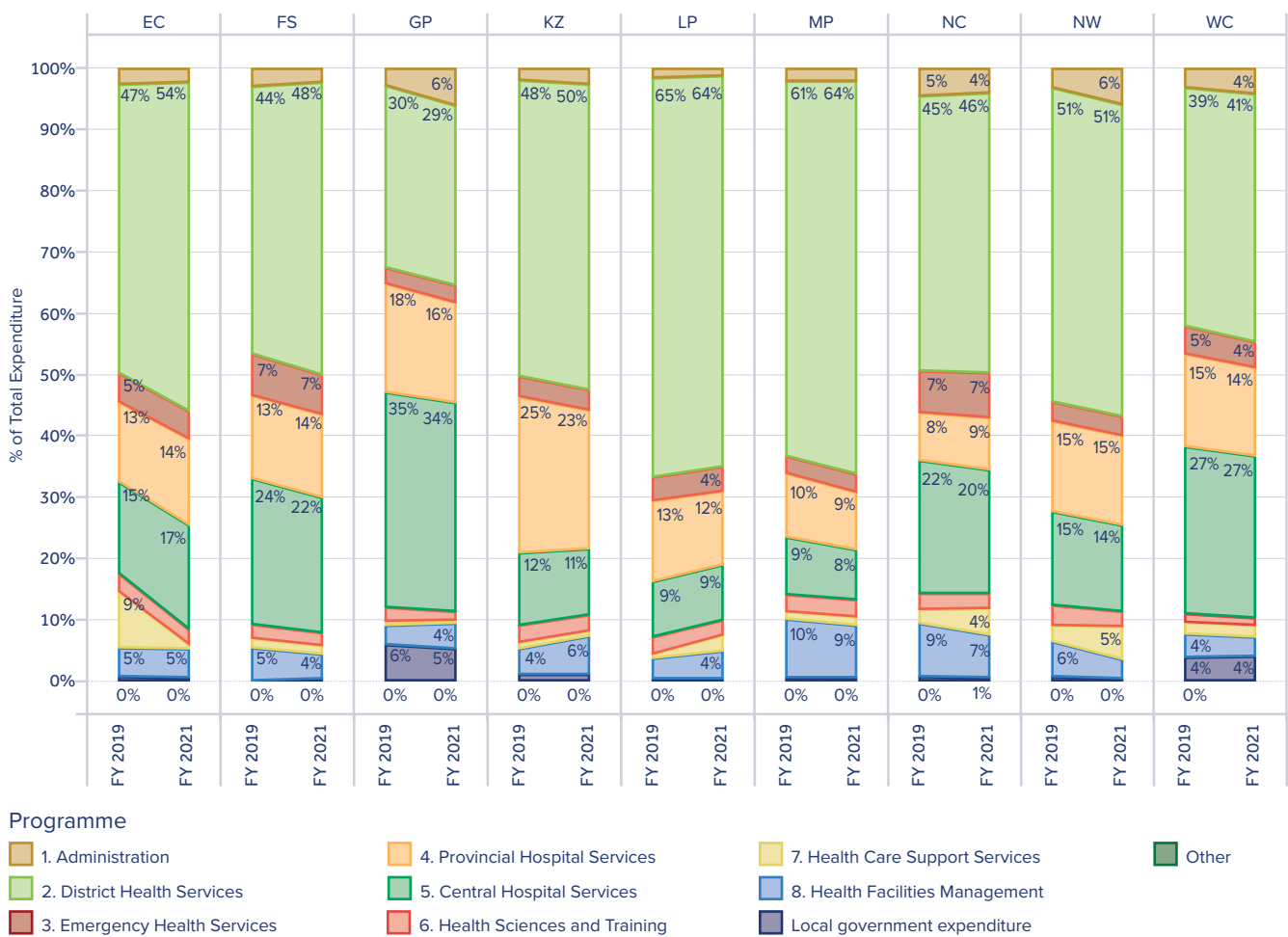
Source: National Treasury databases

Table 20: Provincial health expenditure on District Health Services per province by sub-programme (Rand million), 2019/20

	Financial Year 2020/21								
Rand million	2. District Health Services								
Subprog	EC	FS	GP	KZ	LP	MP	NC	NW	WC
2.1 District Management	1 234	134	826	313	558	1 555	263	1 196	387
2.2 Community Health Clinics	3 026	1 097	2 475	4 736	3 385	1 637	533	1 026	1 542
2.3 Community Health Centres	1 289	157	2 064	1 944	602	1 017	396	1 087	2 395
2.4 Community-based Services	472	500	2 445	364	145	16		6	225
2.5 Other Community Services	54			3 334	112		40	415	-
2.6 HIV/AIDS	3 211	2 183	5 987	6 222	2 310	2 403	589	1 822	2 514
2.7 Nutrition	37	11	5	29	54	11	4	1	53
2.8 Coroner Services	125	44	264	251				73	-
2.9 District Hospitals	5 873	1 599	3 893	7 744	7 009	3 570	717	1 569	4 270
2. Other*									-
Grand Total	**15 321**	**5 726**	**17 959**	**24 937**	**14 174**	**10 209**	**2 542**	**7 195**	**11 385**

Source: National Treasury databases

Table 21:Health financing indicators by province

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Claims ratio	2018	both sexes all ages med schemes	90.2										a
	2019	both sexes all ages med schemes	90.6										b
	2020	both sexes all ages med schemes	81.4										c
Expenditure per patient day equivalent (district hospitals)	2018/19	BAS real 2018/19 prices	2 959	3 056	2 666	3 465	2 992	3 187	2 657	2 864	3 315	2 502	d
		BAS real 2019/20 prices	3 060	3 147	2 797	3 594	3 082	3 282	2 737	2 950	3 415	2 574	e
	2019/20	BAS real 2019/20 prices	3 179	3 184	3 040	3 646	3 230	3 344	2 911	3 211	3 671	2 687	e
Medical scheme beneficiaries	2018	both sexes all ages med schemes	8 916 695	637 847	389 600	3 543 351	1 256 360	433 881	547 402	187 573	485 044	1 327 573	a
	2019	both sexes all ages med schemes	8 990 106	653 755	390 841	3 598 421	1 265 694	460 369	550 360	177 151	476 557	1 333 363	b
	2020	both sexes all ages med schemes	8 886 933	664 093	396 451	3 435 040	1 289 664	472 055	551 551	181 609	456 057	1 386 299	c
Medical scheme coverage	2018	both sexes all ages GHS	16.4	10.0	16.2	23.9	12.4	8.2	12.6	16.1	13.5	25.1	f
		both sexes all ages med schemes	15.4	9.5	13.5	24.0	11.2	7.5	12.1	14.9	12.2	19.7	a
		female all ages med schemes	15.9										a
		male all ages med schemes	14.8										a
	2019	both sexes all ages GHS	17.2	10.8	14.7	24.9	13.1	9.9	12.6	19.3	16.3	24.1	g
		both sexes all ages med schemes	15.1	7.0	4.0	40.0	14.0	5.0	6.0	2.0	6.0	15.0	b
	2020	both sexes all ages med schemes	14.8	7.0	4.0	39.0	15.0	5.0	6.0	2.0	5.0	16.0	c
Pensioner ratio	2018	both sexes 65+ years med schemes	9.0										a
	2019	both sexes med schemes	8.6										b
	2020	both sexes all ages med schemes	8.9										c
Provincial & LG District Health Services expenditure per capita (uninsured)	2019/20	BAS real 2019/20 prices	2 063	2 233	1 897	1 621	2 292	2 492	2 230	2 301	1 807	2 023	e
		BAS real 2020/21 prices	2 154	2 331	1 981	1 693	2 393	2 602	2 328	2 402	1 887	2 112	h
	2020/21	BAS real 2020/21 prices	2 228	2 530	2 278	1 773	2 462	2 542	2 252	2 366	1 986	2 206	h

Indicator	Period	Sex|Age|Series|Cat	SA	EC	FS	GP	KZ	LP	MP	NC	NW	WC	Ref
Provincial & LG PHC expenditure per capita (uninsured)	2019/20	BAS real 2019/20 prices	1 272	1 189	1 193	1 256	1 469	1 123	1 222	1 414	1 236	1 261	e
		BAS real 2020/21 prices	1 328	1 241	1 245	1 311	1 534	1 172	1 276	1 476	1 290	1 316	h
	2020/21	BAS real 2020/21 prices	1 407	1 361	1 585	1 372	1 668	1 193	1 252	1 466	1 223	1 410	h
Provincial & LG PHC expenditure per PHC headcount	2018/19	BAS real 2018/19 prices	494.6	406.3	536.2	639.4	486.2	412.1	474.3	523.6	551.6	445.2	a
		BAS real 2019/20 prices	509.5	418.5	552.3	658.6	500.7	424.4	488.6	539.3	568.2	458.6	b
	2019/20	BAS real 2019/20 prices	528.8	438.8	551.6	677.6	519.9	435.6	534.3	557.5	570.2	481.8	b
Total net official development assistance to medical research and basic health sectors per capita (US$), by recipient country	2017	WHO	2.2										i
	2018	WHO	2.6										j
	2019	WHO	1.9										k

Reference notes

a Medical Schemes 2018-19[111]
b Medical Schemes 2019-20[112]
c Medical Schemes 2020-21[12]
d DHB 2018/19[18]
e DHB 2019/20[75]
f Stats SA GHS 2018[21]

g Stats SA GHS 2019[13]
h National Treasury[113]
i World Health Statistics 2019[90]
j World Health Statistics 2020[91]
k World Health Statistics 2021[6]

Definitions

- Total net official development assistance to medical research and basic health sectors per capita (US$), by recipient country [US$]

- Claims ratio [Percentage]: Proportion of member contributions that has been utilised for the payment of benefits claimed by members of medical schemes, as opposed to allocation of contributions for non-health benefits and the building of reserves.

- Expenditure per patient day equivalent (district hospitals) [Rand (real prices)]: Average cost per patient per day seen in a hospital (expressed as Rand per patient day equivalent).

- Medical scheme beneficiaries [Number]: Number of medical scheme beneficiaries, as reported by the Council for Medical Schemes.

- Medical scheme coverage [Percentage]: Proportion of population covered by medical schemes.

- Pensioner ratio [Percentage]: Proportion of members of medical schemes who are 65 years or older, in registered medical schemes.

- Provincial & LG District Health Services expenditure per capita (uninsured) [Rand (real prices)]: Provincial expenditure on District Health Services (all sub-programmes except 2.8 Coroner services) plus net local government expenditure on District Health Services (all sub-programmes except 2.8 Coroner services) plus net local government expenditure on PHC per uninsured population.

- Provincial & LG PHC expenditure per capita (uninsured) [Rand (real prices)]: Provincial expenditure on sub-programmes of DHS (2.2 - 2.7) plus net local government expenditure on PHC per uninsured population.

- Provincial & LG PHC expenditure per PHC headcount [Rand (real prices)]: Provincial expenditure on sub-programmes of DHS (2.2 - 2.7) plus net local government expenditure on PHC divided by PHC headcount from DHIS.

Conclusion

The devastating impact of the COVID-19 pandemic is still being felt, and the possibility of subsequent waves cannot be discounted. However, as with the rest of the world, South Africa will probably have to transition from a pandemic response to finding the means to manage COVID-19 as an endemic disease. A key task facing the health system will be to retain what is most useful in health information systems and other innovations, and to ensure that these continue to contribute to the unfinished agenda of universal health coverage.

In particular, the lessons learnt in combining data from the public and private sectors in real time (such as in the DATCOV dataset) should be actioned, and institutionalised. A key challenge remains the perception that the Protection of Personal Information Act (4 of 2013)[114] prevents the "further processing" of health data collected for one purpose for another. Data collected during routine healthcare provision, and linked to a unique identifier, should be linked across systems, and used to enable improved management and policymaking, not only in a pandemic, but towards advancing universal health coverage.

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