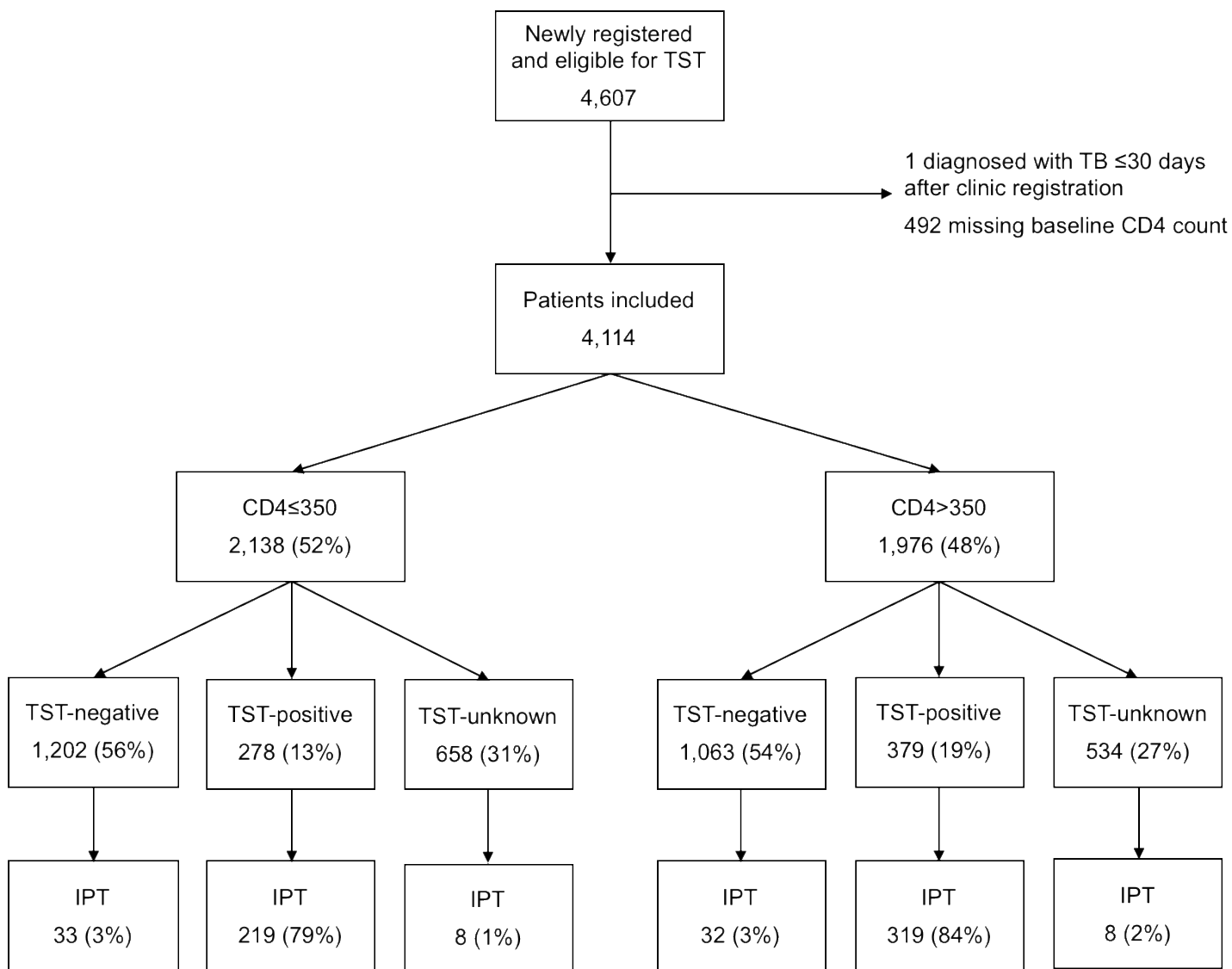


Supplemental Figures

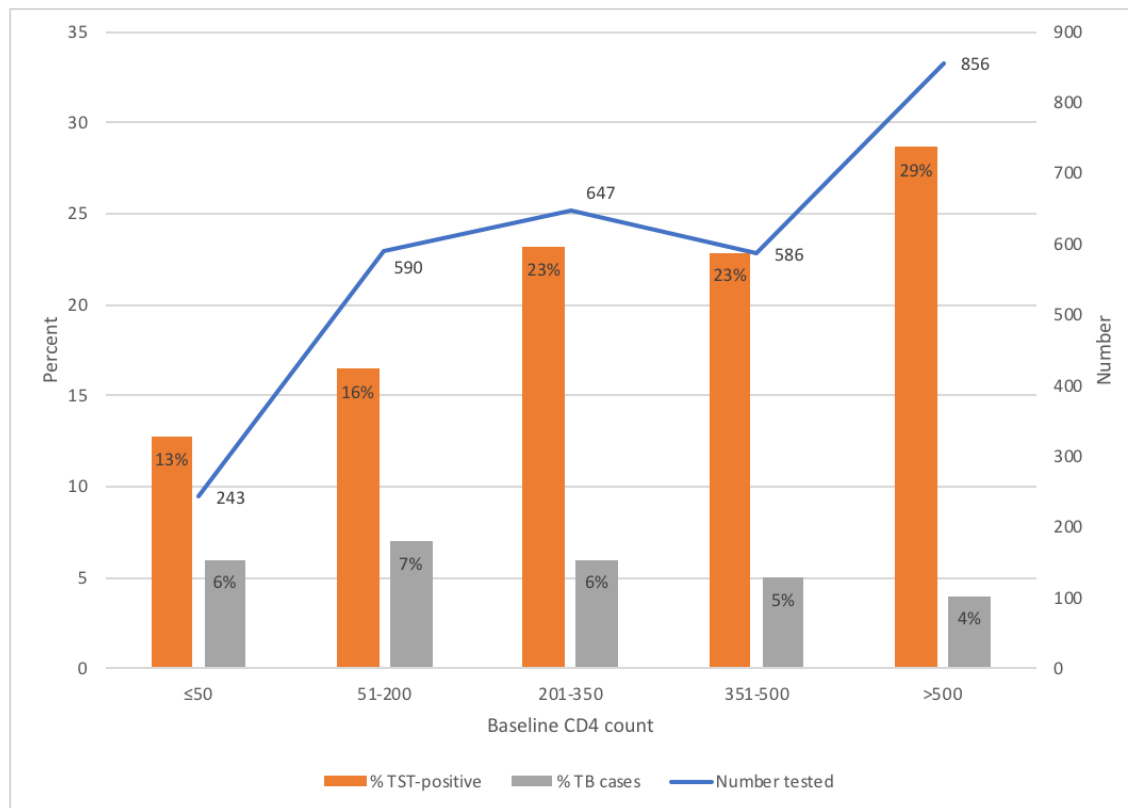
Supplemental Figure 1. Study enrollment



Abbreviations: TST, tuberculin skin test; IPT, isoniazid preventive therapy

Legend: At the time of the study, national guidelines recommended TST for all HIV patients, and IPT for patients with positive TSTs. In 2018, guidelines were updated to recommend IPT for all patients with CD4 ≤ 350; and TST for patients with CD4 > 350, with IPT for those with positive TSTs.

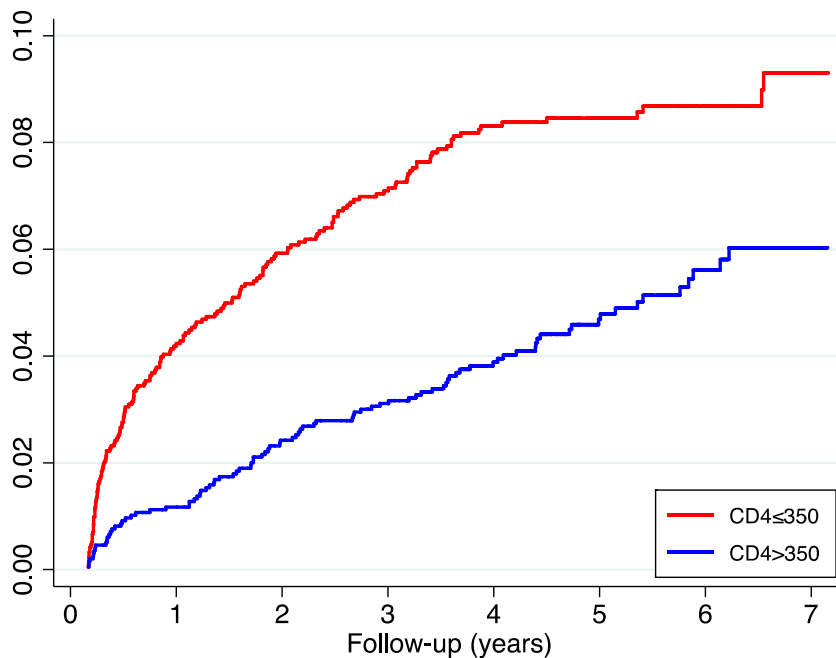
Supplementary Figure 2. Number of participants with a TST placed and read, and percent of participants with a TST placed and read who were a) TST-positive and b) TB cases, by baseline CD4 count



Abbreviations: TST, tuberculin skin test; TB, tuberculosis

Supplemental Figure 3. Cumulative hazard of TB by a) baseline CD4 count; b) TST status; c) baseline CD4 count and TST status

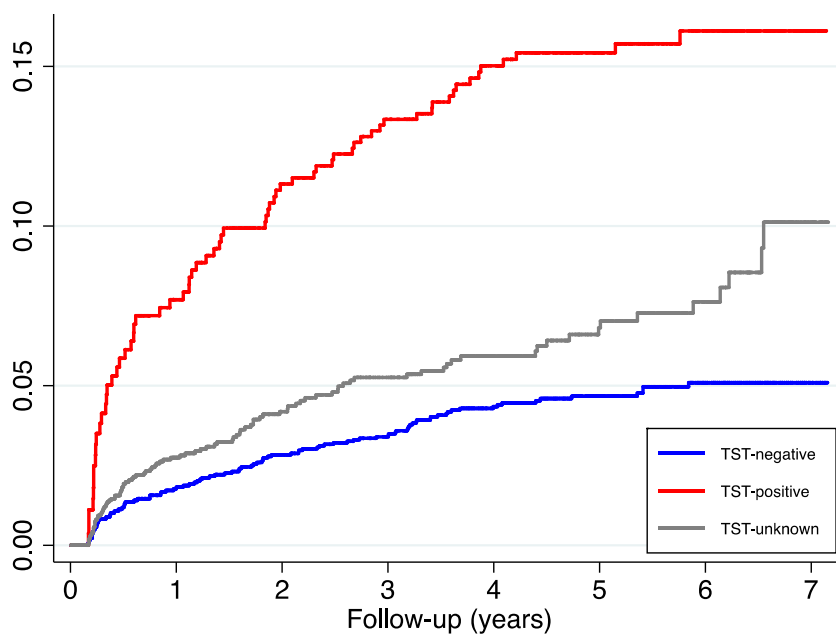
a) Baseline CD4 count



Number at risk

CD4 \leq 350	2138	1998	1908	1854	1487	1070	623	59
CD4 $>$ 350	1976	1946	1899	1866	1469	990	574	69

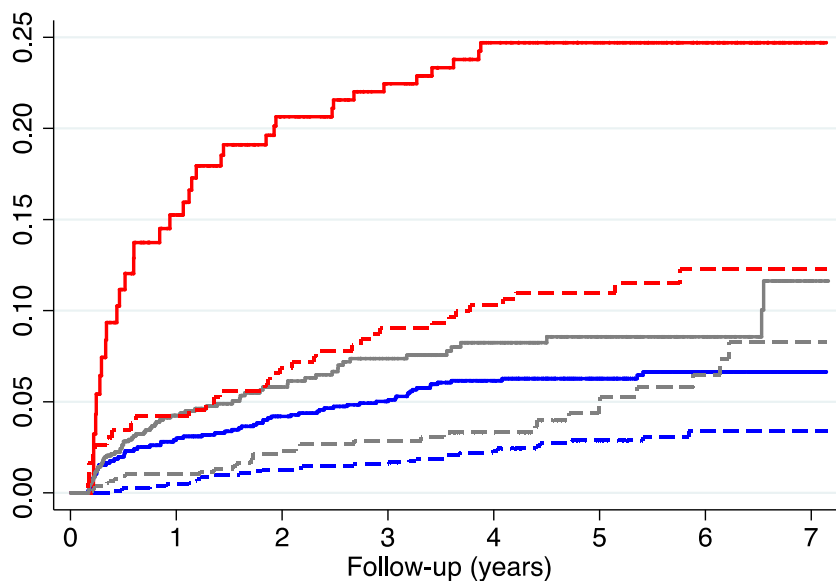
b) TST status



Number at risk

TST-negative	200	1982	2124	2107	1720	1212	714	69
TST-positive	46	406	509	558	503	374	222	34
TST-unknown	3868	1556	1174	1055	733	474	261	25

c) Baseline CD4 count and TST status



Number at risk

CD4 \leq 350, TST-negative	101	1035	1107	1083	895	649	394	34
CD4 \leq 350, TST-positive	10	136	198	230	209	170	102	12
CD4 \leq 350, TST-unknown	2027	827	603	541	383	251	127	13
CD4 $>$ 350, TST-negative	99	947	1017	1024	825	563	320	35
CD4 $>$ 350, TST-positive	36	270	311	328	294	204	120	22
CD4 $>$ 350, TST-unknown	1841	729	571	514	350	223	134	12

— CD4 \leq 350, TST-negative - - - CD4 $>$ 350, TST-negative
— CD4 \leq 350, TST-positive - - - CD4 $>$ 350, TST-positive
— CD4 \leq 350, TST-unknown - - - CD4 $>$ 350, TST-unknown

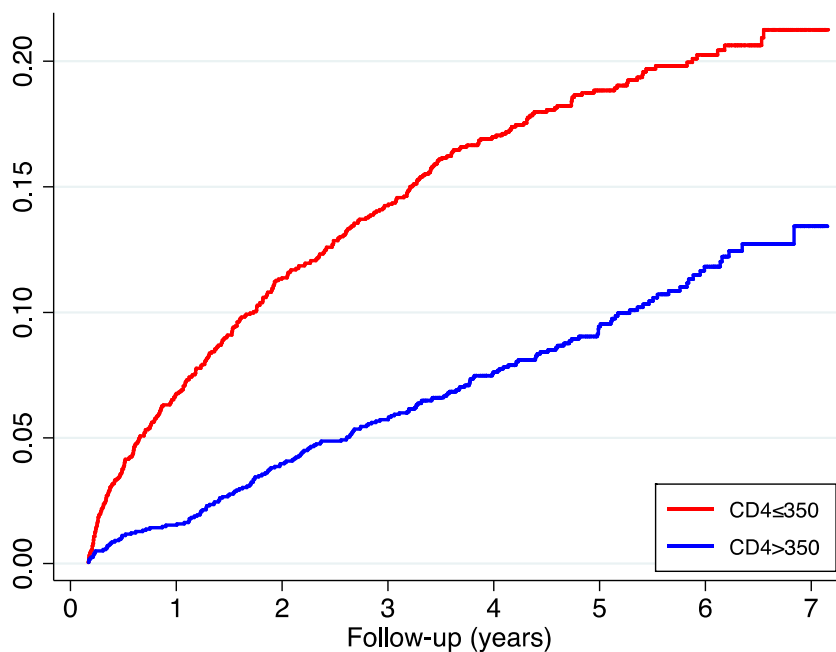
Abbreviations: TB, tuberculosis; TST, tuberculin skin test

Legend: The 7-year cumulative hazard of TB was: a) 9% for patients with baseline CD4 \leq 350 and 6% for patients with baseline CD4 $>$ 350 (log-rank $p < 0.001$); b) 5% for TST-negatives, 16% for TST-positives, and 10% for TST-unknowns (log-rank $p < 0.001$); and c) 7% for CD4 \leq 350 and TST-negative, 25% for CD4 \leq 350 and TST-positive, 12% for CD4 \leq 350 and TST-unknown, 3% for CD4 $>$ 350 and TST-negative, 12% for CD4 $>$ 350 and TST-positive, and 8% for CD4 $>$ 350 and TST-unknown (log-rank $p < 0.001$).

Supplemental Figure 4. Cumulative hazard of TB or death by a) baseline CD4 count; b) TST status; c)

baseline CD4 count and TST status

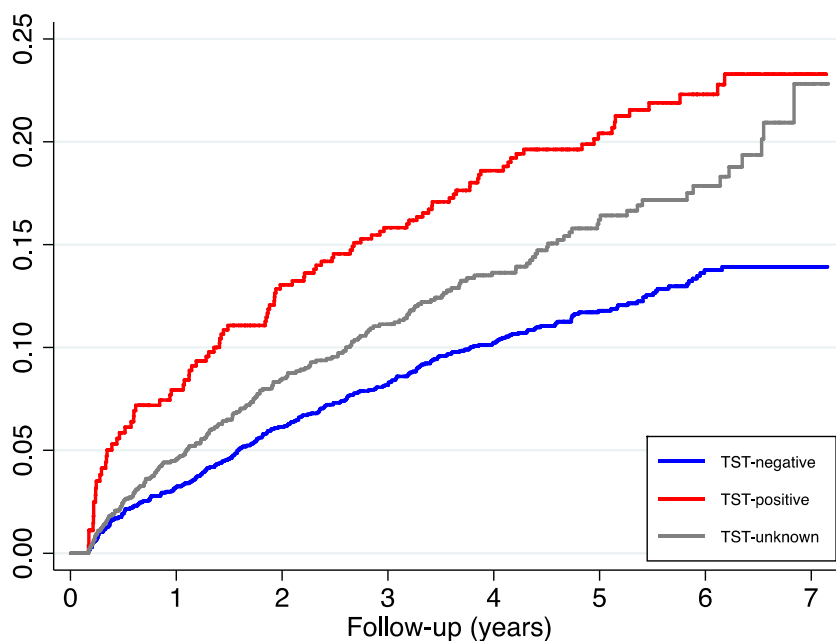
a) Baseline CD4 count



Number at risk

CD4 \leq 350	2138	1998	1908	1854	1487	1070	623	59
CD4 $>$ 350	1976	1946	1899	1866	1469	990	574	69

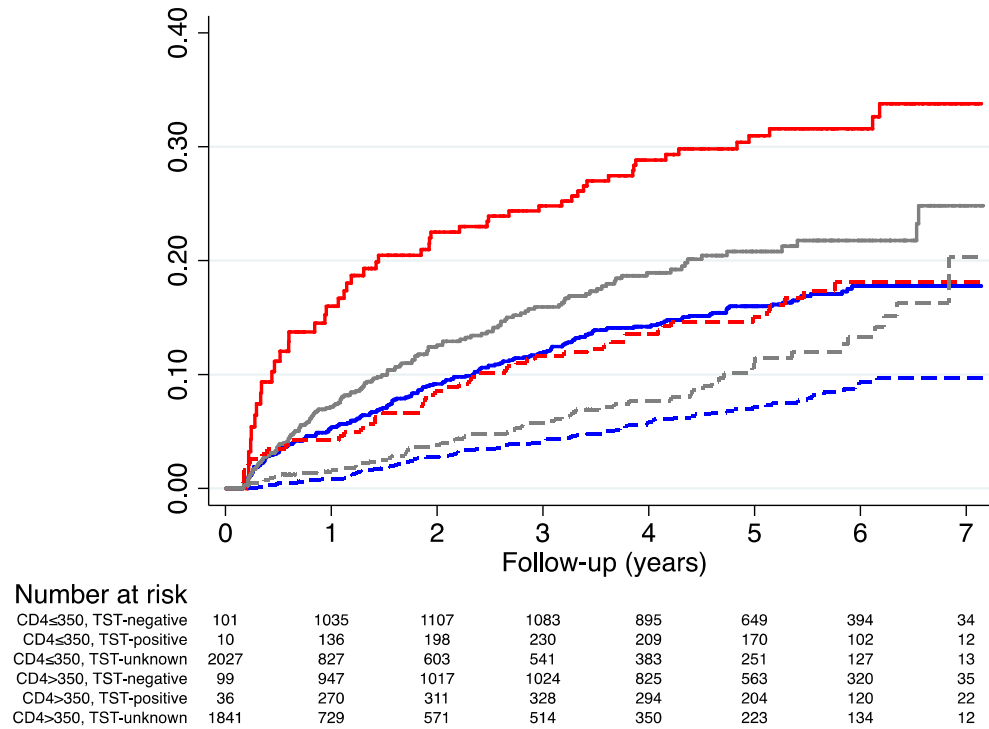
b) TST status



Number at risk

TST-negative	200	1982	2124	2107	1720	1212	714	69
TST-positive	46	406	509	558	503	374	222	34
TST-unknown	3868	1556	1174	1055	733	474	261	25

c) Baseline CD4 count and TST status

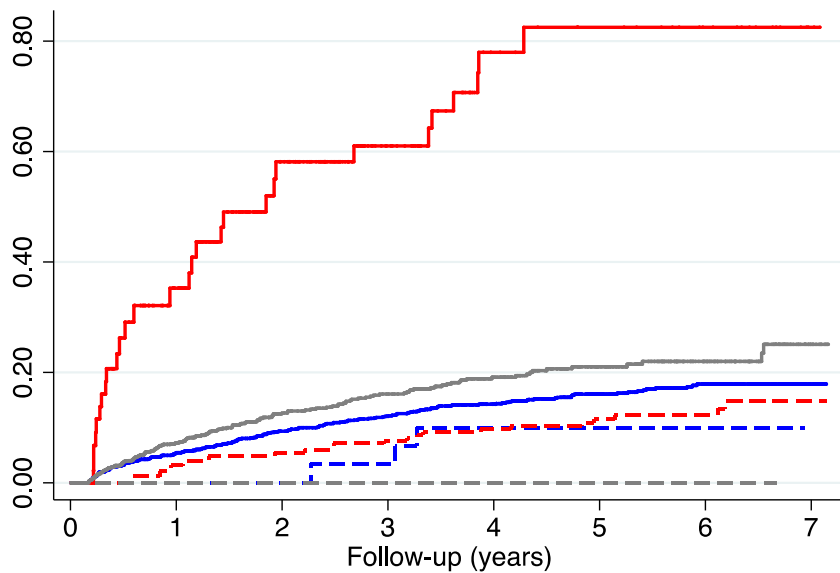


Abbreviations: TB, tuberculosis; TST, tuberculin skin test

Legend: The 7-year cumulative hazard of TB or death was: a) 21% for patients with baseline CD4 \leq 350 and 13% for patients with baseline CD4 $>$ 350 (log-rank $p < 0.001$); b) 14% for TST-negatives, 23% for TST-positives, and 23% for TST-unknowns (log-rank $p < 0.001$); and c) 18% for CD4 \leq 350 and TST-negative, 34% for CD4 \leq 350 and TST-positive, 25% for CD4 \leq 350 and TST-unknown, 10% for CD4 $>$ 350 and TST-negative, 18% for CD4 $>$ 350 and TST-positive, and 15% for CD4 $>$ 350 and TST-unknown (log-rank $p < 0.001$).

Supplemental Figure 5. Cumulative hazard of TB or death, by IPT and TST status

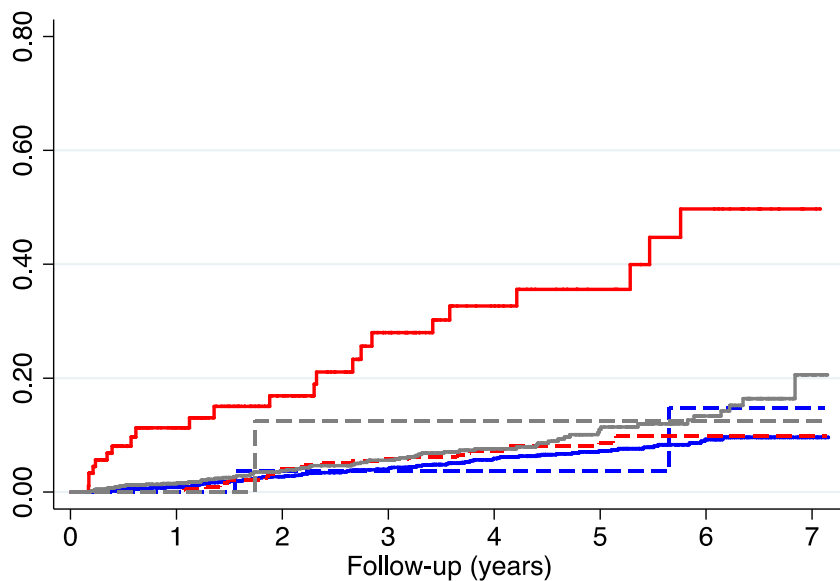
a) CD4 \leq 350



Number at risk

TST-negative, no IPT	100	1012	1079	1053	871	631	383	34
TST-negative, IPT	1	23	28	30	24	18	11	0
TST-positive, no IPT	10	31	33	32	24	20	13	2
TST-positive, IPT	0	105	165	198	185	150	89	10
TST-unknown, no IPT	2027	820	595	533	376	247	126	13
TST-unknown, IPT	0	7	8	8	7	4	1	0

b) CD4>350



Number at risk

TST-negative, no IPT	99	927	990	995	803	546	314	34
TST-negative, IPT	0	20	27	29	22	17	6	1
TST-positive, no IPT	35	52	50	40	38	25	19	2
TST-positive, IPT	1	218	261	288	256	179	101	20
TST-unknown, no IPT	1838	721	564	507	345	219	131	11
TST-unknown, IPT	3	8	7	7	5	4	3	1

— TST-negative, no IPT	- - TST-negative, IPT
— TST-positive, no IPT	- - TST-positive, IPT
— TST-unknown, no IPT	- - TST-unknown, IPT

Abbreviations: TB, tuberculosis; IPT, isoniazid preventive therapy; TST, tuberculin skin test

Legend: a) For patients with baseline $CD4 \leq 350$, the 7-year cumulative hazard of TB or death was: 18% for TST-negatives who did not receive IPT; 10% for TST-negatives who received IPT; 83% for TST-positives who did not receive IPT; 15% for TST-positives who received IPT; 25% for TST-unknowns who did not receive IPT; and 0% for TST-unknowns who received IPT (log-rank $p < 0.001$). b) For patients with baseline $CD4 > 350$, the 7-year cumulative hazard of TB or death was: 10% for TST-negatives who did not receive IPT; 15% for TST-negatives who received IPT; 50% for TST-positives who did not receive IPT; 10% for TST-positives who received IPT; 15% for TST-unknowns who did not receive IPT; and 13% for TST-unknowns who received IPT (log-rank $p < 0.001$).

Supplemental Tables

Supplemental Table 1. Characteristics of patients with missing baseline CD4 counts (N=492)

Characteristic	N (%)
Female sex	186 (38%)
Median age, years (IQR)	33 (26-42)
Prior ART	52 (11%)
Median days on ART (IQR)	313 (142-1,749)
TST results	
TST-negative	54 (11%)
TST-positive*	13 (3%)
TST-unknown**	425 (86%)
Median days to TST (IQR)	28 (6-71)
ART at TST	11 (16%)
<u>Abbreviations:</u> IQR, interquartile range; ART, antiretroviral therapy; TST, tuberculin skin test	
*No patients converted from TST-negative to -positive over follow-up	
**TST not placed and/or read	

Supplemental Table 2. IPT and ART initiation, and outcomes for patients with missing baseline CD4 counts

	Total (n=492)	TST-negative (n=54)	TST-positive* (n=13)	TST-unknown (n=425)	p-value
IPT and ART					
IPT	8 (2%)	1 (2%)	6 (46%)	1 (0.2%)	<0.001
ART**	170 (35%)	28 (52%)	6 (46%)	136 (32%)	0.01
IPT and ART**	3 (1%)	0 (0%)	3 (23%)	0 (0%)	<0.001
Outcomes					
TB	38 (8%)	0 (0%)	3 (23%)	35 (8%)	0.01
Died***	103 (21%)	16 (30%)	3 (23%)	84 (20%)	0.24

Abbreviations: TST, tuberculin skin test; IPT, isoniazid preventive therapy; ART, antiretroviral therapy; TB, tuberculosis

*No patients converted from TST-negative to -positive over follow-up

**52 (11%) patients were on ART at baseline and 1 (0.2%) initiated ART after a TB diagnosis

***16 (3%) died after a TB diagnosis

Supplemental Table 3. Impact of IPT and ART on incidence of a) TB and b) TB or death, by baseline CD4 count

	CD4≤350				CD4>350			
	N=2,138				N=1,976			
	Events	Person-years	IR per 100 pys (95% CI)	IRR (95% CI)	Events	Person-years	IR per 100 pys (95% CI)	IRR (95% CI)
a) TB								
No IPT	160	90	1.79 (1.53-2.09)	REF	81	82	0.99 (0.79-1.23)	REF
IPT	10	11	0.91 (0.49-1.70)	0.54 (0.29-1.01)	11	15	0.71 (0.39-1.28)	0.75 (0.40-1.40)
No ART	32	18	1.82 (1.28-2.57)	REF	64	64	1.00 (0.78-1.27)	REF
ART	138	83	1.67 (1.41-1.97)	0.98 (0.67-1.45)	28	33	0.84 (0.58-1.22)	0.83 (0.53-1.29)
b) TB or death								
No IPT	348	90	3.89 (3.50-4.32)	REF	160	82	1.95 (1.67-2.27)	REF
IPT	23	11	2.10 (1.40-3.16)	0.55 (0.36-0.83)	27	15	1.74 (1.20-2.54)	0.91 (0.61-1.36)
No ART	55	18	3.12 (2.40-4.07)	REF	118	64	1.84 (1.53-2.20)	REF
ART	316	83	3.81	1.23	69	33	2.07	1.04

(3.42-4.26)

(0.93-1.64)

(1.63-2.62)

(0.77-1.39)

Abbreviations: IPT, isoniazid preventive therapy; ART, antiretroviral therapy; TB, tuberculosis; IR, incidence rate; CI, confidence interval; IRR, incidence rate ratio

Legend: IPT and ART time-dependent; IRRs adjusted for sex and age at enrollment
