**Title**
Latent tuberculosis infection screening of adult close contacts in London: a cost-utility analysis.

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**Background**
The National Institute for Health and Care Excellence (NICE) guidelines in 2016 recommend tuberculin skin test (TST) at a 5-mm induration size cut-off for latent tuberculosis infection (LTBI) screening of adult close contacts of active tuberculosis (TB) cases. An alternative would be to use an interferon-gamma release assay (IGRA) which has a higher specificity, such as the QuantiFERON-TB Gold in Tube (QFT-GIT) or T-SPOT.TB (T-SPOT). We aimed to evaluate the cost-effectiveness of the screening and treatment of LTBI in adult close contacts with various combinations of these tests in a representative London cohort.
**Methods**
Clinical data of adult close contacts of pulmonary TB cases who were recommended to receive TST and IGRA in a TB clinic in London between 2008 and 2010 were retrospectively reviewed. A Markov decision analytic model, using an NHS perspective and lifetime horizon, was used to compare costs and quality-adjusted life-years (QALYs) associated with 7 screening strategies followed by chemoprophylaxis: TST alone, IGRA (QFT-GIT or T-SPOT) alone, TST positive followed by IGRA, and TST negative followed by IGRA. Future costs and QALYs were discounted at 3.5% per year.
**Results**
381 asymptomatic close contacts aged 18 to 65 years were included in this study. The mean age was 35.2 years and the majority (75.3%) were BCG vaccinated. In the base-case analysis, QFT-GIT was the most cost-effective strategy with £6,876 per QALY gained, compared to TST positive followed by QFT-GIT strategy. QFT-GIT alone averted 1.8 TB cases per 1,000 contacts compared to TST positive followed by QFT-GIT.
**Conclusion**
Of the considered testing strategies, the QFT-GIT alone is preferable for LTBI screening in adult close contacts of pulmonary TB cases in London.