

Webappendix A

Table S1 Comparison of characteristics at screening for the 478 who were not randomised and the 1,369 that were randomised

| Characteristic | 1,369 Randomised | 478 Not randomised |
|--|-------------------------|---------------------------|
| Median age (IQR), years | 34 (29-40) | 34 (29-39) |
| Female | 75.1% | 71.4% |
| On-ART | 65.9% | 38.2% |
| Median CD4+ count (IQR), cells/mm³ | | |
| Overall | 232 (159-382) N=1362 | 198 (141-286) N=470 |
| Start-ART | 171 (127-213) N=464 | 177 (125-210) N=289 |
| On-ART | 303 (199-440) N=898 | 302 (205-421) N=181 |
| Previous TB | 42.2% N=1,367 | 34.5% N=475 |

Table S2 Reasons for stopping isoniazid or placebo during the active intervention phase, by study arm

| Outcomes | 667 Placebo¹ | 662 Isoniazid² | 1,329 Total |
|---|--------------------------------|----------------------------------|--------------------|
| Completed study drug phase | 550 | 550 | 1,100 |
| Raised ALT \geq grade 3³ | 10 | 19 | 29 |
| Clinical Hepatitis | 3 | - | 3 |
| Peripheral neuropathy \geq grade 2 | 1 | 3 | 4 |
| Rash \geq grade 2 | 4 | 5 | 8 |
| Tuberculosis | 24 | 10 | 34 |
| Hospitalization⁴ | 1 | 1 | 2 |
| Death | 6 | 5 | 11 |
| Participant choice | 28 | 23 | 51 |
| Default study drug for \geq3months | 41 | 46 | 87 |

¹On ART alone; ²On ART plus isoniazid; ³Grade 3 alanine transaminase (ALT) elevation if \geq 5 times upper limit of normal;

⁴Hospitalisation: cerebrovascular accident, acute psychosis.

Table S3 Effect by time period since randomisation

| | Placebo | | | INH | | | **HRu | 95% CI | *P |
|---------------------------------------|---------|---------------|-----------------|-----|---------------|-----------------|-------|-------------|------|
| | n | Cases / PY | Rate/ 100 PY | n | Cases / PY | Rate/ 100 PY | | | |
| Period since randomisation | | | | | | | | | |
| 0-11 months (active phase) | 667 | 25/ 634.0 | 3.9 | 662 | 13/636.3 | 2.0 | 0.52 | 0.27 - 1.01 | 0.05 |
| 12-23 months | 601 | 21/ 567.4 | 3.7 | 609 | 13/ 580.2 | 2.2 | 0.61 | 0.30 - 1.21 | 0.15 |
| ≥ 24* months | 521 | 12/ 395.9 | 3.0 | 539 | 11/ 412.8 | 2.7 | 0.88 | 0.39 - 2.0 | 0.75 |

*Max time at risk=3.7 years **Hazard ratio unadjusted *P=Logrank test p-value for equality of survival functions. The likelihood ratio test p-value for interaction was 0.61 and for trend, P=0.34.

Table S4 Number needed to treat to benefit vs. harm

| Endpoint | Non-cases | Cases | Absolute Risk | Absolute Risk Difference (95% CI) | Number needed to treat |
|--|------------------|--------------|----------------------|--|-------------------------------|
| All tuberculosis | | | | | |
| Placebo | 609 | 58 | 0.10 | | |
| Isoniazid | 625 | 37 | 0.06 | 0.04 0.03-0.06 | *25 |
| §Stopping drug for adverse events | | | | | |
| Placebo | 649 | 18 | 0.03 | | |
| Isoniazid | 635 | 27 | 0.04 | 0.01 0.004 - 0.04 | **100 |

*Number needed to treat to benefit one individual and **Number needed to treat to harm one individual: $[1 / \text{Absolute Risk Difference}]$.

§Stopping for any of grade 3/4 ALT, clinical hepatitis, new or worsening grade 2 or more rash or peripheral neuropathy

Table S5 Specific causes of death by study arm

| Cause | Placebo | Isoniazid | Total |
|---|----------------|------------------|--------------|
| Tuberculosis | 6 | 2 | 8 |
| Non Tuberculosis | 7 | 6 | 13 |
| Epileptic seizure | - | 1 | |
| Renal failure | - | 2 | |
| Road traffic accident | 1 | 1 | |
| Suicide | - | 1 | |
| Complications following nosocomial infection | - | 1 | |
| Complications following gastric cancer | 1 | - | |
| Cerebro vascular accident | 1 | - | |
| Complications following emergency caesarean section | 1 | - | |
| Gun shot to the head | 1 | - | |
| Bacterial meningitis | 1 | - | |
| Upper GI bleed | 1 | - | |
| Unknown | 8 | 8 | 16 |
| Total | 21 | 16 | 37 |

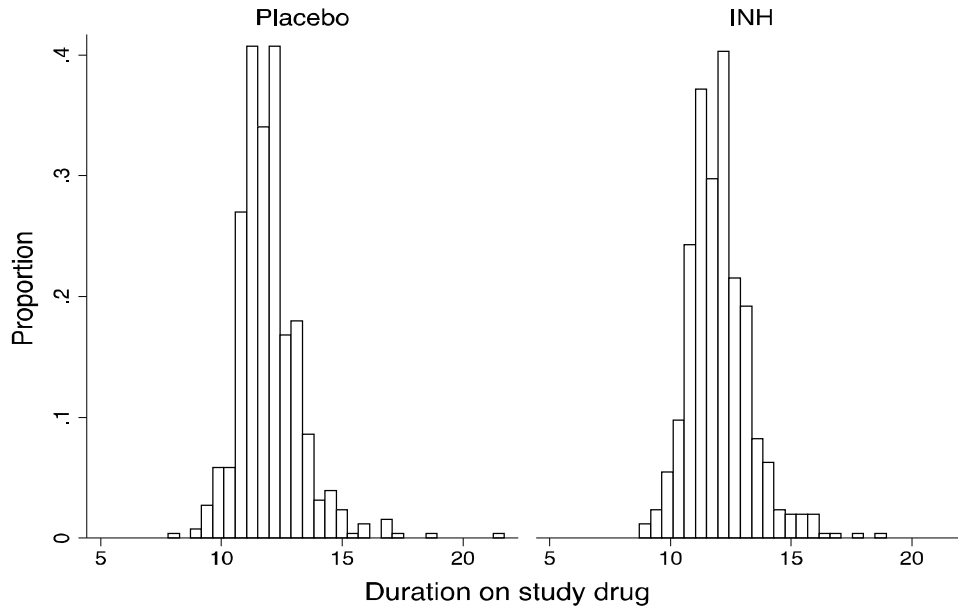
Tests of tuberculosis infection

Tuberculin skin tests (TST; 2TU RT23 PPD, Statens Serum Institut, Denmark) and interferon gamma release assays (IGRA; QuantiFERON Gold In-Tube, Cellestis, Australia) were performed as part of a nested study. (13) TST and IGRA were performed at the baseline screening visit, prior to application of RCT-specific inclusion/exclusion criteria, in persons who indicated willingness to return for TST results. Manufacturer's criteria for IGRA positivity were used (≥ 0.35 IU/ml); TST induration of ≥ 5 mm was deemed positive. 77% (1,027) of the cohort at analysis had TST and IGRA tests performed. 998 of 1,027 had IGRA results available, 93% of those had valid results. 944 of 1,027 had TST results available. Those who did not accept TST/IGRA testing did not differ from those who did with respect to age, gender, CD4+ count, previous history or ART status (see table below).

Table S6 Summary of enrolment characteristics of those who did not accept TST/IGRA and those who did

| Characteristic | 302 Not accepted | 1027 Accepted |
|--|------------------|---------------|
| Median age (IQR), years | 34 (30-41) | 34(29-39) |
| Female | 68.9% (208) | 76.9% (790) |
| Established on ART | 73.5% (222) | 71.1% (730) |
| Median CD4+ count (IQR), cells/mm ³ | 225 (159-396) | 214 (150-350) |
| | N=269 | N=918 |
| Previous TB | 43.4% (129) | 42.6% (431) |
| | N=297 | N=1,012 |

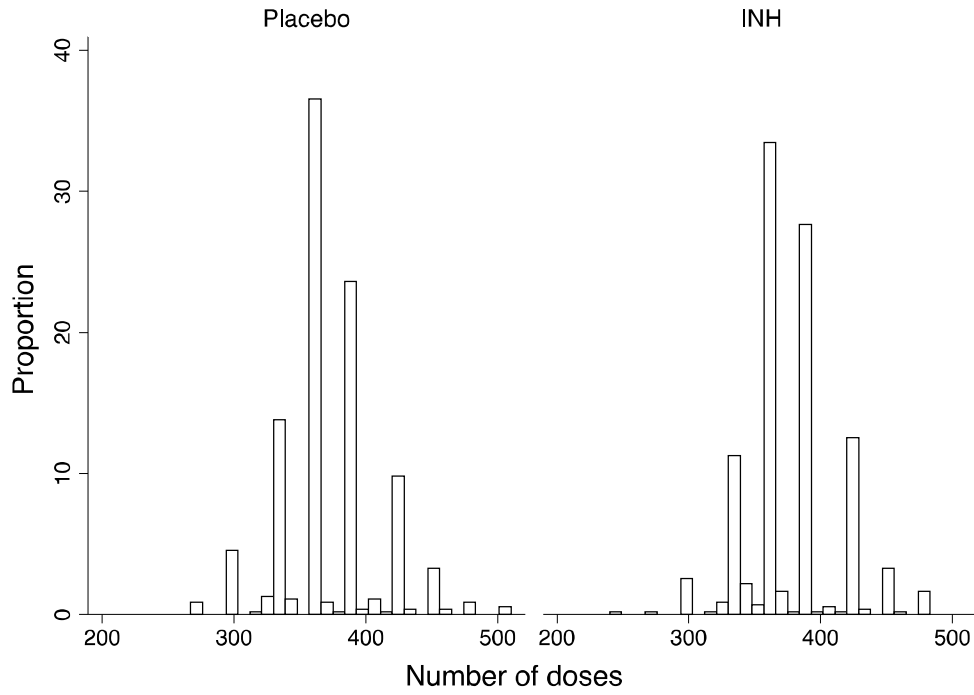
Figure S1a. Frequency histogram of study drug duration for those registered as completed the active phase (N=1,100)



Placebo: range 8-22months; median 12 (IQR: 11-13)

INH: range 9-19 months; median 12 (IQR: 11-13)

Figure S1b. Actual number of doses prescribed, for those registered as completed the active phase (N=1,100)



Placebo: range 268-510 doses; median 360 doses (IQR: 360-390)

INH: range 240-480 doses; median 360 doses (IQR: 360-390)

Tests of tuberculosis infection

Tuberculin skin tests (TST; 2TU RT23 PPD, Statens Serum Institut, Denmark) and interferon gamma release assays (IGRA; QuantiFERON Gold In-Tube, Cellestis, Australia) were performed as part of a nested study.(13) TST and IGRA were performed at the baseline screening visit, prior to application of RCT-specific inclusion/exclusion criteria, in persons who indicated willingness to return for TST results. Manufacturer's criteria for IGRA positivity were used (≥ 0.35 IU/ml); TST induration of ≥ 5 mm was deemed positive. 77% (1,027) of the cohort at analysis had TST and IGRA tests performed. 998 of 1,027 had IGRA results available, 93% of those had valid results. 944 of 1,027 had TST results available. Those who did not accept TST/IGRA testing did not differ from those who did with respect to age, gender, CD4+ count, previous history or ART status (see table below).

Table S4 Summary of enrolment characteristics of those who did not accept TST/IGRA and those who did

| Characteristic | 302 Not accepted | 1027 Accepted |
|--|------------------|---------------|
| Median age (IQR), years | 34 (30-41) | 34(29-39) |
| Female | 68.9% (208) | 76.9% (790) |
| Established on ART | 73.5% (222) | 71.1% (730) |
| Median CD4+ count (IQR), cells/mm ³ | 225 (159-396) | 214 (150-350) |
| | N=269 | N=918 |
| Previous TB | 43.4% (129) | 42.6% (431) |
| | N=297 | N=1,012 |

Table S5 Comparison of characteristics at screening for the 478 who were not randomized and the 1,369 that were randomized

| Characteristic | 1,369 | 478 |
|--|-------------------------|------------------------|
| Median age (IQR), years | 34 (29-40) | 34 (29-39) |
| Female | 75.1% | 71.4% |
| Established on ART | 65.9% | 38.2% |
| Median CD4+ count (IQR), cells/mm³ | 232 (159-382) N=1362 | 198 (141-286) N=470 |
| Previous TB | 42.2% N=1,367 | 34.5% N=475 |