

Tables for appendix

Manuscript title

Cost-effectiveness of testing for latent tuberculosis infection in people living with human immunodeficiency virus

Running head: Testing for LTBI in people living with HIV

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Table 1: Model assumptions

- [People are tested once unless they received an indeterminate result and are then re-tested.](#)
- [People being assessed for initial active TB undergo chest radiography and, if positive, receive a sputum examination.](#)
- [Sputum examination is 100% accurate when diagnosing initial active TB.](#)
- [People who have been diagnosed with initial active TB accept.](#)
- [Only people who adhered to TB-preventative treatment or TB treatment is at risk of isoniazid-induced hepatotoxicity.](#)
- [People who do not adhere to LTBI/TB treatment discontinue after one month.](#)
- [There is a 0.004 probability of isoniazid-induced hepatitis following treatment.](#)
- [People who do not adhere to LTBI treatment are not at risk of developing isoniazid-induced hepatotoxicity.](#)

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Appendix Table 1: Table 2: Deterministic analysis results based on cost per diagnostic error avoided (2018/19 prices)

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Strategy	Estimated mean diagnosis costs (£)	Incremental mean diagnosis costs (£)	False positives	False negatives	Total diagnostic errors	Incremental diagnostic error	ICER (cost per diagnostic error avoided)
QFT-GIT -ve followed by TST5mm	£276.50	-	0.2871	0.0038	0.2909	-	Dominated
T-SPOT.TB	£189.16	-£87.34	0.1661	0.0095	0.1756	0.1153	Dominated
TST5mm	£136.95	-	0.1655	0.0095	0.1750	-	N/A
QFT-GIT	£163.59	£26.64	0.1466	0.0090	0.1556	0.0194	Extendedly dominated
No screening	£0.00	£136.95	0.0000	0.0000	0.0000	0.1750	£782.57

ICER, incremental cost-effectiveness ratio; QFT-GIT, quantiferon gamma-release assay; TST, tuberculin skin test

Appendix Table 2- Table 3: Deterministic analysis results based on cost per correct diagnosis (2018/19 prices)

Strategy	Estimated mean diagnosis costs (£)	Incremental mean diagnosis costs (£)	Effects (correct diagnosis)	Incremental effects	ICER (cost per correct diagnosis)
No screening	£0	-	0	-	-
TST5mm	£136.95	£136.95	0.7650	0.7650	£178.43
QFT-GIT	£163.59	£26.63	0.8435	0.0785	£339.43
T-SPOT.TB	£189.16	£25.58	0.8235	-0.0200	Dominated
QFT-GIT -ve followed by TST5mm	£276.50	£112.91	0.6578	-0.1857	Dominated

ICER, incremental cost-effectiveness ratio; QFT-GIT, quantiferon gamma-release assay; TST, tuberculin skin test

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Appendix Table 3; Table 4: Probabilistic sensitivity analysis results based on cost per QALY (2018/19 prices)

Strategy	Estimated mean costs (£)	Incremental mean costs (£)	Effects (QALYs)	Incremental QALYs	ICER (cost per QALY)
No screening	£0	-	21.2882	-	-
TST5mm	£137.12	£137.12	21.3017	0.0135	£10,157
QFT-GIT	£162.46	£25.34	21.3038	0.0021	£12,067
T-SPOT.TB	£188.83	£26.37	21.3033	-0.0005	Dominated
QFT-GIT -ve	£276.05	£113.59	21.3094	0.0056	£20,284

followed by
TST5mm

ICER, incremental cost-effectiveness ratio; QALY, quality adjusted life-year; QFT-GIT, quantiferon gamma-release assay; TST, tuberculin skin test

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Appendix Table 4; Table 5: Scenario analysis results based on cost per diagnostic error avoided (2018/19 prices)

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Strategy	Estimated mean diagnosis costs (£)	Incremental mean diagnosis costs (£)	False positives	False negatives	Total diagnostic errors	Incremental diagnostic error	ICER (cost per diagnostic error avoided)
QFT-GIT -ve	£239.35	-	0.2309	0.0045	0.2354	-	Dominated
followed by TST5mm							
T-SPOT.TB	£195.62	-£43.73	0.1759	0.0095	0.1854	-0.0500	Dominated
QFT-GIT	£150.68	-£88.67	0.1270	0.0090	0.1360	-0.0094	Dominated
TST5mm	£105.50	-	0.1195	0.0112	0.1307	-	N/A
No screening	£0.00	£105.50	0.0000	0.0000	0.0000	0.1307	£105.37

ICER, incremental cost-effectiveness ratio; QFT-GIT, quantiferon gamma-release assay; TST, tuberculin skin test

Table 6: Appendix Table 5: Scenario analysis results based on cost per correct diagnosis (2018/19 prices)

Strategy	Estimated mean diagnosis costs (£)	Incremental mean diagnosis costs (£)	Effects (correct diagnosis)	Incremental effects	ICER (cost per correct diagnosis)
No screening	£0	-	0	-	-
TST5mm	£105.50	£105.50	0.8093	0.8093	£130.36
QFT-GIT	£150.68	£45.18	0.8631	0.0537	£840.72
T-SPOT.TB	£195.62	£44.94	0.8138	-0.0493	Dominated
QFT-GIT -ve	£239.35	£88.67	0.7122	-0.1509	Dominated

followed by
TST5mm

ICER, incremental cost-effectiveness ratio; QFT-GIT, quantiferon gamma-release assay; TST, tuberculin skin test

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Table 7: Appendix Table 6: Deterministic sensitivity analysis results based on cost per QALY (2018/19 prices)

Strategy	Estimated mean costs (£)	Incremental mean costs (£)	Effects (QALYs)	Incremental QALYs	ICER (cost per QALY)
No screening	£0	-	21.2881	-	-
TST5mm	£105.50	£105.50	21.2996	0.0114	£9,254
QFT-GIT	£150.68	£45.18	21.3037	0.0041	£11,020
T-SPOT.TB	£195.62	£44.94	21.3032	-0.0005	Dominated
QFT-GIT -ve followed by TST5mm	£239.35	£88.67	21.3085	0.0048	£18,473

ICER, incremental cost-effectiveness ratio; QALY, quality adjusted life-year; QFT-GIT, quantiferon gamma-release assay; TST, tuberculin skin test

In [appendix Table 87](#), we report the results of the scenario analysis based on test accuracy information obtained from Kowada 2014. We chose this study because both analyses included similar testing strategies. We excluded the QFT-GIT followed by TST strategy as this information was not available. We obtained sensitivity and specificity for TST (0.43, 95% CI: 0.37, 0.50), (0.59, 95% CI: 0.46, 0.73), respectively. Sensitivity and specificity for QFT-GIT (0.61, 95% CI: 0.54, 0.67), respectively. Sensitivity and specificity for T-SPOT.TB (0.65, 95% CI: 0.56, 0.74) and (0.98, 95% CI: 0.94, 0.99), respectively.

The results show that QFT-GIT and T-SPOT.TB were cost-effective at identify LTBI in PLWHIV, with screening with TST being dominated by T-SPOT.TB. Kowda 2014 showed that T-SPOT.TB was more effective and less costly, while our results showed that T-SPOT.TB was the most effective but more costly than QFT-GIT, which is a result of the cost of the T-SPOT.TB used our analysis.

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Table 8: Appendix Table 7: Deterministic scenario analysis results based on cost per QALY (2018/19 prices) and using test accuracy obtained from Kowada 2014.

Strategy	Estimated mean costs (£)	Incremental mean costs (£)	Effects (QALYs)	Incremental QALYs	ICER (cost per QALY)
No screening	0.00	-	21.2881	-	-
QFT-GIT	72.35	72.35	21.3042	0.0161	£4,499
T-SPOT.TB	92.20	19.85	21.3053	0.0011	£18,829
TST5mm	274.49	182.30	21.2988	-0.0065	Dominated

ICER, incremental cost-effectiveness ratio; QALY, quality adjusted life-year; QFT-GIT, quantiferon gamma-release assay;

TST, tuberculin skin test

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