TRENDS IN COVID-19 ADMISSIONS AND DEATHS AMONG PEOPLE LIVING WITH HIV IN SOUTH AFRICA: ANALYSIS OF NATIONAL SURVEILLANCE DATA

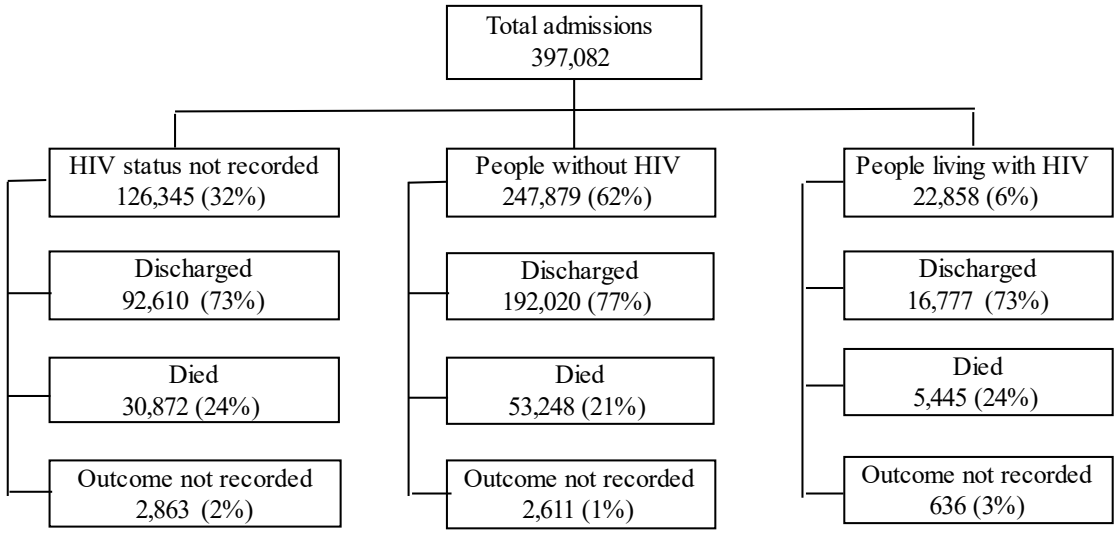
SUPPLEMENTARY MATERIALS

TABLE OF CONTENTS

Supplementary Table S1: STROBE checklist

Item	Aspect	Recommendation	Reported on manuscript page
1	Title and abstract	(a) Indicate the study's design with a commonly used term in the title or the abstract (b) Provide in the abstract an informative and balanced summary of what was done and what was found	1 3
	Introduction		
2	Background/rationale	Explain the scientific background and rationale for the investigation being reported	6
3	Objectives	State specific objectives, including any prespecified hypotheses	6
	Methods		
4	Study design	Present key elements of study design early in the paper	7
5	Setting	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	7
6	Participants	Cross-sectional study—give the eligibility criteria, and the sources and methods of selection of participants	7
7	Variables	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7-8
8	Data sources/ measurement	For each variable of interest give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	7-8
9	Bias	Describe any efforts to address potential sources of bias	14-15
10	Study size	Explain how the study size was arrived at	N/A
11	Quantitative variables	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	7-8
12	Statistical methods	(a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed (d) Cross-sectional study—if applicable, describe analytical methods taking account of sampling strategy (e) Describe any sensitivity analyses	8-9 8-9 9 N/A N/A
	Results		
13	Participants	(a) Report the numbers of individuals at each stage of the study—eg, numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed (b) Give reasons for non-participation at each stage (c) Consider use of a flow diagram	10 Figure S1 Table S2
14	Descriptive data	(a) Give characteristics of study participants (eg, demographic, clinical, social) and information on exposures and potential confounders (b) Indicate the number of participants with missing data for each variable of interest	10 Table S3 Table S4
15	Outcome data	Cross-sectional study—report numbers of outcome events or summary measures	10-12
16	Main results	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence	10-12

		interval). Make clear which confounders were adjusted for and why they were included (b) Report category boundaries when continuous variables were categorised (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
17	Other analyses	Report other analyses done—eg, analyses of subgroups and interactions, and sensitivity analyses	N/A
	Discussion		
18	Key results	Summarise key results with reference to study objectives	12
19	Limitations	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	14-15
20	Interpretation	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	12-14
21	Generalisability	Discuss the generalisability (external validity) of the study results	12-14
	Other information		
22	Funding	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	9,16



Supplementary Figure S1: Flow diagram of cohort and identification of cases for the main endpoints, 5 March 2020-28 May 2022, South Africa.

Supplementary Table S2: Characteristics of COVID-19 hospitalised patients included and excluded from analysis, 5 March 2020-28 May 2022, South Africa.

Characteristic	With HIV status (included) n (%) N=267,490	Missing HIV status (excluded) n (%) N=122,533	P-value
Sex			
Female	146,304 (54.7)	69,163 (56.4)	<0.0001
Male	121,143 (45.3)	53,187 (43.4)	
Age (in years)			
<20	16,055 (6.0)	9,672 (7.9)	<0.0001
20-39	51,765 (19.4)	30,658 (25.0)	
40-59	101,266 (37.9)	38,932 (31.8)	
60-69	47,205 (17.7)	20,680 (16.9)	
70-79	32,773 (12.3)	14,038 (11.5)	
≥80	18,426 (6.9)	8,553 (7.0)	
Race			
White	22,042 (8.2)	6,802 (5.6)	<0.0001
Mixed	8,527 (3.2)	7,161 (5.8)	
Black	99,006 (37.0)	85,335 (69.6)	
Indian	10,285 (3.9)	3,154 (2.6)	

Supplementary Table S3: Characteristics of PLWH and people without HIV, by wave period, 5 March 2020-28 May 2022, South Africa (N=267,490)

Characteristic	D614G n/N (%)		Beta n/N (%)		Delta n/N (%)		Omicron BA.1 n/N (%)		Omicron BA.4/BA.5 n/N (%)		All waves n/N (%)	
	HIV pos (n=44,430)	HIV neg (n=4,465)	HIV pos (n=5,833)	HIV neg (n=66,649)	HIV pos (n=6,743)	HIV neg (n=92,999)	HIV pos (n=4,374)	HIV neg (n=31,673)	HIV pos (n=807)	HIV neg (n=9,517)	HIV pos (n=22,222)	HIV neg (n=245,268)
Age group (years)												
<45	2,037 (45.6%)	12,993 (29.2%)	2,673 (45.8%)	16,990 (25.5%)	3,343 (49.6%)	26,511 (28.5%)	2,815 (64.4%)	15,500 (48.9%)	530 (65.7%)	4,237 (44.5%)	11,398 (51.3%)	76,231 (31.1%)
≥45	2,428 (54.4%)	31,437 (70.8%)	3,160 (54.2%)	49,659 (74.5%)	3,400 (50.4%)	66,488 (71.5%)	1,559 (35.6%)	16,173 (51.1%)	277 (34.3%)	5,280 (55.5%)	10,824 (48.7%)	169,037 (68.9%)
Sex												
Male	1,623 (36.4%)	20,359 (45.8%)	1,988 (34.1%)	30,871 (46.3%)	2,380 (35.3%)	44,031 (47.4%)	1,748 (40.0%)	13,510 (42.7%)	340 (42.1%)	4,293 (45.1%)	8,079 (36.4%)	113,064 (46.1%)
Female	2,840 (63.6%)	24,069 (54.2%)	3,843 (65.9%)	35,763 (53.7%)	4,358 (64.6%)	48,960 (52.7%)	2,625 (60.0%)	18,156 (57.3%)	466 (57.7%)	5,224 (54.9%)	14,132 (63.6%)	132,172 (53.9%)
Comorbidity												
No	1,422 (31.9%)	19,968 (44.9%)	1,604 (27.5%)	35,286 (52,9%)	1,670 (24.8%)	52,353 (56.3%)	1,080 (24.7%)	19,329 (61.0%)	190 (23.5%)	5,441 (57.2%)	5,966 (26.9%)	132,377 (54.0%)
Yes	2,068 (46.3%)	21,172 (47,7%)	2,018 (34.6%)	26,564 (39.9%)	1,918 (28.4%)	33,467 (36.0%)	1,218 (27.9%)	8,629 (27.2%)	241 (29.9%)	3,756 (39.5%)	7,463 (33.6%)	93,588 (38.2%)
Health sector												
Private	1,084 (24.3%)	30,963 (69.7%)	580 (9.9%)	43,175 (64.8%)	565 (8.4%)	66,411 (71.4%)	258 (5.9%)	21,530 (68.0%)	42 (5.2%)	7,834 (82.3%)	2,529 (11.4%)	169,913 (69.3%)
Public	3,381 (75.7%)	13,467 (30.3%)	5,253 (90.1%)	23,474 (35.2%)	6,178 (91.6%)	26,588 (28.6%)	4,116 (94.1%)	10,143 (32.0%)	765 (94.8%)	1,683 (17.7%)	19,693 (88.6%)	75,355 (30.7%)
Prior infection												
No	4,356 (97.6%)	42,337 (95.3%)	5,699 (97.7%)	64,062 (96.1%)	6,550 (97.1%)	89,189 (95.9%)	4,226 (96.6%)	29,285 (92.5%)	777 (96.9%)	8,664 (91.0%)	21,608 (97.2%)	233,537 (95.2%)
Yes	109 (2.4%)	2,093 (4.7%)	134 (2.3%)	2,587 (3.9%)	193 (2.9%)	3,810 (4.1%)	148 (3.4%)	2,388 (7.5%)	30 (3.7%)	853 (9.0%)	614 (2.8%)	11,731 (4.8%)
Fully vaccinated												
No	4,465 (100%)	44,430 (100%)	5,833 (100%)	66,649 (100%)	6,566 (97.4%)	88,638 (95.3%)	3,725 (85.2%)	21,143 (66.8%)	659 (81.7%)	5,351 (56.2%)	21,248 (95.6%)	226,211 (92.2%)
Yes	-	-	-	-	177 (2,6%)	4,361 (4.7%)	649 (14.8%)	10,530 (33.3%)	148 (18.3%)	4,166 (43.8%)	974 (4.4%)	19,057 (7.8%)
Outcome												
Discharged	3,365 (75.4%)	35,316 (79.5%)	4,206 (72.1%)	48,889 (73.4%)	4,969 (73.7%)	70,176 (75.5%)	3,573 (81.7%)	28,780 (90.9%)	664 (82.3%)	8,859 (93.1%)	16,777 (75.5%)	192,020 (78.3%)
Died	1,100 (24.6%)	9,114 (20.5%)	1,627 (27.9%)	17,760 (26.7%)	1,774 (26.3%)	22,823 (24.5%)	801 (18.3%)	2,893 (9.1%)	143 (17.7%)	658 (6.9%)	5,445 (24.5%)	53,248 (21.7%)

Supplementary Table S4: HIV prevalence amongst COVID-19 hospitalized patients of different age groups reported to DATCOV, in the public and private health sectors, 5 March 2020-28 May 2022, South Africa.

Characteristic	Private sector (94,167) n/N (%)	Public sector (57,612) n/N (%)
Age		
<20 years	20/11,947 (0.2)	527/14,453 (3.7)
20-39 years	574/33,705 (1.7)	7,651/50,418 (15.2)
40-59 years	1,694/77,447 (2.2)	9,092/65,038 (14.0)
60-69 years	237/31,722 (0.8)	2,199/37,361 (5.9)
70-79 years	40/22,559 (0.2)	671/24,032 (2.7)
≥80 years	3/13,761 (0.02)	150/13,639 (1.1)
Total	2,568/191,141 (1.3)	20,290/205,941 (9.9)