

ONLINE APPENDIX 2

TABLE 1: Study outcomes.

First author, ref	Mortality		Mortality timeframe	LTFU		LTFU Timeframe	LTFU rate		Mortality for those LTFU		Time on ART before LTFU, months		Transferred		Retention		Retention timeframe
	n	%		n	%		psy	95% CI	n	%	Median	IQR	n	%	n	%	
Adult studies																	
3 month LTFU defn																	
Brennan ²³ §	1425	7.2	1 year	2229	11.3	1 year	NR	NR	NR	NR	NR	NR	821	4.2 over 12 months	NR	NR	-
Brennan ²⁴ §	410	10.4	2 years	729	18.5	1 year	-	-	NR	NR	8.3	4.8 – 14.5	294	7.5 over 24 months	2507	63.6	2 years
TDF	166	8.8	2 years	350	18.6	1 year	12.1/100	10.9–13.5	-	-	-	-	156	8.3	1206	64.2	-
d4T	244	11.8	2 years	379	18.4	1 year	12.1/100	10.9–13.4	-	-	-	-	138	6.7	1301	63.1	-
Evans ²⁵ §	661	7.9	1 year	878	10.4	1 year	NR	NR	NR	NR	5.0	4.0 – 7.7	321	3.8 at 12 months	6549	77.9	1 year
Evans ²⁶ §	-	-	-	-	-	-	-	-	NR	NR	NR	NR	-	-	-	-	-
No PN	1116	12.6	1 year	1998	22.5	1 year	26.3/100	-	-	-	-	-	822	9.3 at 12 months	4923	55.6	1 year
HIV PN	56	15.1	1 year	77	20.8	1 year	24.2/100	-	-	-	-	-	41	11.1	196	53.0	1 year
								-									
TB PN	15	14.7	1 year	32	18.8	1 year	-	-	-	-	-	-	13	7.7	100	58.8	1 year
Fox ²⁷ §	1201	9.1	1 year	1477	11.2	1 year	-	-	NR	NR	5.0	4.0–7.6 for 1 year outcomes	-	-	10 051	76% at 1 year, 37.8% (36.2–39.4) at 7 years	-
2004–2005	293	16.3	1 year	455	25.4	1 year	5.57/100	5.08–6.10	-	-	-	-	178	9.9	868	48.4	1 year
2005–2006	357	16.6	1 year	617	28.6	1 year	-	-	-	-	-	-	224	10.4	956	44.4	1 year
2006–2007	373	14.3	1 year	733	28.0	1 year	-	-	-	-	-	-	274	10.5	1237	47.3	1 year
2007–2008	277	13.9	1 year	516	25.9	1 year	-	-	-	-	-	-	187	9.4	1016	50.9	1 year
2008–2009	290	13.3	1 year	429	19.6	1 year	-	-	-	-	-	-	169	7.7	1297	59.4	1 year
2009–2010	239	9.6	1 year	474	19.1	1 year	-	-	-	-	-	-	148	6.0	1620	65.3	1 year
Fox ²⁸ §	1701	8.1	-	4576	21.7	Study period	NR	NR	-	37% within 3 years	NR	NR	1757	8.3	13 067	62	Study period
Fox ²⁹ §	8	4.9	2 years	23	14.1	2 years	NR	NR	NR	NR	NR	NR	22	11.9	132	81.0% (95% CI: 74.4–86.5%)	2 years
Maskew ³⁰ §	992	10.9	2 years	1353	14.8	2 years	NR	NR	NR	NR	7.2	4.1–14.3	514	5.6	NR	NR	-
Shearer ³¹ §	415	17.4	1 year	-	-	-	NR	NR	415	17.4 died or were lost to follow-up in median (IQR) of 4.7 (3.9–7.6)	4.7	3.9–7.6	-	-	-	-	-
EFV	107	4.8	1 year	289	12.8	1 year	-	-	-	-	-	-	140	6.2 at 12 months	1718	76.2	1 year
NVP	5	3.8	1 year	14	10.7	1 year	-	-	-	-	-	-	11	8.4	101	77.1	1 year
Shearer ^{15,a} §	1061	8.3	1 year	-	-	-	NR	NR	NR	NR	NR	NR	-	-	-	-	-
NVP	55	6.3	1 year	88	10.0	1 year	-	-	-	-	-	-	35	4.0 at 12 months	700	79.7	1 year
EFV	1006	8.4	1 year	1287	10.8	1 year	-	-	-	-	-	-	511	4.3	9158	76.6	1 year
Westreich ³² §	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Male	297	9.3	-	919	28.9	Study period	-	-	-	-	-	-	-	-	-	-	-
Women, non-pregnant	408	7.5	-	1298	24.0	-	-	-	-	-	-	-	-	-	-	-	-
Women, pregnant	17	2.9	-	234	39.9	-	-	-	-	-	-	-	-	-	-	-	-

Maskew ^{33§}	137	3.5	6 months	119	3.0	6 months	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Clouse ^{16,a*}	29	1.9%, 95% CI 1.3–2.7	-	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
CD4 < 200	-	-	-	15.5%	95% CI 13–18.2	1 year	-	-	-	-	-	-	-	-	-	-	-
CD4 201–350	-	-	-	12.7%	95% CI 10.3–15.3	1 year	-	-	-	-	-	-	-	-	-	-	-
Clouse ^{78*}	48	(5.7%, 4.3% – 7.4%); IDHs only: 11.9%; 8.7–15.8)	Study period	25.0%	20.1– 30.4; includes LTFU and death	1 year	NR	NR	NR	NR	NR	NR	59	7.0		36.9% (33– 41.1%)	1 year
Evangel ^{17,a**}	48	12.6	-	109	28.7	Study period	10.65/ 100	8.48– 12.34	NR	NR	NR	NR	20	5.3	203	53.4	-
Lessells ^{35**}	875	4.6	3 months	641	3.4	3 months	NR	NR	NR	NR	NR	NR	170	0.9, 3 months	NR	NR	-
Mutevedzi ^{36**}	997	11.3	-	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
16–24 years	-	-	-	12.90%	-	-	-	-	-	-	-	-	-	-	-	-	-
25–49 years	-	-	-	11.60%	-	-	-	-	-	-	-	-	-	-	-	-	-
50+ years	-	-	-	6.50%	-	-	-	-	-	-	-	-	-	-	-	-	-
Evans ^{18,a}	3941	9.3	1 year	4713	11.1	1 year	-	-	NR	NR	10.9	5.0 –22.7	2591	6.2 at 12 months	31 182	73.4	1 year
10–14:	-	-	-	-	-	-	17.6/100	-	-	-	-	-	-	-	-	-	-
15–19:	-	-	-	-	-	-	6.1/100	-	-	-	-	-	-	-	-	-	-
20–24:	-	-	-	-	-	-	23.3/100	-	-	-	-	-	-	-	-	-	-
≥25:	-	-	-	-	-	-	9.8/100	-	-	-	-	-	-	-	-	-	-
Fatti ^{62,90}	6.8%	CI: 6.5% – 7.1%	2 years	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	-	-	-
High caseload	-	-	-	14.9%	CI: 14.3% – 15.4%	2 years	-	-	-	-	-	-	-	-	-	73.9% (CI: 73.1% to 74.7%)	3 years
Low caseload	-	-	-	11.2%	CI: 10.4% –12.2%	2 years	-	-	-	-	-	-	-	-	-	78.8% (CI: 76.7% to 80.8%)	3 years
Grimsrud ³⁸⁺	0.9%	95% CI 0.3–2.2	18 months	12.3%	95% CI 9.7–15.5	18 months	NR	NR	NR	NR	NR	NR	NR	NR	-	93.5% (95% CI 92.2 – 94.5)	1 year
Gupta ³⁹⁺	208	13.5	Study period	318	20.6	Study period	NR	NR	NR	NR	NR	NR	207	13.4 study pd	811	52.5	Study period
Nglazi ⁴⁰⁺	NR	NR	-	NR	NR	-	10.0 /100	8.8–11.4	NR	NR	NR	NR	NR	NR	NR	NR	-
Orrell ⁴¹⁺	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	-	-	-	-	-
No breakthrough	64	3.1	-	235	11	Study period	-	-	-	-	-	-	186	8.9	On first line: 1624 Failed first line: 0	On first line: 77 Failed first line: 0	-
Breakthrough	25	4.4	-	132	23	-	-	-	-	-	-	-	62	11	On first line: 302 Failed first line: 46	On first line: 53 Failed first line: 8	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davies ⁴²	9	6	96 weeks	34	23.0	96 weeks	NR	NR	NR	NR	NR	NR	50	34	NR	NR	-
6 month LTFU defn																	
Boulle ⁴³ α	16.6%	(CI 15.4– 17.4) linked to death registry	4 years	4367	14.3	4 years	NR	NR	956 (2594 of all LTFU pts)	36.9% of LTFU pts who were able to be linked to death registry (57.4% of all LTFU pts)	NR	NR	1652	5.4 over 4 years	NR	NR	-
Cornell ⁴⁴ α	3946	8.5	-	3643	7.9	-	10.03/100	-	746/36 43	20.5 up to 36 months	476	170–864 person days, for 'true LTFU'	4797	10.4	29 901	64.7	3 years
Cornell ⁴⁵ α	1207	6% before death registry linkage	Study period	2624	13% before death linkage	Study period	NR	NR	972	37	6.7	1.1–17.0	1067	5 before death linkage	14 583	75	Study period, before linkage
Cornell ^{49,a} α	8029	10	-	21 667	26	Study period	NR	NR	NR	NR	NR	NR	8961	11	44 909	54	-

Johnson ⁴⁶ α	5782	15.3	-	16 250	43.1	Study period	NR	NR	2947	21.1 with ID#	NR	NR	NR	NR	NR	NR	-
Wandeler ^{20,a} α	-	-	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	-	-	-
TDF	4.4%	95% CI 1.8–8.8	3 years	12.8%	6.3–21.6	3 years	-	-	-	-	-	-	-	-	82.8	72.1–87.6	3 years
Non-TDF	7.8%	95% CI 5.8–10.00	3 years	23.5%	20.2–26.8	3 years	-	-	-	-	-	-	-	-	68.7	64.7–71.9	3 years
	-	-	-	-	-	-	Aurum C 145.7/1000	108.8– 195.1	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	Aurum W 165.8/1000	127.3– 216.0	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	Khaye 61.7/1000	36.5– 104.1	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	Themba 105.8/1000	85.1– 131.5	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	Tyger 54.6/1000	34.4–86.7	-	-	-	-	-	-	-	-	-
Fairall ⁴⁷	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	-	-	-	-	-
Cohort 1 control	747	19	-	0.032792 005	-	-	-	-	-	-	-	-	-	-	2254	58	1 year
Cohort 1 intervention	997	20	-	-	-	-	-	-	-	-	-	-	-	-	3373	63	1 year
Cohort 2 control	75	2.3	-	105	3.3	1 year	-	-	-	-	-	-	11	0.3	2926	91	1 year
Cohort 2 intervention	66	2.2	-	123	4.1	1 year	-	-	-	-	-	-	11	0.4	2733	90	1 year
Fatti ⁴⁸ α	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	-	-	-
CBAS	9%	95% CI 8– 10	5 years	1185	6	Study period	-	-	-	-	-	-	-	-	79.1	95% CI 77.7 – 80.4	5 years
Non-CBAS	10.6%	10–11.3	5 years	4498	9.5	Study period	-	-	-	-	-	-	-	-	73.6	95% CI 72.6 – 74.5	5 years
Fatti ²² α	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Older adults	344	8.5	-	488	12.0	-	-	-	-	-	-	-	-	-	-	-	-
Younger adults	5002	5.8	-	11 082	12.9	-	-	-	-	-	-	-	-	-	-	-	-
Grimsrud ^{81,a,b,+}	444	8.6	5 years	1081	21.0	5 years	7.9/100	7.4–8.4	NR	NR	NR	NR	NR	NR	NR	NR	-
Johnston ⁴⁹	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	-	-	-
Workplace	12	5.8	15 months	29	14.0	15 months	-	-	-	-	-	-	0	-	179	73.7	15 months
Community	12	5.7	15 months	15	7.1	15 months	-	-	-	-	-	-	12	5.7 at 15 months	151	84.4	15 months
Leisegang ⁵⁰	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	-	-	-	-	-
Khaye	675	10.6	Study period	350	5.5	-	-	-	-	-	-	-	401	5.7	4938	77.5	Study period
Broadreach	192	20	-	75	7.8	-	-	-	-	-	-	-	0	0	695	72.2	Study period
Luque-	40	1.4	Study period	323	11.4	Study period	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Fernandez ⁵¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mberi ^{21,a}	63	10.6	-	139	23.4	-	109 / 1000	92–128	63	45.3	21.5	12.9–34.7	365	61.3	91	15.3% at study end. 2 years: 81.8%. 5 years: 54.7% 68.0.	-
Mutevedzi ^{52**}	791	16.9	-	467	10.0	-	LTFU 4.1 / 100 ; disengagem ent 3.4 / 100	3.77– 4.45; disengage ment 3.1–3.8	115	20.6%	NR	NR	260	5.6	3180	Estimated at 5 years: 61% 72.8	-
Schoffelen ⁵³	11	5.8	Study period	26	13.6	At data extraction Study period	NR	NR	NR	NR	NR	NR	15	7.9	139	72.8	Study period
Velen ⁵⁴	1610	26.0	Study period	500	8.1	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	-
TDF	-	-	-	-	-	-	9.8 / 100	4.2– 23.0	-	-	-	-	-	-	-	-	-
AZT	-	-	-	-	-	-	9.5 / 100	4.1–21.7	-	-	-	-	-	-	-	-	-
d4T	-	-	-	-	-	-	11.8 / 100	5.1– 27.5	-	-	-	-	-	-	-	-	-
Westreich ⁵⁵ $\S$	635	8.4	-	1948	25.9	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Other LTFU defn	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brennan ⁵⁶ $\S$	69	7.8	2 years	86	9.7	2 years	NR	NR	NR	NR	NR	NR	49	5.5 at 2 years	686	77.1	2 years
Maskew ⁵⁷ $\S$	333	4.5	Study period	1382	18.8	Study period	NR	NR	NR	NR	NR	NR	598	8.1	5041	68.6	-
Levison ^{58,+}	4	2.0	24 weeks	24	11.9	24 weeks	NR	NR	NR	NR	NR	NR	7	3.5 at 24 weeks	167	82.7	24 weeks

Nglazi ⁵⁹	428	9.5	Study period	996	22.1	Study period	NR	NR	NR	NR	NR	NR	597	13.2 during study	2490	55.2	Study period
Loggerenberg ⁶⁰	12	4.0	9 months	8	2.7	9 months	NR	NR	NR	NR	NR	NR	7	2.4 at 9 months	247	83.2	1 year
Hoffman ⁶¹	2323	15.4	Study period	3522	23	Stud period	NR	NR	NR	NR	NR	NR	2282	15 over study pd	NR	NR	-
Paediatric studies																	
3 month LTFU defn																	
Fattl ^{37¶}	10.7%	(95% CI: 8.3% – 13.7%)	4 years	6.8%	95% CI: 5.7% – 8.2%	2 years	NR	NR	23	33.8 with ID#	NR	NR	NR	NR	-	84.1% (CI 80.9%–86.7%)	4 years
Grimwood ^{63¶}	-	-	-	-	-	-	NR	NR	-	38.70	NR	NR	NR	NR	-	-	-
<i>PAs</i>	3.7%	95% CI: 1.9% – 7.4%	3 years	16	5.0	Study period	-	-	-	-	-	-	-	-	-	91.5% (95% CI: 86.8% – 94.7%)	3 years
<i>no PAs</i>	8.0%	95% CI: 6.5% – 9.8%	3 years	195	6.0	-	-	-	-	-	-	-	-	-	-	85.6% (95% CI: 83.3% – 87.6%)	3 years
6 month LTFU defn																	
Cotton ⁶⁴	45	11.9	Trial period	34	9	-	NR	NR	NR	NR	67 weeks	29–124	NR	NR	NR	NR	-
Meyers ^{65#}	132	6	Study period	132	6	Study end	4.2/100 child years	-	NR	NR	NR	NR	104	5 over study period	1734	82.5	Study period
Sengayi ^{66,a#}	145	3.4	2 years	475	11.1 at 2 years	2 years	First 12 months: 8.4 /100 child years. Second 12 months: 5.0/100 child years	First 12 months: 7.6–9.4. Second 12 months: 4.2–5.8	NR	NR	NR	NR	496	11.6 at 2 years	2643	62.0	2 years
Gsponer ^{67¶}	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	-	-	NR	NR	-
<i>Site 1</i>	74	3.7	3 years	4	0.2	3 years	-	-	-	-	-	-	13	0.7 at 3 years	-	-	-
<i>Site 2</i>	14	2.3	3 years	20	3.3	-	-	-	-	-	-	-	0	0	-	-	-
<i>Site 3</i>	15	4.4	3 years	8	2.8	-	-	-	-	-	-	-	23	6.7	-	-	-
<i>Site 4</i>	39	4.1	3 years	23	2.4	-	-	-	-	-	-	-	32	3.4	-	-	-
<i>Site 5</i>	25	2.6	3 years	101	10.4	-	-	-	-	-	-	-	52	5.3	-	-	-
<i>Site 6</i>	116	14.0	3 years	41	5.0	-	-	-	-	-	-	-	375	45.2	-	-	-
<i>Site 7</i>	82	7.8	3 years	74	7.3	-	-	-	-	-	-	-	259	24.7	-	-	-
Fattl ^{68¶}	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
CBAS	22	2.2	-	32	3.3	-	-	-	-	-	-	-	-	-	-	-	-
<i>Non-CBAS</i>	116	3.0	-	192	5.0	-	-	-	-	-	-	-	-	-	-	-	-
Lilian ⁶⁹ Σ	3	13.0	-	7	30.4	-	NR	NR	NR	NR	NR	NR	NR	NR	13	56.5	Study period
Other LTFU defn																	
Chhagan ^{70,a}	6	4.0	2 years	13	8.6	2 years	NR	NR	NR	NR	NR	NR	11	7.3 over 2 years	121	80.1	2 years
Davies ^{71¶}	344	6.0)	-	411	7	-	NR	NR	NR	NR	5.8	-	885	16	NR	NR	-
Kuhn ⁷² Σ	-	-	-	-	-	-	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
<i>Control</i>	3	3.0	156 weeks	8	8.1	156 weeks	-	-	-	-	-	-	-	-	-	-	-
<i>Switch</i>	3	3.4	156 weeks	16	16.7	156 weeks	-	-	-	-	-	-	-	-	-	-	-
Shiau ⁷³ Σ	44	13.6	Study period	28	14.4	Study period	NR	NR	NR	NR	NR	NR	5	2.6 at completion	156	80	Study period
MacDonald ⁷⁴	8	2.3	Study period	12	3.6	Study period	NR	NR	NR	NR	NR	NR	36	10.7 at study end	281	83.4	Study period
Morsheimer ⁷⁵	13	2.2	3 years	25	4.1	3 years	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Smith ⁷⁶	NR	NR	-	7	35	-	NR	NR	NR	NR	NR	NR	NR	NR	13	65	-

Pregnancy studies																		
3 month LTFU defn																		
Van Schalkwyk ^{77,a}	NR	NR	-	94	37.6	1 year	NR	NR	NR	NR		NR	NR	NR	NR	NR	NR	-
Other LTFU defn																		
Clouse ^{32,a*}	0	0	-	32	34.4 initiated ART prior to delivery	1 year	NR	NR	NR	NR		NR	NR	16	5.9	53	57.0 initiated ART prior to delivery	6 months
Schwartz ^{79,a*} <i>Intervention</i>	NR	NR	-	-	-	-	NR	NR	NR	NR		NR	NR	-	-	-	-	-
	-	-	-	11	22	1 year	-	-	-	-		-	-	3	6 at 12 months	36	72	1 year
<i>Control</i>	-	-	-	12	24	1 year	-	-	-	-		-	-	5	10 at 12 months	33	66	1 year
Phillips ⁸⁰	NR	NR	-	115	32	6 months postpartum	4.70 / 100 woman months	3.92 – 5.64 / 100 woman months	NR	NR		57 days postpartu m	9–97	NR	NR	243	68 retained or transfer	-

NR, not reported; LTFU, lost to follow-up; Defn, definition; psy, person-years; LPV/r, lopinavir/ritonavir; tx, treatment; IQR, interquartile range; CI, confidence interval.

Note: Overlapping cohorts are coded by symbol.

^a, Indicates studies included in 1-year LTFU meta-analysis; ^b, Indicates studies included in 5-year LTFU meta-analysis.

Note: This is Online Appendix 2 of Kaplan S, Nteso KS, Ford N, Boule A, Meintjes G. Loss to follow-up from antiretroviral therapy clinics: A systematic review and meta-analysis of published studies in South Africa from 2011 to 2015. S Afr J HIV Med. 2019;20(1), a984. <https://doi.org/10.4102/sajhivmed.v20i1.984>