

Supplementary Table 1 (for appendix): distributions of sensitivity and median days to initiation by clinic

Clinic	# of ART initiators	Sensitivity	Days from work-up to ART initiation
<i>Hlabisa facilities</i>			
H8	1066	83.4%	15 (6, 34)
H11	1171	82.3%	21 (10, 43)
H14	1093	84.9%	17 (9, 30)
H15	2231	85.9%	17 (11, 29)
H16	1664	85.6%	13 (6, 27)
H19	2286	77.4%	12 (5, 28)
H21	1459	87.8%	23 (14, 39)
H24	4190	85.4%	14 (8, 27)
H_Other	6606	79.0%	17 (7, 33)
<i>Right to Care facilities</i>			
RTC1	5165	95.1%	36 (17, 58)
RTC2	8842	94.0%	36 (21, 58)
RTC3	2004	71.4%	14 (6, 28)
RTC4	4332	79.8%	16 (7, 35)
RTC5	8604	91.6%	18 (9, 42)
RTC6	5026	60.6%	22 (10, 42)
RTC7	17769	94.4%	16 (6, 37)
RTC8	9184	96.5%	21 (9, 36)

Notes: H_Other includes all Hlabisa facilities with fewer than 1000 ART initiators.

Supplementary Table 2 (for appendix): Sensitivity of imputed start date and median number of days to initiation by calendar year

Year	RTC cohort			Hlabisa cohort			
	# ART initiators	Sensitivity	Median days to ART	# ART initiators	Sensitivity	PPV	Median days to ART
2005	2756	92.6%	35 (14, 63)	n/a	n/a	n/a	n/a
2006	4912	92.0%	34 (17, 63)	n/a	n/a	n/a	n/a
2007	5700	87.3%	30 (14, 56)	1963	86.4%	94.1%	23 (12, 39)
2008	7359	85.5%	28 (14, 53)	3467	82.2%	92.3%	21 (8, 38)
2009	9278	88.0%	21 (11, 42)	3223	86.3%	94.8%	18 (9, 35)
2010	9686	87.8%	21 (8, 41)	3723	86.9%	96.9%	18 (9, 34)
2011	7379	88.5%	18 (7, 41)	4607	78.2%	97.1%	14 (7, 25)
2012	6037	89.5%	16 (7, 33)	4783	79.6%	97.9%	10 (6, 21)
2013	4720	86.5%	13 (5, 28)	n/a	n/a	n/a	n/a
2014	3287	88.4%	8 (2, 24)	n/a	n/a	n/a	n/a

Notes: PPV = Positive Predictive Value. Because laboratory data were not systematically collected in the RTC cohort for patients who presented for care but did not initiate ART, we were unable to calculate PPV in the RTC cohort.

Supplementary table 3: Effect of changing the “matching” interval between ART workup and known ART start date on sensitivity of imputation method* in Hlabisa and RTC cohorts

Interval prior to known ART start	Sensitivity	
	Hlabisa cohort	RTC cohort
1 month	62.7%	54.2%
3 months	80.1%	82.2%
6 months	82.6%	88.2%
9 months	83.3%	88.2%

* Matching interval = the maximum time between ART workup and known ART start date for the imputed start date to be considered a “match” to the known ART start date. The primary analysis set this interval at 6 months; here we show the effect changing this interval has on sensitivity of the imputation method.

Sensitivity = the proportion of those with an ART workup in the specified interval who truly initiated ART