Online Data Supplement

To calculate the risk of progression to TB we adjusted for the sensitivity of the QFT-GIT for detecting those individuals who progressed to TB based on previous published data (E1, E2, E3, E4, E5, E6, E7). From each of these studies we included the reported sensitivity and precision (the inverse of the squared standard error of the sensitivity estimate) for the prediction of TB in QFT-GIT positive individuals in a Bayesian model to obtain a posterior distribution of the sensitivity for the QFT-GIT (E8). This model contained a random error term to denote the different studies included. The prior distributions for both the mean and the precision of the sensitivity were non-informative. Twenty thousand random draws from the resulting posterior distribution were then projected on the total number of patients with disease progression within the case source cohort. This resulted in a median and 95% credibility interval (95% CI) for the risk of progression to TB for specified strata.
We used 2,000 iterations for the burn-in period of the model. The iterations for estimation were repeated in batches of 5,000 until the Monte-Carlo (MC) errors of all the estimates were below the conventional 1% of the standard error of the estimate. Convergence was assessed by exploring the trace plots and the density plots of the estimates, and by 'mixing of the estimates' of two different chains with markedly different initial values.

Convergence was achieved based on all three assessments. The median of the posterior distribution of the sensitivity was 83%, with a 95% CI of 56% to 100%.

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